

AI for Scrum Masters

APPENDIX

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Preparation

- Identify the participants scheduled to attend the training.
- Email any pre-reads you wish to provide to the participants in advance of the course.
- Decide which online tools you'll use for task demonstrations and practice using them beforehand. For the custom data upload demonstration in Activity 2.4 – Writing Prompts With Custom Data, watch the videos for “uploading custom data” available as part of your demo preparation.
- For Lesson 3, familiarize yourself with the suggested learning exercises and choose the most suitable ones based on the learners' needs and time constraints, or select alternative activities from the Learning Catalog in the Appendix, potentially incorporating prompt engineering templates.
 - Determine the necessary AI tools and data to be used in advance, ensuring seamless integration and accessibility during the session.
 - Tailor the examples, discussions, and activities to align with learners' desired applications of AI in scrum, fostering a more relevant and engaging learning experience.
 - Prepare any custom data files you might use, (e.g., prepare an Excel spreadsheet with sample scrum data [backlog, sprint burn-down, etc.] and ensure the spreadsheet has AI analysis capabilities (e.g., "Analyze Data" function).
- To ensure a smooth workshop, confirm the specific AI tools (like Gemini or ChatGPT) that learners will be using during the session. Verify their access to these tools well in advance (for instance, they may need to create free accounts), allowing ample time to troubleshoot any potential access issues before the workshop begins.
- For in-person sessions:
 - Ensure participants have directions to the location and any relevant instructions such as parking.
 - You'll need a projector and screen and a whiteboard for activities.

- Ensure your projection tools are functioning.
- For virtual sessions:
 - You'll facilitate via screen share and a virtual collaborative workspace.
 - Ensure participants have appropriate access to email, Zoom, or other systems.
 - Be sure to practice using virtual presentation methods and breakout rooms so that you are comfortable with the tools.
- For each session, make sure slides work.
- Review the presentation materials and identify areas where you can share your own experiences. Sharing your experiences as a scrum expert will educate, inspire, and motivate learners while helping them relate to the content.

Setup

- Set up breakout rooms based on the number of participants and number of groups you plan to use.
- Have this Facilitator Guide and all of the presentation materials available during the program.
- As you prepare the Mural board and update frames as desired, be sure to remove the trainer instructions highlighted in orange.
- Have all necessary files saved to your computer in case of any problems.
- Create groups of three to five for small group activities (depending on class size).
 - For in-person, set up tables.
 - For virtual, create breakout rooms.

Points to Cover and Possible Answers

Activity 1.1 – GenAI's Impact for Scrum

Purpose:

Introduce AI's potential in scrum by exploring its impact on processes, tasks, and data-driven insights. Encourage learners to identify the AI tools and actions they find helpful in their work.

Points to Cover:

- **AI streamlines routine scrum tasks:** AI can automate repetitive tasks like meeting note transcription, action item generation, and backlog refinement, allowing scrum masters and teams to focus on higher-value activities.
- **AI-powered data analysis provides valuable insights:** By analyzing project data, AI can identify trends, patterns, and potential bottlenecks, enabling proactive decision-making and continuous improvement.
- **AI enhances communication and collaboration:** AI-powered tools can facilitate real-time communication, summarize discussions, and provide language translation, fostering a more collaborative and inclusive team environment.
- **AI supports intelligent sprint planning and execution:** AI can assist in estimating story points, optimizing sprint capacity, and predicting potential risks, leading to more realistic sprint goals and improved project outcomes.
- **AI promotes data-driven retrospectives:** AI can analyze retrospective feedback, identify recurring themes, and generate actionable insights, enabling teams to learn from past sprints and continuously improve their processes.
- **AI benefits for scrum masters:**
 - AI can automate routine tasks like meeting notes, freeing up time for strategic activities, and team support.
 - AI-powered insights from data analysis can help scrum masters identify trends, bottlenecks, and areas for improvement, leading to more effective decision-making and process optimization.

Activity 1.1 – GenAI's Impact for Scrum

- AI can enhance communication and collaboration by summarizing conversations, suggesting meeting times, and facilitating knowledge sharing, fostering a more cohesive and productive team environment.
- **AI benefits for team members:**
 - AI-powered code suggestions, auto-completion, and debugging tools can significantly improve developer productivity and code quality.
 - AI can automate routine coding tasks, allowing developers to focus on more complex and creative problem-solving.
 - AI-powered backlog management tools can help developers understand user stories, acceptance criteria, and task breakdowns, leading to better clarity and alignment with project goals.

Activity 1.2 – AI Tool Overview

Purpose:

Provide an overview of AI tools and describe how they can enhance scrum events.

Possible Answers:

- **Possible Examples to Share:**

- Using a generative AI tool like ChatGPT or Gemini, scrum masters can accomplish a range of tasks, for example:
 - Use generative AI to translate clients' business needs into concrete plans, then draft user stories and acceptance criteria.
 - Create sprint goals that align with stakeholder priorities.
 - For the retrospective, generative AI tools can suggest questions and activities, analyze customer feedback sentiments, and then generate actionable insights.
- A scrum master might use a meeting assistant such as Otter.ai to transcribe a sprint planning meeting, then use an AI tool like ChatGPT to generate user stories based on the discussion.
- A scrum master could use Gemini to plan the agenda and activities for a retrospective, then use a tool like fireflies.ai to transcribe the notes and identify action items.
- Chatbots can summarize conversations, letting you know which threads to review in more detail. If you have a specific question about a conversation, simply ask the chatbot to find the answer within the thread. Some chatbots can facilitate collaboration by checking calendars, suggesting meeting times, and sending out invitations. Others can help with task management by creating tasks, assigning them to team members, and sending reminders.
- While you can use generative AI to draft emails, Google Chrome offers an extension called Compose AI that helps you write emails faster. It offers suggestions, auto-completion, and even templates based on emails you send frequently.

Activity 1.2 – AI Tool Overview

- You can ask AI to refine emails, messages, and other communications to ensure they are clear, concise, and professional.
- To utilize AI tools for improved retrospectives:
 - Use AI to analyze feedback and sentiment from previous sprints and retrospectives to identify recurring patterns and areas for improvement. Tools like GoRetro or TeamRetro could be helpful for this.
 - Ask AI to suggest retrospective formats, prompts, and activities based on the team's needs and past experiences.
 - Employ AI to transcribe and summarize retrospective meetings, saving time and ensuring accurate records. Otter.ai's transcription and summarization features could be useful here.
 - Leverage AI to generate actionable insights and recommendations based on the retrospective discussions, helping the team identify concrete steps for improvement.
 - Use AI-powered tools like Parabol to facilitate anonymous feedback and brainstorming during retrospectives, encouraging broader participation and uncovering hidden issues.
 - Retrospective-specific tools offer meeting templates such as Start, Stop, Continue; The 4 Ls; or Mad, Sad, Glad.

Activity 1.3 – AI in Scrum: Identifying Your Challenges

Purpose:

Describe common challenges scrum masters face with AI tools and technology. Have learners identify areas where they are most keen to apply GenAI to meet the challenges in their scrum master role and create a GenAI Wishlist.

Possible Answers:

- **Setup:**
 - **Briefly introduce the categories (key topic areas that will be covered in the course):** Customizing AI for Your Team, AI-Powered Strategic Planning, AI-Powered Communication and Collaboration, and Data-Driven Team Management.
 - Color-code each category for ease of clustering.
 - If using a virtual board (Mural/Miro), prepare a space for each learner to brainstorm and cluster their ideas.
 - If using paper and drawing utensils, ensure everyone has the necessary materials.
 - **Brainstorm:**
 - Instruct learners to brainstorm their current tasks as a scrum master, the challenges they face, and areas where they see room for improvement.
 - Encourage them to think broadly and consider how GenAI could potentially address these aspects.
 - If using a virtual board, they can add their ideas using sticky notes or text boxes. If using paper, they can simply list their ideas.
 - **Cluster:**
 - Review the ideas and group them into clusters based on common themes or relationships.
 - Identify two to three key areas learners are most interested in exploring further during the course.
 - Ensure these areas align with at least one of the categories (topic areas covered in the course).

Activity 1.3 – AI in Scrum: Identifying Your Challenges

- **Debrief:**
 - Share and discuss:
 - As time allows, facilitate a brief discussion around the variety of GenAI tools and techniques that could potentially address the identified challenges and tasks. Call out those items that could/will be addressed during the course.
 - Encourage learners to ask questions and share their thoughts on potential applications.
 - Finalize the GenAI Wishlist:
 - Help learners refine the wishlist to ensure they are specific, actionable, and aligned with the course agenda and time available. Encourage learners to capture their personal wishlist in their Participant Guides if they have items they want to be sure are covered/saved for later exploration.
 - Summarize the key themes and areas of interest identified by the group.
 - Assure learners that the course content will be tailored to address their collective wishlist as much as possible.

Activity 2.1 – Prompt Engineering Essentials

Purpose:

Review the basics of prompt engineering.

Points to Cover:

- **What is prompt engineering?** The art of crafting precise instructions, questions, or scenarios (prompts) to elicit optimal responses from large language models (LLMs).
- **Why is it important?** For scrum masters, prompt engineering can be a valuable tool to enhance communication, improve decision-making, boost productivity, and facilitate learning.
- **Where can it be applied?** Prompt engineering can be applied in various scrum-related contexts, including: sprint planning meetings, daily scrums, and retrospectives.
- **When should it be leveraged for scrum?** Prompt engineering can be leveraged throughout the scrum life cycle: before, during, and after sprints.
- **How can it be used effectively?** Prompt engineering can be used in various ways:
 - Crafting clear and concise prompts
 - Iterative refinement based on the AI's responses to improve the results
 - If available, using custom data to train the AI model to understand your team's specific language and context, leading to more relevant outputs.
 - Always keeping ethical considerations in mind when using AI, ensuring fairness, avoiding bias, and maintaining human oversight.
- **What if ... ?**
 - What if prompts generate biased or inappropriate responses?
 - Use clear and specific language.
 - State that the response should be unbiased and professional.
 - Provide feedback or use a different model.
 - What if prompts are too complex or time-consuming to create?
 - Use prompt engineering templates to streamline the process.
 - Start with simple prompts and gradually increase complexity.

Activity 2.1 – Prompt Engineering Essentials

- Collaborate with team members to refine prompts.
 - Use AI tools to help you improve the prompts.
 - What if the generated responses lack creativity or originality?
 - Experiment with prompt variations and unexpected elements.
 - Combine two or more AI models for diverse outputs.
 - Use your creativity to build upon AI-generated ideas.
- Prompt engineering is the art and science of crafting effective instructions for generative AI. Creating effective prompts requires a deep understanding of how AI models process information and using that knowledge to leverage their strengths and mitigate biases. It involves carefully selecting the words, phrases, and structures that resonate best with the AI's underlying algorithms.
- It involves more than simply giving instructions to AI. It requires understanding how AI processes and interprets your instructions, and experimenting with different prompts to get the best possible results.
- Effective prompt engineering is an ongoing process. Continuous experimentation, feedback, and refinement are key to unlocking the full potential of LLMs and enhancing your scrum practice.
- As AI systems become more integrated into our lives, the ability to effectively communicate through prompt engineering is essential to maximize their potential. Before diving into writing effective prompts, it's important to know what makes a good prompt.

Activity 2.2 – Anatomy of an Effective Prompt

Purpose:

Describe the structured approach to writing prompts. Have learners practice crafting effective prompts.

Points to Cover:

- Examples of vague and clear prompts:
 - **Example 1:**
 - **Vague Prompt:** Summarize the sprint retrospective.
 - **Clear Prompt:** Generate a concise summary of the key takeaways, action items, and improvement opportunities from the sprint retrospective.
 - **Example 2:**
 - Explain that direction is important: Just like defining sprint goals, your prompt should provide specific instructions on the type of output desired. Specify what you want: a list of action items, a draft of user stories, an outline of potential risks, or another format that aligns with your objective.
 - **Vague Prompt:** Create a backlog item.
 - **Clear Prompt:** Draft a user story following the “As a [user], I want [goal], so that [reason]” format for a new feature that allows users to filter products by price.
 - **Example 3:**
 - Explain the importance of focusing on the objective: Effective prompts keep the sprint goal or desired outcome in sharp focus. What is the specific knowledge, task, or deliverable you want the AI to help create? Ensure your prompt aligns with this objective, guiding the AI model to generate content that directly addresses it.
 - **Vague Prompt:** Help with sprint planning.
 - **Clear Prompt:** Suggest facilitation techniques to help the team collaboratively plan tasks for the user story: “As a

Activity 2.2 – Anatomy of an Effective Prompt

customer, I want to be able to reset my password, so that I can regain access to my account.”

- Thought process for writing a prompt:
 - **What is the goal you’re trying to accomplish?**
 - Have a clear idea of the goal you are using AI to achieve. All other elements of the prompt should be targeted toward this goal.
 - **What role does the AI need to fulfill?**
 - Define the AI’s role. What is its expertise? For example, “I need you to be an expert in digital marketing.”
 - You may want to try including additional details about this role, similar to a character’s backstory. For example, “You have four years of experience in social media marketing and have increased the number of returning customers.”
 - **What does the AI need to know about the context?**
 - Set the scene: What’s the situation, the business objective, or the big picture? Is there a target audience to consider? If so, add relevant details, such as level of expertise in a specific subject, background demographics, etc.
 - Additionally, provide any necessary custom data you want the AI to use to complete the prompt request.
 - **What is the action the AI should perform?**
 - Describe the primary action the AI should perform: (action word) a (subject) to (the objective).
 - For example: Summarize the sprint retrospective feedback to create actionable insights.
 - **In what format do you want the output?**
 - Describe your desired output format. Do you need a bulleted list, essay-style response, or questions with feedback?
 - If you have length requirements or need a certain number of items, specify that.

Activity 2.3 – Prompt Refinement

Purpose:

Explain how to write powerful prompts. Have learners practice prompt refinement.

Points to Cover:

- Provide a few additional considerations to crafting powerful prompts:
 - **Length matters:** Strive for a balance between providing enough detail and avoiding overly lengthy prompts. A concise and well-structured prompt is easier for the AI model to understand and less prone to misinterpretation.
 - **Structure is key:** Organize your prompt logically, using clear and concise language. Bullet points can be helpful for listing specific requirements or desired content elements. Break complex tasks into smaller, more manageable subtasks. This makes it easier for the AI to process and execute the instructions. A well-structured prompt ensures the AI model focuses on the most critical information.
 - **Wording precision:** Use clear, unambiguous language throughout your prompt. Avoid jargon or technical terms the AI model might not understand. Precise wording minimizes the risk of misinterpretations and ensures the AI model generates content that aligns with your vision.
- Explain the iterative nature of prompt engineering, emphasizing the importance of continuous refinement for optimal results, and outline the prompt iteration process:
 - **Generate initial output:** Begin by entering your initial prompt into the AI model to obtain output.
 - **Evaluate the output:** Analyze the generated content meticulously against your goal to evaluate the strengths and weaknesses of the AI output.
 - **Refine the prompt:** Based on your analysis, tweak the keywords and details of your prompt to try again.

Activity 2.3 – Prompt Refinement

- Emphasize that achieving the perfect level of output often requires multiple iterations of this refinement process and not to get discouraged if the initial AI output doesn't fully meet expectations. With each cycle of evaluation and refinement, the output improves.
- Notes for identifying strengths and weaknesses:
 - Is the information presented in a clear and easy-to-understand manner? Is it free of unnecessary jargon or complexity?
 - Provide a checklist of questions for evaluating prompt output:
 - **Relevance:** Does the output directly address the task or problem you're trying to solve? Does it accurately reflect the context you specified?
 - **Actionability:** Is the information provided useful and actionable? Can you use the generated insights to make decisions or take steps forward?
 - **Completeness:** Did the AI cover all the necessary aspects? Are there any important points missing from the output?
 - **Clarity and Conciseness:** Is the information presented in a clear and easy-to-understand manner? Is it free of unnecessary jargon or complexity?
- Notes for key point summary:
 - Emphasize iterative prompt refinement to use the full potential of GenAI tools.
 - Reinforce the connection between well-structured prompts and quality results.
 - Encourage experimentation with prompt variations and AI tool settings.
 - Stress the importance of documenting the refinement process and successful strategies. Highlight:
 - The potential for AI output variations due to model updates, user feedback, or data fluctuations
 - The need for continuous learning and staying updated with technology advancements and prompt engineering best practices

Activity 2.4 – Writing Prompts With Custom Data

Purpose:

Explain the transformative potential of combining custom data with precise prompts to unlock AI's full potential. Have learners analyze the impact of prompt refinement and explore how to leverage custom data with GenAI.

Points to Cover:

- Explain how custom data enhances AI's understanding of team workflows, language, and decision-making patterns.
 - By feeding the AI tool with your team's specific data, such as meeting transcripts or project documentation, you're essentially personalizing its knowledge base.
 - This enables the AI to understand your team's unique jargon, communication style, and decision-making processes, leading to more relevant and accurate outputs tailored to your team's needs.
- Define open and closed systems:
 - **Open GenAI systems** are suitable for general research and trend analysis but may not be secure for sensitive data.
 - **Closed GenAI systems** offer enhanced security and data control, making them ideal for handling confidential or proprietary information.
- Explain that it is critical to follow the company's data security policy to protect yourself, clients, stakeholders and the organization. Emphasize knowing your company's AI policy. It's likely that your company will continue to update its AI policy, and it's important for you to understand it in its entirety.
- Explain that GenAI tools can become valuable assistants for personalized recommendations on tasks, tools, and resources.
 - Describe how prompts can be customized to specific team members and their roles (e.g., front-end development for Sharon).
 - For example: "Analyze our project documentation and list out recommendations in bulleted form on how to boost Sharon's productivity and performance for her team."

Activity 2.4 – Writing Prompts With Custom Data

- **Custom Data Risks and Rewards** exercise debrief example prompts aligned to potential responses from the AI:
 - **Prompt 1: (Initial)** "Identify potential risks in this new e-commerce project."
 - Potential responses from the AI could include risks related to:
 - Website performance and stability
 - Security vulnerabilities
 - Payment processing issues
 - Inventory management challenges
 - Customer service and support
 - Marketing and user acquisition
 - Competition and market trends
 - **Prompt 2: (Refined)** "Identify the top three risks in this new e-commerce project that could impact customer satisfaction."
 - AI responses should prioritize risks that directly affect the customer experience, such as:
 - Slow website performance leading to frustration and cart abandonment
 - Confusing or cumbersome checkout process
 - Lack of clear product information or inaccurate descriptions
 - Poor customer service or slow response times
 - Inadequate return or refund policies
 - **Prompt 3: (Further Refined)** "Given the following customer feedback data [provide sample data], identify potential risks to customer satisfaction in the new e-commerce project and suggest mitigation strategies."
 - The expected output would include identification of risks like:
 - Slow website performance, particularly on mobile
 - Lack of clear product information
 - Complex and frustrating checkout process
 - Inefficient order tracking and communication
 - Poor customer service

Activity 3.1 – Introduction

Purpose:

Introduce how AI can be leveraged for strategic planning, communication and collaboration, and data-driven team management.

Points to Cover:

- AI can be leveraged for strategic planning, communication and collaboration, and data-driven team facilitation.
 - AI can be used for brainstorming, idea generation, and scenario modeling.
 - AI data analysis and prediction can inform strategic choices. AI-powered tools can be used to explore long-term trends and their potential impact on projects.
 - AI tools and techniques can streamline communication within the scrum team and with stakeholders. AI can be utilized for effective meeting management, facilitation, and real-time brainstorming.
 - AI can enhance transparency and information sharing within the scrum process, and AI-driven insights can improve team collaboration and communication effectiveness.
 - AI-supported metrics can be used to track team health and performance. AI can also be used for team sentiment analysis and potential conflict resolution. AI models can be tailored to a team's specific dynamics.

Activity 3.2 – AI-Powered Strategic Planning

Purpose:

Provide strategies to leverage idea generation, AI data analysis, and prediction to inform strategic choices. Have learners practice using generative AI tools and techniques in the context of strategic planning.

Points to Cover:

- Use AI for Scenario Modeling (additional detail):
 - **Rapidly identify potential problems:** By exploring different "what-if" scenarios, AI can quickly identify potential risks and challenges, automate complex calculations, analyze large datasets, and uncover hidden patterns that humans might miss.
 - **Create a contingency plan:** AI can help you generate and evaluate multiple contingency plans, allowing you to be prepared for a range of possible outcomes.
 - **Increase efficiency:** By accounting for your clients' needs and requirements ahead of time, you can avoid and address any loopholes that would otherwise be later discovered and cause a delay.
- Use AI to Supercharge Your Data Analysis (additional detail):
 - Define and categorize the types of data that can be utilized for AI analysis:
 - Internal data (project timelines, budgets, team metrics, etc.)
 - External data (market research, industry trends, competitor analysis)
 - Partnerships and collaboration data (information from joint ventures, strategic alliances, or collaborations with other organizations)
 - Explain the necessity of cleaning and preparing data before analysis.
 - Highlight how AI can streamline this process by automating tasks like removing duplicates, correcting errors, and standardizing formats.
 - Suggest other areas where AI-driven data analysis can be valuable:

Activity 3.2 – AI-Powered Strategic Planning

- Identifying team strengths and weaknesses
 - Pinpointing bottlenecks
 - Forecasting resource needs
 - Analyzing risk factors
 - Identifying hidden opportunities
- Using Prompt Chains learning exercise — example scenarios:
 - A scrum team is starting a new project to develop a mobile app for a retail company. It plans to use AI to help define strategic objectives and create a high-level plan.
 - A scrum team struggles with accurately estimating story points and often overcommits during sprint planning. It wants to use AI to analyze historical sprint data, including story point estimations, actual completion times, and external factors, to identify patterns and improve the team's estimation accuracy.

Activity 3.3 – AI-Powered Communication and Collaboration

Purpose:

Provide strategies for implementing AI solutions to enhance transparency and information sharing within the scrum process. Have learners explore the benefits, limitations, and ethical considerations of using AI-powered reporting tools to generate data-driven insights and streamline scrum processes.

Points to Cover:

- Possible communication challenges faced by scrum teams:
 - Hybrid and remote work complexities
 - Conflicting data and information overload
 - Inefficient meetings
- Types of reports that AI can automate include:
 - **Burn-down charts:** Real-time visual snapshot of sprint progress.
 - **Instant sprint retrospectives:** AI-generated summaries with key takeaways and action items.
 - **Custom reports:** Highlight specific metrics tailored to your needs.
 - **Customer feedback analysis:** Identify patterns and trends in customer feedback.
- What AI can do to automate analysis and provide actionable insights, includes:
 - **Pattern recognition:** AI automatically tags and categorizes information based on content.
 - **Content tagging:** Assign relevant tags (e.g., "bug fix," "customer feedback").
 - **Hierarchical categorization:** Organize tagged information into nested categories.
 - **Relationship analysis:** Reveal hidden patterns between tags and categories.
 - **Trend analysis:** Identify trends over time with time series and regression analysis.

Activity 3.3 – AI-Powered Communication and Collaboration

- **Predictive modeling:** Forecast future outcomes based on historical trends.
 - **Anomaly detection:** Flag unusual data points that might signal problems or successes.
 - **Predictive analytics:** Make educated guesses about future outcomes.
 - **Natural language processing (NLP):** Analyze sentiment and extract key information from text data.
- Benefits of a centralized knowledge base for improved information flow and collaboration include:
 - **AI-powered search** (e.g., quickly finding relevant documents or information using natural language queries)
 - **Intelligent recommendations** (e.g., suggesting relevant articles or resources based on user's search history or interests)
 - **Automated tagging and categorization** (e.g., automatically assigning tags or categories to documents based on their content)
- AI-Powered Reporting exercise: Pro/Con/Pro debrief examples:
 - Example 1:
 - **Pro:** AI saves time by automating repetitive reporting tasks.
 - **Con:** Overreliance on AI could lead to less understanding of the data.
 - **Pro:** But AI can ALSO uncover insights team members might miss, leading to better decisions overall!
 - Example 2:
 - **Pro:** This would help me to communicate results to my scrum team more efficiently.
 - **Con:** This looks too time-consuming.
 - **Pro:** Invest a little time up front, and watch it multiply into deeper insights and time-savers later!

Activity 3.4 – Data-Driven Team Facilitation

Purpose:

Provide strategies for identifying AI-supported metrics for team health and performance. Have learners discuss how data-driven team facilitation uses AI to provide insights on team health and performance, and to help customize solutions for the team.

Points to Cover:

- **Measuring Team Health:**
 - AI-powered metrics for high-performing teams: AI-powered metrics, derived from advanced data analysis, provide a comprehensive understanding of team health and performance, going beyond traditional project management data to incorporate sentiment, communication patterns, and predictive analytics.
 - Key benefits of using AI for team metrics:
 - **Data-driven insights:** Access real-time project metrics and team sentiment analysis. AI analyzes communication to provide a complete picture of performance and morale.
 - **Proactive conflict management:** AI acts as an early-warning system, detecting signs of conflict before they escalate. Address issues early for a harmonious and productive environment.
 - **Personalized growth opportunities:** Gain tailored insights into team members' strengths, weaknesses, and work styles. Offer personalized coaching and development opportunities.
 - **Increase efficiency:** Automate data collection and analysis, freeing up time for mentoring, relationship-building, and innovation.
- **Quantitative Metrics**
 - Key quantitative metrics that can be tracked with AI:
 - Velocity
 - Cycle time

Activity 3.4 – Data-Driven Team Facilitation

- Lead time
- Sprint burn-down
- Cumulative flow diagrams
- **AI-Powered Sentiment Analysis**
 - Sentiment analysis is the process of analyzing conversations using natural language processing to identify and interpret the emotions expressed within the text, often with seamless integration into communication platforms, enabling machine learning for continuous improvement and generating visual reports and actionable insights.
 - Benefits of AI-powered sentiment analysis:
 - Early-warning system for potential issues
 - Uncovering hidden problems
 - Data-driven decision-making
 - Customization to specific team needs
- **Driving Positive Change**
 - Strategies for having meaningful conversations with your scrum team based on AI insights:
 - Be transparent about AI usage
 - Focus on specific issues
 - Use open-ended questions
 - Show empathy and validate feelings
 - Collaborate on solutions
- **Tailoring AI to Your Unique Team**
 - To enhance AI's effectiveness, tailor its models to align with your team's unique context and communication style, ensuring more relevant and valuable outputs.
 - An example of customizing AI models to fit a team's specific context is training the AI on past project data, including user stories, sprint retrospectives, and team communication, so the AI can generate more relevant and accurate suggestions and predictions tailored to the team's unique working style and project history.
 - Benefits of customization:
 - Improved accuracy

Activity 3.4 – Data-Driven Team Facilitation

- Increased trust
- Better problem-solving
- Enhanced decision-making
- Different approaches to customization:
 - Adjusting model parameters
 - Training on team-specific data
 - Incorporating feedback loops
 - Updating regularly
 - Training and onboarding new team members
- Potential challenges and constraints in customizing AI models:
 - Lack of relevant data
 - Lack of expertise
 - Ethical considerations and bias
- Recommendations for overcoming these challenges:
 - Start small and gradually expand data collection.
 - Invest in upskilling or seek external expertise.
 - Be transparent about AI usage and monitor for bias.

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

Purpose:

Provide an overview of the ethical considerations in AI for each scrum accountability. Discuss data bias and its impact. Learners evaluate dilemmas related to the use of AI in a scrum context and apply ethical judgment.

Group 1 Information and Scenarios:

- Understanding team roles and responsibilities will help to improve the team's ethical mindset. Ethical AI use is a shared responsibility across all roles. Open communication, collaboration, and a proactive approach are essential for mitigating biases and ensuring AI benefits everyone equitably.
- Ethical considerations in AI for each scrum accountability:
- Product owner
 - The product owner sets the ethical tone for AI use, ensuring it aligns with the product vision and values.
 - Key responsibilities:
 - Set clear expectations for AI usage and define success metrics.
 - Order backlog items with ethical considerations in mind.
 - Gather feedback on AI performance and incorporate improvements.
 - Communicate transparently with stakeholders about AI usage and impact.
- Scrum master
 - The scrum master ensures open communication and understanding around AI within the team and is the facilitator of transparency and collaboration.
 - Key responsibilities:
 - Adapt processes to the evolving AI landscape.
 - Establish clear roles and responsibilities related to AI.
 - Facilitate discussions about potential biases and ethical implications.
 - Encourage open dialogue about risks and challenges.

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

- Foster a culture of responsible AI adoption.
- Development team
 - The development team is responsible for the technical aspects of AI, with a focus on building ethical and unbiased solutions.
 - Key responsibilities:
 - Build AI solutions that respect privacy, explain decisions, and prioritize fairness.
 - Develop AI with transparency, bias detection, and security in mind.
 - Choose interpretable AI models and document the decision-making process.
 - Actively uncover and correct potential biases or errors.
 - Adapt AI models to meet evolving requirements and monitor real-world use.
- Clients and stakeholders
 - Clients and stakeholders play a vital role in holding the team accountable for ethical AI use.
 - Key responsibilities:
 - Provide input on ethical concerns and expectations regarding AI use.
 - Offer feedback on potential biases and risks they identify.
- Data bias and its impact:
 - Data bias is the tendency of data to reflect or amplify existing societal inequalities, prejudices, or stereotypes. This can happen unintentionally, even when teams are committed to fairness.
 - Biased data can lead to AI systems that perpetuate or worsen these biases, resulting in unfair or discriminatory outcomes that affect individuals or groups.
- Types of data bias.
 - **Sampling bias:** This occurs when the training data doesn't accurately represent the real-world population the AI will be used on, leading to skewed results.
 - **Historical bias:** Past biases in data can be inherited by AI systems, perpetuating discrimination.

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

- **Selection bias:** Data collection methods that favor certain groups or data points can distort the true picture.
- **Measurement bias:** Flawed or biased data collection methods lead to inaccurate AI models.
- **Survivorship bias:** Focusing only on successful cases in training data creates overly optimistic AI models, ignoring potential pitfalls.
- **Cultural bias:** Data collection or interpretation influenced by cultural norms can result in AI systems that are ineffective or harmful to diverse populations.
- **Confirmation bias:** AI trained on data that reinforces preexisting beliefs can create a self-reinforcing loop, leading to inaccurate predictions.
- **Algorithmic bias:** Flaws in the algorithm's design can introduce bias, even with unbiased data, potentially automating discrimination.
- Diverse datasets and their importance.
 - Diverse and representative data is essential for fair and equitable AI.
 - There are key steps to achieve data diversity:
 - Define your target population.
 - Identify relevant characteristics for your AI's purpose.
 - Gather data from multiple, varied sources.
 - Analyze your data for gaps or underrepresentation and take corrective action.
- **Possible solutions to the ethical dilemmas:**
 - **Scenario 1.1:** Your team is using AI to help the ordering of backlog items based on past sprint performance data and asking AI to explain what data points were considered in making the recommendations. (Note that we are not automating the ordering of backlog items but using AI to help the process.) However, you realize that the data reflects certain types of tasks or user stories, potentially favoring features over bug fixes or technical debt.
 - **Debrief points:**

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

- Discuss the impact of historical bias in this scenario, where past prioritization patterns may inadvertently influence the AI's recommendations.
- Explore strategies to mitigate this bias, such as:
 - Explicitly include different types of work (features, bugs, tech debt) in the training data with appropriate weighting.
 - Set clear prioritization criteria that encompass various factors beyond past performance, such as customer impact, risk mitigation, and technical health.
 - Regularly review and adjust the AI model's recommendations to ensure they align with the team's evolving priorities and goals.
- **Scenario 1.2:** The AI tool your team uses for sentiment analysis of customer feedback seems to consistently misinterpret comments from certain demographic groups, potentially due to language nuances or cultural differences. This leads to inaccurate insights and potentially biased decision-making.
- **Debrief points:**
 - Highlight the issue of cultural bias in AI models and how it can lead to unfair or discriminatory outcomes.
 - Discuss strategies to address this bias, such as:
 - Collect more diverse training data that includes a wider range of language patterns and cultural expressions.
 - Use techniques like data augmentation to create synthetic data that reflects the diversity of your customer base.
 - Collaborate with experts in linguistics and cultural studies to improve the AI model's understanding of diverse communication styles.
- **Scenario 1.3:** Your team is using an AI tool to assist with sprint planning. The AI analyzes past sprint data, predicts story point estimates, and suggests a sprint goal. However, you notice that the AI consistently overestimates the team's capacity, leading to overly ambitious sprint goals and frequent sprint failures. You suspect the AI might be focusing on periods of high velocity and ignoring data points that suggest a more sustainable pace.
- **Debrief points:**

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

- Discuss how confirmation bias can manifest in AI systems, where the AI may selectively filter or interpret data to confirm preexisting assumptions or trends, leading to inaccurate predictions or recommendations.
- Discuss potential solutions to mitigate this bias, including:
 - Encourage the team to critically analyze the historical sprint data used by the AI, identifying potential outliers or inconsistencies that might be skewing the AI's predictions.
 - Explore whether the AI tool allows for adjusting parameters or weights given to different data points to ensure a more balanced and realistic assessment of the team's capacity.
 - Emphasize the importance of the team's active involvement in sprint planning, using its knowledge and experience to validate the AI's suggestions and set realistic sprint goals.
 - Implement a process for the team to provide feedback to the AI tool, highlighting instances where its predictions were inaccurate, to help the AI learn and improve its accuracy over time.
- **Scenario 1.4:** Your team is excited about using an AI-powered code review tool. However, you discover that the AI model was primarily trained on a codebase from a large open-source project where the majority of contributors were from a specific demographic (e.g., male, from North America, using a particular coding style). You're concerned that this might lead the AI to unfairly flag code written by team members with different backgrounds or coding styles, even if their code is functionally sound.
- **Debrief points:**
 - Discuss the possibility of sampling bias and how a lack of diversity in the training data can lead to biased outcomes in AI systems. Explain how this can manifest in the code review tool by potentially favoring certain coding styles or conventions while flagging others as problematic.
 - Explore ways to mitigate this bias, such as:

Activity 4.1 AI Ethics Challenge

Group 1: Ethical Considerations for Scrum Teams

- Advocate for retraining the AI model on a more diverse codebase that includes contributions from a wider range of developers with varying backgrounds and coding styles.
- Implement a process where human reviewers evaluate the AI's feedback, especially when it flags code that deviates from the perceived "norm," to ensure fairness and prevent bias from affecting code quality assessments.
- Encourage developers to provide feedback on the AI tool's recommendations, allowing them to challenge potentially biased assessments and contribute to improving the tool's fairness and accuracy.
- Raise awareness within the team about the potential for bias in AI tools and the importance of actively working to mitigate it.

Activity 4.1 – AI Ethics Challenge

Group 2: Develop a Framework to Evaluate AI Tools

Purpose:

Describe the key elements of a framework to evaluate AI tools and why it is important. Discuss the core principles of data privacy. Learners evaluate dilemmas related to the use of AI in a scrum context and apply ethical judgment.

Group 2 Information and Scenarios:

- Developing a framework to evaluate AI tools involves creating a structured approach to assess their capabilities, limitations, and overall impact. It's designing a blueprint for determining how well an AI tool fulfills its intended purpose and fits within a specific context.
- Why developing a framework to evaluate AI tools is important:
 - **Informed and ethical AI adoption:** A framework empowers informed decision-making, ensuring AI tools are chosen based on their capabilities, limitations, and ethical considerations. It promotes transparency and accountability, building trust in AI technology.
 - **Quality and risk mitigation:** A framework drives the development of high-quality AI tools by setting clear standards and encouraging developers to prioritize performance, usability, and safety. It also helps identify and mitigate potential risks associated with AI tools.
 - **Standardization and trust:** A framework establishes industry benchmarks for evaluating AI tools, facilitating comparison and ensuring a baseline level of quality and responsibility across the AI landscape. This fosters trust in AI technology and encourages its wider adoption.
- Key elements of a framework.
 - **Criteria:** Clear standards and metrics by which the AI tool will be judged.
 - **Evaluation methods:** The specific techniques and procedures used to gather evidence and measure the tool against the criteria.
 - **Scoring and reporting:** A clear and transparent way to present the evaluation results, summarizing the tool's strengths and weaknesses.
- Frameworks should go beyond data privacy and include assessments of potential harm, risk, and bias associated with the AI tool.
- Choosing an AI tool compares to selecting a new team member: Both need to align with your team's values and the organization's mission.

Activity 4.1 – AI Ethics Challenge

Group 2: Develop a Framework to Evaluate AI Tools

- **Note:** The job aid, Evaluating AI Tools, in the Scrum Master Toolkit that will assist scrum masters to evaluate AI tools and help prepare for their integration into scrum practices.
- There's no single, universal ethical framework for AI.
- Explain that organizations often build their own checklists or guidelines based on existing policies, such as those relating to:
 - Data privacy
 - AI ethics
 - Risk management
 - Vendor selection
 - Intellectual property
 - Transparency and explainability
 - Regulatory compliance
 - Corporate social responsibility
- Data privacy is the foundation of customer trust.
 - Safeguarding user data is paramount, especially with AI's reliance on personal information.
 - Building strong, lasting relationships with customers depends on handling their data responsibly and ethically.
 - This is not only the right thing to do but also essential for business success.
- Four core principles of data privacy:
 - **Informed consent:** Users must understand who has access to their data and how it will be used before providing it. Use clear language in privacy policies and consent forms.
 - **Purpose limitation:** Be transparent about how data will be utilized. Collect data only for specific, stated purposes, and obtain further consent if the purpose changes.
 - **Data confidentiality and anonymization:** Keep personal data confidential and anonymize it whenever possible to protect individual privacy.
 - **Secure data handling:** Employ strong security measures such as encryption, access controls, and regular audits to prevent unauthorized access or misuse of sensitive information.

Activity 4.1 – AI Ethics Challenge

Group 2: Develop a Framework to Evaluate AI Tools

- There is a critical need for clear and open communication with stakeholders about how AI is being utilized and its potential impacts.
- It is important to have mechanisms in place to address any concerns and ensure responsible AI practices.
- The scrum master's role in facilitating these conversations and promoting transparency within the team and with stakeholders is essential.
- **Possible solutions to the ethical dilemmas:**
 - **Scenario 2.1:** Your team is excited about a new AI tool that promises to automate a significant portion of their work, potentially leading to increased productivity and efficiency. However, upon closer inspection, you notice that the tool's privacy policy is vague, and it's unclear how user data is being handled and stored.
 - **Debrief points:**
 - This scenario highlights the importance of informed consent and data privacy. Discuss how the lack of transparency in the tool's privacy policy raises concerns about how user data is being collected, used, and protected.
 - Emphasize the need to assess the potential risks associated with using the AI tool, including the risk of data breaches or misuse of sensitive information.
 - Discuss the importance of carefully evaluating AI vendors and their commitment to ethical data practices before adopting their tools.
 - **Scenario 2.2:** Your team is impressed by an AI tool's accuracy and performance, but it struggles to understand how the AI tool arrives at its conclusions. The tool's inner workings are opaque, making it difficult to explain its decisions to stakeholders or identify potential biases.
 - **Debrief points:**
 - This scenario underscores the importance of transparency and explainability in AI tools. Discuss the challenges of using "black box" AI models and the need for interpretable AI solutions whenever possible.
 - Explain how the lack of transparency can hinder trust in AI technology and impede its wider adoption.

Activity 4.1 – AI Ethics Challenge

Group 2: Develop a Framework to Evaluate AI Tools

- Discuss how the "explainability" of an AI tool should be a key criterion in the evaluation framework.
- **Scenario 2.3:** Your team is using an AI-powered recommendation engine to personalize product suggestions for customers. However, you discover that the engine is consistently recommending products that reinforce existing stereotypes or discriminate against certain groups of users.
- **Debrief points:**
 - This scenario highlights the potential for AI tools to perpetuate or even amplify existing biases. Discuss the ethical implications of biased AI systems and the importance of proactively identifying and mitigating such biases.
 - Emphasize the need for diverse and representative training data to ensure fairness and equity in AI outcomes.
 - Stress the importance of continuously monitoring and evaluating AI tools to detect and address any potential biases that may emerge over time.
- **Scenario 2.4:** Your team is thrilled with a new AI tool that significantly boosts its productivity. However, you start noticing that team members are becoming overly reliant on the tool, leading to a decline in critical thinking and problem-solving skills.
- **Debrief points:**
 - This scenario illustrates that AI tools can have unintended consequences, even when they initially seem beneficial. Discuss the potential harm of overreliance on AI and the importance of maintaining human skills and judgment.
 - Emphasize the need for a balanced approach to AI adoption, where humans and AI work together to achieve optimal outcomes.
 - Highlight the importance of considering potential long-term impacts and unintended consequences when evaluating AI tools.

Activity 4.1 – AI Ethics Challenge

Group 3: The Importance of Human Oversight

Purpose:

Explain the importance of human oversight when using AI and describe the power of partnership. Learners evaluate dilemmas related to the use of AI in a scrum context and apply ethical judgment.

Group 3 Information and Scenarios:

- Overview of the importance of human oversight when using AI.
 - AI cannot grasp complex ethical issues, cultural differences, or social situations. Human oversight is essential for ensuring decisions are made with empathy and understanding.
 - AI systems can be biased. Human oversight is necessary to identify and correct these biases, ensuring AI is used fairly and justly.
 - AI systems may struggle to adapt to change. Human thinking is more flexible and adaptable in changing situations and provides important context that AI may miss.
 - Transparency and oversight build trust in AI systems. Clients and stakeholders are more likely to trust AI when they understand how it works and how it's being monitored.
 - Ultimately, people and organizations are responsible for decisions made by AI. Human oversight establishes clear accountability for AI's actions.
- The power of partnership.
 - Aim for collaboration. Keep in mind that the goal is not to replace humans with AI but to create a collaborative relationship where AI enhances human capabilities. This symbiotic relationship between humans and AI leads to superior results compared to either working in isolation.
 - Humans bring the "why." People bring strengths such as ethical judgment, critical thinking, and contextual understanding to this partnership.
 - AI brings the "what." AI excels at handling routine tasks, analyzing vast amounts of data, and providing valuable insights.

Activity 4.1 – AI Ethics Challenge

Group 3: The Importance of Human Oversight

- Scrum teams and AI can work stronger together.
- Potential limitations of AI in understanding complex ethical dilemmas and the need for human judgment to guide decision-making include:
 - Missing context and nuance
 - Bias in AI-generated results
 - Lack of creativity and critical thinking
 - Misinformation and "hallucinations"
 - Inaccurate or generic output
- Accountability, bias mitigation, adaptability, and building trust through human oversight are essential.
- Human experts help in ensuring transparency, legal compliance, and addressing potential long-term consequences of AI.
- AI deployment is an ongoing process, not a one-time event. There are practical strategies for ensuring responsible AI use and provide tips for mitigating AI limitations, such as:
 - Human oversight and validation (establishing review processes for AI-generated outputs; validating AI outputs against human judgment and domain expertise; creating feedback loops to continuously improve AI models and review processes)
 - Clear instructions and goal setting
 - Training and customizing AI tools
 - Maintaining skepticism and having a risk management plan (e.g., identify, assess, and monitor risks; conducting risk assessments to identify potential risks associated with AI use)
 - Gradual implementation
 - Recommend starting with small, low-risk projects to test AI tools and gradually expand their use as comfort and trust grow.
 - Suggest tracking progress and measuring the impact of AI on workflow improvement.

Activity 4.1 – AI Ethics Challenge

Group 3: The Importance of Human Oversight

- Responsible AI use is a team effort requiring collaboration and open communication. Any team member can raise concerns about AI use and the importance of:
 - **Open communication:** Emphasize the need for a safe environment where team members feel comfortable expressing concerns.
 - **Escalation procedures:** Detail clear procedures for escalating concerns to the appropriate level of authority.
 - **External review:** Suggest seeking external feedback from experts to ensure responsible AI use.
- **Possible solutions to the ethical dilemmas:**
 - **Scenario 1:** You're a scrum master working in a highly regulated industry (e.g., finance, healthcare) with strict data privacy laws. You discover a powerful publicly available AI tool that can analyze project data, identify risks, and suggest process improvements. You're eager to leverage this AI to help your team, but you're unsure what data you can ethically and legally input into the system. You realize that inputting detailed project data, even anonymized, might violate company policy or regulatory guidelines. However, using only very general or publicly available data severely limits the AI's ability to provide valuable insights specific to your team's context. You feel pressure to improve the team's performance and believe the AI tool could be a significant asset.
 - **Debrief points:**
 - Discuss the importance of adhering to legal and ethical guidelines when using AI, especially in regulated industries with sensitive data.
 - Explore the complexities of data anonymization and the potential risks of re-identification, even when data seems scrubbed of obvious identifiers.
 - Highlight the need to be aware of and comply with internal company policies regarding data security and the use of external AI tools.
 - Facilitate a discussion about the potential consequences of non-compliance, both for the individual and the organization.
 - Brainstorm alternative approaches, such as:

Activity 4.1 – AI Ethics Challenge

Group 3: The Importance of Human Oversight

- Requesting an internal review of the AI tool to determine if it can be used in a compliant manner.
 - Exploring the possibility of collaborating with the AI provider to create a customized version that meets the company's specific data privacy requirements.
 - Seeking out AI solutions specifically designed for use in regulated industries.
- **Scenario 2:** During a sprint review, the team excitedly presents insights generated by an AI tool after analyzing customer feedback and doing some quick research. However, a stakeholder later points out that some of the information is factually incorrect.
 - **Debrief points:**
 - Underscore the critical need for human oversight and validation of AI-generated outputs to ensure accuracy and reliability.
 - Discuss the limitations of AI, including its susceptibility to errors, biases, lack of contextual understanding, misinterpreting or "hallucinating" information.
 - Explore strategies to minimize the risk of misinformation, such as establishing review processes, cross-checking AI outputs with other sources, and setting clear expectations for AI's role in decision-making.
 - **Scenario 3:** Your team is exploring using customer data to train an AI model for personalized product recommendations. However, some of this data contains sensitive personal information.
 - **Debrief points:**
 - Emphasize the paramount importance of safeguarding user data, especially sensitive information.
 - Discuss the ethical implications of using sensitive data and the need for informed consent and responsible data-handling practices.
 - Explore techniques like anonymization and data masking to protect user privacy while still leveraging the value of the data for AI training.
 - **Scenario 4:**
 - Your team has been using an AI tool to assist in making decisions about task assignments during sprint planning. However, in the recent sprint, the AI assigned a complex and challenging task to a

Activity 4.1 – AI Ethics Challenge

Group 3: The Importance of Human Oversight

relatively new team member, leading to feelings of being overwhelmed and frustrated.

- **Debrief points:**

- Highlight the fact that AI, while powerful, cannot fully understand the nuances of human capabilities, experience levels, or emotional states.
- Emphasize the importance of human judgment and empathy in making decisions that impact team members, especially when it comes to task assignments and workload distribution.
- Discuss strategies to ensure a collaborative approach where AI provides recommendations but final decisions are made by humans, taking into account the broader context and individual needs of team members.

Learning Catalog

The AI for Scrum Masters learning catalog offers a variety of learning exercises to enhance the course content. Facilitators can customize the course based on class size, time constraints, and the specific needs of the learners.

Learning Exercise	Description	Possible Adaptations
GenAI's Impact for Scrum is a warm-up activity to engage learners at the start of the workshop, exploring learners' current AI tool usage.	The facilitator introduces a whiteboard or shared digital space (e.g., Mural, Miro). Learners each fill out sticky notes with the AI tools and actions they find most helpful in their work. The class then discusses and sorts these notes into categories, providing a diagnostic of the learners' current AI tool usage. Potential board categories include AI-Powered Automation, Predictive Analytics, AI-Enhanced Communication, and Ethical Considerations.	Instead of using sticky notes, the facilitator could utilize a polling tool or online survey to gather learners' responses. Additionally, the facilitator could adjust the categories to focus on specific aspects of the workshop or the learners' backgrounds and experiences.
GenAI Wishlist is a brainstorming activity to identify challenges and prioritize AI applications.	The facilitator introduces the categories (key topic areas that will be covered in the course): Customizing AI for Your Team, AI-Powered Strategic Planning, AI-Powered Communication and Collaboration, and Data-Driven Team Facilitation. Learners brainstorm challenges within these categories, and the facilitator clusters common themes. The class identifies key areas they're	The facilitator can adjust the categories to align with the workshop's focus, and learners can generate individual wishlists before collaborating on a group wishlist. This exercise can be revisited throughout the workshop to ensure alignment with the learners' evolving understanding and

Learning Exercise	Description	Possible Adaptations
	most interested in exploring, creating a "GenAI Wishlist" of prioritized AI applications. The wishlist serves as a touchstone throughout the course, ensuring that the content remains relevant and aligned with the learners' interests and challenges.	priorities.
Crafting Effective Prompts Challenge is an activity where learners practice refining AI prompts to achieve better results.	The facilitator presents a scenario (e.g., a virtual team with low morale) and a challenge (e.g., generating ideas for a team-building event). Learners use a prompt template to create and refine prompts, experimenting with different wording and structures. They then input their refined prompts into an LLM and evaluate the results.	This exercise can be adapted to various scenarios and prompt templates and used throughout the course. The facilitator can adjust the complexity of the scenario and the challenge based on the learners' skill levels. They can also encourage learners to explore different AI tools.
Upgrade Your Prompts, Upgrade Your Results is an activity focused on prompt refinement.	The facilitator presents a scenario (either continuing a previous one or introducing a new one) and challenges learners to refine a given prompt to elicit more specific, relevant, and actionable responses from an LLM. Learners work to analyze the prompt, brainstorm refinements, experiment with variations, and select their most effective prompt. The exercise concludes with a debrief	This exercise can be adapted by using different scenarios and prompt templates. The facilitator can adjust the complexity of the challenge based on learners' skill levels. They can also encourage learners to explore different AI tools. The core focus remains on

Learning Exercise	Description	Possible Adaptations
	where groups present their findings and the facilitator provides feedback.	iterative prompt improvement and its impact on AI-generated results.
Custom Data Risks and Rewards is an activity focusing on the implications of using custom data with AI.	The facilitator presents a scenario (e.g., a new e-commerce project) with potential risks. They provide a series of increasingly refined prompts related to risk identification and mitigation. Learners analyze the iterative prompts and their outputs. They discuss a practical example using custom data (e.g., sprint retrospectives) to identify and mitigate risks. The facilitator leads a debrief where groups share insights, and summarizes the importance of prompt refinement and custom data for risk management.	The scenario can be tailored to different risk categories (e.g., technical, schedule) or industries to make it more relevant to the learners' experiences. The exercise can be modified to allow learners to use the AI tool and generate their own sample data and outputs for a more hands-on experience. The facilitator can choose to emphasize particular risk areas based on the learning objectives or the learners' interests. The core focus of this exercise is to help learners understand the benefits and potential pitfalls of using custom data with AI, emphasizing the importance of careful prompt refinement and ethical considerations.
Using GenAI to Brainstorm exercise allows learners to use a generative AI tool to practice	Learners reflect on their experiences and challenges identified in Lesson 1, then choose a relevant challenge to brainstorm and experiment with prompting.	The exercise can be adapted to have learners brainstorm solutions both with and without AI, then compare the results and discuss the pros and cons of each

Learning Exercise	Description	Possible Adaptations
brainstorming a relevant challenge.		approach. If different generative AI tools are available, introduce learners to them and have them compare the strengths and weaknesses of each for brainstorming.
Using Prompt Chains exercise teaches learners to help their scrum teams solve complex issues by breaking them down into smaller steps and feeding those steps to the AI to get more insightful solutions.	The facilitator chooses an issue or scenario from the GenAI Wishlist or provides a new one relevant to the course content. Learners practice using a “prompt chain,” which is a series of interconnected prompts used to guide an LLM through a task by breaking it down into smaller steps. Learners create six sequential prompts they would use to address the scenario. If feasible, learners test their prompt chains with an AI tool for immediate feedback on their effectiveness.	The facilitator can adjust the complexity of the scenario and the desired outcome to match the learners' skill levels (e.g., a shorter chain with simpler prompts). The exercise can be tailored to focus on specific scrum events to allow learners to practice applying prompt chains to the specific challenges and goals of each event. Learners can work in groups to collaboratively create and refine prompt chains.
AI-Powered "What-If" Scenario Explorer examines how AI can help scrum masters prepare for unexpected project challenges.	Learners brainstorm "what-if" scenarios, such as team members leaving or new features being added, and write prompts to generate possibilities for a scrum team to consider.	The facilitator can adjust the complexity of the "what-if" scenarios based on the learners' experience levels.
Custom	Learners reflect on their own	Depending on time and

Learning Exercise	Description	Possible Adaptations
Reporting Insights exercise stimulates innovative thinking around the potential of custom reports that provide tailored insights and drive targeted actions in a scrum team.	experiences to pinpoint missing information or insights, and then they create a hypothetical scenario where a custom AI-generated report could address those specific challenges. The goal is to encourage creative thinking about how AI can be used to generate more valuable and actionable insights for scrum teams.	tools available, learners could use the prompt template as a structured guide to refine their scenario and generate some solutions; sketch mock-ups of their custom reports; or explore specific reporting tools and their customization features.
AI-Powered Reporting: Pro/Con/Pro exercise is facilitated using a pre-populated Excel spreadsheet with relevant scrum data (e.g., backlog, sprint burn-down) and access to built-in AI functions (e.g., "Analyze Data").	Learners explore the benefits and insights gained from using AI to automate reports. An example insight could be: "The burn-down chart shows that the team is currently ahead of schedule." Learners will use a "Pro/Con/Pro" format to help learners make informed decisions about AI-powered reporting. Each learner/group will present one "Pro" (benefit) of AI reporting, one "Con" (potential challenge), and then another "Pro" to counter the Con.	This exercise could be facilitated with any tool to demonstrate automated reporting and AI's role in simplifying the process with a focus on generating insights for the team.
AI-Assisted Insights: Driving Positive Change exercise allows learners to explore how AI-generated insights can be leveraged to drive positive change	Learners create scenarios where scrum teams face challenges, identify relevant AI insights, and strategize how a scrum master can utilize this data to drive positive change.	The facilitator could introduce "Wild Cards" (unexpected events) to add complexity and test learners' adaptability. If available, learners could use an LLM to generate initial AI insights and explore

Learning Exercise	Description	Possible Adaptations
within scrum teams and projects.		potential solutions.
Tailoring AI for Your Team exercise encourages learners to think critically about how to customize AI models to fit the specific needs and context of different scrum teams.	Learners divide into groups representing different scrum teams with unique characteristics (e.g., remote, technical, diverse communication styles). Each group brainstorms how to customize an AI model to best fit its team's context, considering factors like relevant data, communication styles, necessary information, and feedback loops. The group then shares its ideas and discusses potential challenges and ethical considerations in AI customization.	Instead of hypothetical teams, learners could analyze their own scrum teams or teams they are familiar with. Using a specific AI tool designed for scrum teams, learners could tailor that tool to their team's needs.
AI Ethics Challenge exercise provides an opportunity for learners to delve into a specific topic area of AI ethics and present findings to the class.	Learners divide into small groups and work to become an expert group on assigned areas of AI ethics, such as responsible AI use, data privacy, and human oversight. Each group analyzes a set of ethical dilemma scenarios related to the use of AI in a scrum context and presents its findings to the class.	The facilitator can organize a debate or discussion on a controversial AI ethics topic, encouraging learners to articulate their arguments and engage in respectful dialogue. This promotes critical thinking and helps learners develop their own ethical frameworks. Learners can work in groups to develop a set of ethical guidelines for AI use in their scrum practice. This fosters collaboration and helps learners translate ethical

Learning Exercise	Description	Possible Adaptations
		principles into actionable practices.
Innovate Your Dream Team exercise helps learners shape their scrum future by assembling their “dream team” of AI tools and techniques using a visual approach to create and track their interests.	Learners explore various AI tools and techniques and place them into the appropriate category (hold, assess, trial, or adopt) based on their current level of interest and potential impact. This exercise empowers learners to personalize their AI journey and leverage these tools for maximum impact in their scrum master roles.	Learners could also rank the AI tools and techniques (e.g., high, medium, low) to prioritize exploration and adoption.

The Scrum Master's AI Toolkit

Evaluating AI Tools Checklist

Remember to adapt tools and tips to your specific team's needs and context for optimal results. It helps to break down the possible effects of AI use into areas of impact, then ask questions to aid you from an ethical standpoint to prepare you to integrate an AI tool into your scrum practices.

Fairness and Nondiscrimination

- Does the tool treat all individuals and groups fairly, regardless of their race, gender, age, or other characteristics?
- To assess fairness, start by comparing the AI tool's documentation and practices against your organization's data security and AI policies.

Privacy and Data Protection

- How does the tool collect, store, and use personal data?
- In the tool's privacy policy and terms of service, look for explanations of what data is collected, how it's used and stored, and whether it's anonymized.

Transparency and Explainability

- Can the tool's decision-making process be easily understood and explained?
- Review the tool's documentation to understand its decision-making process, the factors it considers, and the types of models it uses.

Human Oversight

- Does the tool have appropriate mechanisms for human oversight and intervention?
- Draw clear lines of responsibility for the AI's actions, both within the tool and your organization's overall AI governance structure. Be sure that the tool itself logs AI decisions and actions for auditing purposes.

Societal Impact

- Has a thorough risk assessment been conducted to identify and mitigate potential risks?
- Think big picture. Research potential use cases for the tool, both positive and negative.

Accountability

- Who is accountable for the actions and decisions made by the AI tool?
- Establish processes for the development, deployment, and ongoing monitoring of an AI tool.

Stakeholder Engagement

- Is there a plan to maintain open communication with stakeholders about AI use, benefits, and risks?
- Create a plan to involve diverse stakeholders in AI development and deployment decisions. Establish channels for stakeholders to provide feedback and raise concerns about AI systems.

Regulatory Policies

- Does the AI tool comply with relevant data protection and privacy regulations?
- Research whether the AI tool has been certified or validated by relevant regulatory bodies or industry standards organizations. There may also be third-party audits or assessments available.

Intellectual Property

- Who owns the intellectual property (IP) generated by the AI tool?
- Verify the type of license and usage restrictions to maintain compliance with licensing terms. Look for specific clauses outlining ownership of AI-generated outputs, including customizations and modifications. Assess IP risks by evaluating potential infringement risks and conducting regular IP audits to ensure compliance.

Prompt Engineering Templates

Document	Description
Ethical Considerations for Scrum Accountabilities: A Checklist and Guide	Job Aid Ethical Considerations for Scrum Accountabilities Checklist and Guide This template aims to help you navigate the ethical dimensions of your role within a scrum team. By reflecting on these questions and applying these guidelines, you can contribute to a more responsible and ethical use of AI and Agile practices.
AI Prompt Blank Template	Agile Team Job Aid AI Prompt Engineering Template This template provides a general framework to help you collect the essential context you'll need to include in AI prompts.
Aligning User Stories	Agile Team Job Aid Aligning User Stories Prompt This template provides the framework for creating a prompt to align user stories with your team's Definition of Ready.
Generating Future Bottlenecks	Agile Team Job Aid Generate Future Bottlenecks Prompt This template provides the framework for creating a prompt to identify potential bottlenecks.
Generating User Stories	Agile Team Job Aid Generating User Stories Prompt This template provides the framework for creating a prompt to generate user stories.
Potential Risks for Upcoming Sprint	Agile Team Job Aid Potential Risks This template provides the framework for creating a prompt to identify potential risks for upcoming sprints.
Prioritizing Backlog Items	Agile Team Job Aid Prioritizing Backlog Items Prompt This template provides the framework for creating a prompt to prioritize backlog items for the upcoming sprint.
Summarizing Meeting Notes	Agile Team Job Aid Summarizing Meeting Notes Prompt This template provides the framework for creating a prompt to summarize meeting notes while highlighting key decisions, action items, and discussion points.
Data Cleaning	Scrum Master Task Job Aid Data Cleaning Prompt This template provides the framework for creating a prompt to help clean data for analysis.
Reports and Agendas	Scrum Master Task Job Aid Reports and Agendas Prompt This template provides the framework for creating a prompt to generate a report or meeting agenda.

	This template provides you with the framework for writing and iterating on prompts for backlog refinement. These prompts are introduced in the “Use AI to Transform Scrum Communication” topic in the “AI for Scrum Masters: AI-Powered Communication and Collaboration” module.
Scenario Modeling	Scrum Master Task Job Aid Scenario Modeling Prompt This template provides the framework for writing and iterating on prompts to model different scenarios.
Resource Guide for Scrum Masters	Resource Guide for Scrum Masters This guide is a companion to the Prompt Engineering for Scrum Masters Learning Lab.

AI Tools for Scrum Masters

This section of the document provides a list of AI tools that can be utilized for various purposes, including meetings, communication and collaboration, retrospectives, data analysis, and more. The list includes a brief description of each tool, potential benefits, possible use cases, potential challenges, and tips for effective implementation.

Disclaimer: This list was compiled in November 2024. Please update it for your own use as AI develops.

Using GenAI to Brainstorm

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
LLMs	Large Language Models like ChatGPT for brainstorming	Generate diverse ideas, overcome creative blocks, explore new perspectives, rapid idea generation	May produce irrelevant or nonsensical output; overreliance can stifle original thought	Craft clear and specific prompts, iterate and refine prompts, critically evaluate outputs.
ChatGPT	Conversational AI for brainstorming and more	Generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way	May occasionally generate incorrect information	Provide clear prompts and specific instructions, review and verify the output.
Google Gemini	Large Language Model by Google AI	Idea generation, creative writing, summarization, and translation	May produce inaccurate or biased information	Experiment with different prompts, iterate on the output, and provide feedback to improve results.
Microsoft Copilot	AI assistant integrated into Microsoft 365 tools	Streamline workflows, enhance brainstorming within familiar applications, improve productivity	May require adjusting workflows, potential for errors or biases in AI-generated content	Use Copilot for repetitive tasks, leverage its suggestions, proofread and edit carefully.

MindMeister with AI	Visual brainstorming and idea organization	Enhanced visual organization, AI-powered suggestions and connections, improved collaboration	Potential for information overload, overreliance on AI suggestions	Start with a clear goal; use AI as a tool, not a crutch; actively curate and refine ideas.
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AI Tools for Meetings

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
AI for Meetings	Address meeting challenges with AI-powered solutions	Automate note-taking, generate summaries and action items, distribute meeting outcomes, create agendas, facilitate discussions, transcribe meetings, analyze sentiment	Overreliance on AI, potential for errors or biases, privacy concerns, integration with existing workflows	Clearly define meeting goals and expectations, train AI models on relevant data, establish clear roles and responsibilities, monitor and evaluate AI performance regularly.
Avoma	Combines conversation intelligence with meeting scheduling and collaboration features	Automates tasks across the meeting life cycle, provides actionable insights to increase deal win rate and customer renewal rate, suitable for various teams	Potential overreliance on AI, may require adjustments to existing workflows	Leverage AI for scheduling, note-taking and generating insights; use insights to improve communication and collaboration.
Gong	Focuses on revenue teams, providing insights from sales calls and meetings	Captures and analyzes sales conversations, provides insights into deal progress and customer interactions, helps improve sales performance	May be limited to sales use cases, potential privacy concerns, requires accurate data for reliable analysis	Use insights to identify areas for improvement in sales conversations, track deal progress, and coach team members.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Chorus.ai	Similar to Gong; Analyzes sales conversations for coaching and improvement	Identifies patterns and trends in sales conversations, provides feedback and coaching opportunities, helps improve sales effectiveness	May be limited to sales use cases, potential privacy concerns, requires accurate data for reliable analysis	Use insights to identify best practices, personalize coaching, and track progress over time.
Fellow.app	Agenda creation	Streamline agenda creation, ensure all voices are heard, keep meetings focused and on track	May require adjusting workflows, potential for overreliance on templates	Use templates as a starting point, customize agendas to fit specific meeting needs, encourage collaboration and input from all participants.
Fireflies.ai Sembly.ai	Meeting assistants	Automate note-taking, generate summaries and action items, track key decisions and takeaways, improve meeting efficiency and productivity	Potential for errors or biases in AI-generated content, privacy concerns, may require additional training or customization	Clearly define meeting goals and expectations, train AI models on relevant data, establish clear roles and responsibilities, monitor and evaluate AI performance regularly.
Miro with AI	Brainstorming and visualization	Enhanced visual collaboration, AI-powered suggestions and connections, improved idea generation and organization	Potential for information overload, overreliance on AI suggestions, may require additional training or onboarding	Start with a clear goal, use AI as a tool, not a crutch, actively curate and refine ideas.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Otter.ai	Transcription and translation	Accurate transcriptions, real-time translation, searchable transcripts, improved accessibility and inclusivity	Potential for errors in transcription or translation, privacy concerns, may require additional editing or formatting	Clearly articulate speech, use proper grammar and punctuation, proofread and edit transcripts, ensure data privacy and security.
Slack	Communication and collaboration platform	Centralize communication, share files and documents, integrate with other tools, improve team collaboration and productivity	Potential for distractions, information overload, overreliance on chat, may require clear communication guidelines and etiquette	Establish clear communication channels, use threads and channels effectively, set expectations for response times, encourage face-to-face communication when needed.
Spinach	Virtual facilitation	Guide discussions, keep participants engaged, ensure everyone has a voice, manage time effectively	May require adjusting facilitation style, potential for overreliance on AI, may not be suitable for all types of meetings	Set clear expectations for AI's role, provide context and guidance, actively monitor and adjust facilitation as needed.

AI Tools for Communication and Collaboration

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Chatbots	Streamline communication and collaboration	Summarize conversations , answer questions, schedule meetings, manage tasks	May provide inaccurate or irrelevant information, potential for privacy concerns, may require training or customization	Clearly define chatbot's role and capabilities, provide feedback and training data, monitor and evaluate performance, ensure data privacy and security.
Clariti	AI-powered platform to unify conversations across email, chat, and documents	Centralize communication, gain a holistic view of customer interactions, improve collaboration and efficiency	Potential for information overload, may require integration with multiple platforms, potential privacy concerns with data aggregation	Establish clear communication channels, use AI to identify key insights and trends, ensure data privacy and security, use AI to enhance, not replace, human interaction.
ClickUp	Project management and sprint reviews	Task management, project tracking, collaboration, reporting, integrations	Can be complex and overwhelming, may require significant setup and customization, potential for information overload	Start with a clear project structure, use templates and automation features, prioritize tasks effectively, communicate clearly and frequently with team members.
Compose AI	Chrome extension for faster and more efficient email writing	Autocomplete sentences, suggest phrases, grammar and spelling checks, generate email replies	May produce generic or inappropriate responses, potential for errors or biases, may require additional editing or customization	Use suggestions as a starting point, customize responses to fit specific needs, proofread and edit carefully, ensure data privacy and security.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Google Meet Zoom	Videoconferencing and collaboration	Virtual meetings, screen sharing, chat, recording, integrations	Can be prone to technical issues, distractions, and fatigue, may require clear communication guidelines and etiquette	Set clear meeting agendas and expectations, use video and audio effectively, encourage participation and engagement, manage time effectively, follow up with meeting notes and action items.
Intercom Yellow.ai	AI-powered platforms for customer automation and support	Automate customer interactions, provide instant support, gather feedback, improve customer satisfaction	Potential for impersonal interactions, may require extensive customization and training, potential for bias in AI responses	Clearly define chatbot's role and capabilities, provide human oversight for complex issues, ensure data privacy and security, use AI to complement human interaction.
Messaging and team apps	Enhance communication and collaboration (e.g., Slack with Donut Integration)	Centralize communication, share files and documents, integrate with other tools, improve team building and morale, encourage social interaction and knowledge sharing	Potential for distractions, information overload, overreliance on chat, may require clear communication guidelines and etiquette	Establish clear communication channels, use threads and channels effectively, set expectations for response times, encourage face-to-face communication when needed, foster a positive and inclusive team culture.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Microsoft Teams	AI-powered features for accessible and collaborative meetings	Automated transcriptions, live captions, in-line message translation, enhancing meeting accessibility and team collaboration	Potential reliance on Microsoft ecosystem, potential privacy concerns with data sharing, may require familiarization with AI features	Utilize AI features for transcription, captioning, and translation; be mindful of data privacy and security; integrate with other Microsoft tools for seamless collaboration.
Mindsay Ada	Chatbot and virtual assistant platforms offering customizable AI solutions	Integrate with various messaging platforms, automate tasks, provide personalized support, gather feedback, improve customer engagement	Potential for complex setup and customization, may require ongoing maintenance and training, potential for bias in AI responses	Clearly define chatbot's goals and target audience, provide regular feedback and training, monitor performance and make adjustments as needed, ensure data privacy and security, use AI to enhance human interaction and improve customer experience.
Otter.ai	Meeting transcription and translation	Accurate transcriptions, real-time translation, searchable transcripts, improved accessibility and inclusivity	Potential for errors in transcription or translation, privacy concerns, may require additional editing or formatting	Clearly articulate speech, use proper grammar and punctuation, proofread and edit transcripts, ensure data privacy and security.
Superhuman	AI-powered email client designed for speed and efficiency	Prioritize emails, suggest replies, schedule follow-ups, write emails with AI, draft	Potential overreliance on AI for email composition, may require adjustments to existing workflows, potential privacy concerns with data access	Use AI features to streamline email management, customize AI voice to match your style, maintain human oversight for important

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
		entire emails in your voice based on a few words		emails, ensure data privacy and security.
SaneBox	Focuses on decluttering your inbox and helping you focus on what truly matters	Identifies and filters unimportant emails, condenses long email threads, snoozes non-urgent emails, sets up reminders for follow-up	Potential for miscategorization of emails, may require adjustments to filtering preferences, potential privacy concerns with data access	Train SaneBox on your email preferences, regularly review filtered emails, use snooze and reminder features to manage your time effectively, ensure data privacy and security.

AI Tools for Retrospectives

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Parabol GoRetro TeamRetro	Retrospective-specific tools with planning and facilitation features	Offer meeting templates (Start, Stop, Continue; 4Ls; Mad, Sad, Glad), built-in timers, grouping, voting, commenting, and anonymous feedback.	Potential for overreliance on templates, may not suit all team dynamics	Customize templates, encourage participation, address anonymity concerns transparently.
Parabol GoRetro TeamRetro	Facilitate team collaboration	Encourage communication and collaboration through feedback mechanisms, brainstorming tools, and polls. Allow drafting ideas before sharing and commenting on others' feedback.	Potential for information overload or groupthink	Set clear guidelines for feedback and brainstorming, ensure all voices are heard.
Parabol GoRetro TeamRetro	Feedback analysis	Offer automated insights into team sentiment, highlight patterns, and identify areas for improvement. Gather additional insights through anonymous feedback.	Potential for misinterpretation of data or overemphasis on quantitative metrics	Combine quantitative data with qualitative feedback, consider team context when interpreting results, and focus on actionable insights.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Parabol GoRetro TeamRetro	Action item generation	Generate actionable items based on sprint data and meeting input (notes, polls, surveys). Integrate with agile and other tools for seamless incorporation into future sprint planning.	Potential for generating irrelevant or unrealistic action items	Prioritize action items based on impact and feasibility, assign ownership and deadlines, track progress and follow up regularly.

AI Tools for Data Analysis

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
DataRobot	Automates the process of building, deploying, and managing machine learning models, making it easier to leverage AI for predictive analytics.	Automate data preparation, feature engineering, model selection, and deployment.	Can be expensive and may require a significant investment in time and resources.	Clearly define your business objectives and use cases before implementing DataRobot. Start with small projects and gradually scale up as needed.
Google Cloud AI	One-stop shop for all AI and machine learning needs, providing a comprehensive suite of tools for everything from data preprocessing to deploying sophisticated predictive models	Build and deploy custom machine learning models using TensorFlow, Keras, and other popular frameworks. Leverage pre-trained models for tasks like image recognition, natural language processing, and speech-to-text.	Can be complex and overwhelming for beginners, and may require a deep understanding of machine learning concepts.	Start with simple projects and gradually explore more advanced features. Leverage the platform's documentation and tutorials to learn about different AI and machine learning techniques.
Microsoft Power BI	Comprehensive business intelligence platform that seamlessly integrates with other Microsoft tools. AI capabilities include natural language Q&A, anomaly detection	Automate the process of building, deploying, and managing machine learning models, making it easier to leverage AI for predictive analytics. Clean and prepare data for analysis, identify correlations and patterns, and make predictions	Can be complex to set up and manage, and may require additional training or resources.	Leverage the platform's AI capabilities to automate tasks and gain deeper insights. Integrate Power BI with other Microsoft tools for a seamless workflow. Create effective visualizations like scatter plots, line charts, and bar charts to identify patterns and trends.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
		based on historical data. Utilize the "Quick Insights" feature to automatically surface potential relationships.		
Tableau	Renowned for its intuitive drag-and-drop interface, making it easy to create stunning visualizations and interactive dashboards. It offers AI-powered capabilities.	Automatically uncover insights and patterns in your data using natural language queries. Clean and prepare data for analysis, identify correlations and patterns, and make predictions based on historical data. Create and explore interactive charts and graphs to discover hidden patterns and correlations.	May have a steep learning curve for advanced users, and can be expensive for large organizations.	Start with simple visualizations and gradually explore more advanced features. Leverage the "Explain Data" and "Ask Data" features to uncover hidden insights. Create effective visualizations like scatter plots, line charts, and bar charts to reveal underlying relationships.

AI-Powered Knowledge Bases

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Guru	Ideal for quick access to bite-sized, verified knowledge, with AI-powered recommendations and proactive delivery.	Access and share knowledge directly within workflows, consume and share bite-sized cards, ensure accuracy with AI-powered verification, and proactively deliver relevant knowledge based on triggers.	May not be suitable for managing large or complex knowledge bases	Use for frequently accessed information, create clear and concise cards, establish a verification process, and leverage AI-powered recommendations and triggers.
Confluence with AI	Perfect for organizing and structuring extensive knowledge bases, with powerful AI-driven search and seamless integration within the Atlassian suite.	Create visually appealing and structured documentation, manage large and complex knowledge bases with page hierarchy and organization, utilize powerful AI-powered search, and integrate with other Atlassian tools.	Can be overwhelming for simple knowledge bases or users who prefer a simpler interface	Use for comprehensive documentation and knowledge management, leverage rich text editing and formatting, establish a clear page hierarchy, utilize AI-powered search for efficient information retrieval, and integrate with other Atlassian tools for a streamlined workflow.

AI Reporting Tools

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Jira with AI	Real-time project tracking, agile metrics, issue-based reporting, and AI-powered predictions	Track task progress, sprint status, and team performance. Monitor agile metrics like velocity and burn-down. Analyze issue progress. Get AI-powered predictions on sprint velocity and roadblocks. Integrate with development tools for code quality metrics. Analyze historical data for trends and comparisons.	Can be overwhelming with excessive data and features; Requires configuration and maintenance	Focus on key metrics and avoid information overload. Customize dashboards and reports to your team's needs. Leverage AI for predictions and insights. Integrate with other tools for a complete picture of project health. Use historical data analysis to track progress and identify areas for improvement.
Confluence with AI	Knowledge-centric reporting, narrative-driven reports, collaborative knowledge sharing, AI-powered search	Create comprehensive reports using knowledge articles and meeting notes. Generate summaries and extract key insights with AI. Collaborate on reports and share insights. Use AI-powered search to find information quickly.	Can become cluttered and disorganized without proper management; Requires active participation	Establish clear guidelines for organizing and maintaining content. Encourage team contributions. Leverage AI for search and insights. Use collaborative features to keep everyone informed and aligned. Focus on storytelling and knowledge sharing for a holistic project overview.

AI-Powered Metrics Tools

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Jira Asana ClickUp	Project management platforms with integrated AI for analytics, reporting, and predictive insights	AI-powered planning and dependency management, workload management with AI-based capacity recommendations, dashboards with predictive analytics and automated reporting	May require additional configuration and integration with existing workflows	Clearly define your project goals and metrics. Start with small, focused use cases and gradually expand AI adoption. Ensure data accuracy and quality for reliable insights.
TeamMood Retrium OfficeVibe	Specialized tools for sentiment analysis and team dynamics	Real-time sentiment analysis, team mood tracking, facilitated team retrospectives, actionable insights for continuous improvement	May require team buy-in and a culture of open feedback	Foster a culture of trust and transparency. Encourage team members to share their feedback openly and honestly. Use insights to address team dynamics and improve collaboration.
Slack Microsoft Teams SWOOP Analytics	Communication and collaboration analysis tools integrated with communication platforms	Automated surveys and team check-ins, data analysis and reporting on channel activity and engagement, analytics dashboards for tracking meeting participation, communication	May raise privacy concerns and require clear communication guidelines	Ensure transparency and obtain consent for data collection and analysis. Establish clear communication guidelines and expectations. Use insights to identify collaboration bottlenecks and improve team communication.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
		frequency, and response times		
SonarQube Code Climate	AI-powered tools for monitoring code quality and managing technical debt	Automated code analysis, identification of code smells and vulnerabilities, tracking of technical debt metrics, prioritization of code improvements, integration with development workflows	May require initial setup and configuration, potential for false positives or negatives, may need customization to align with specific coding standards and practices	Integrate with your CI/CD pipeline for continuous code quality monitoring. Use AI insights to prioritize code refactoring and address technical debt proactively. Combine with human code reviews for comprehensive quality assurance.

AI Dashboard Tools

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Geckoboard	Simple, easy-to-use dashboard with AI anomaly detection	Build custom dashboards, connect to various data sources, get alerts for unusual trends.	Limited customization compared to other tools	Start with simple dashboards and gradually add complexity. Focus on key metrics and avoid overwhelming users with too much information.
Tableau	Powerful data visualization and advanced AI features.	Create interactive dashboards, analyze data, get AI-powered insights and answers.	Can have a steep learning curve; Requires strong data skills	Invest time in learning Tableau's features. Start with simple visualizations and gradually explore more advanced capabilities. Use clear and concise labels.
Microsoft Power BI	Interactive dashboards, reporting, and data modeling with integrated AI.	Build dashboards, create reports, model data, get AI-powered insights and natural language queries.	Can be complex to set up and manage	Leverage the platform's AI capabilities to automate tasks and gain deeper insights. Integrate Power BI with other Microsoft tools for a seamless workflow.

AI Tools for Project Management

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Trello (with AI Power-Ups)	Visual kanban boards with AI Power-Ups for brainstorming, summarizing, and project planning	Enhanced kanban boards with AI-driven insights for improved planning and collaboration.	Potential overreliance on AI for decision-making, limited customization options	Combine AI insights with human judgment, use AI for brainstorming and summarizing, integrate with other tools.
Atlassian Intelligence	Built-in AI for generating ideas, summarizing notes, and extracting action items	Seamless integration with Atlassian products for enhanced productivity and decision-making	Dependence on Atlassian ecosystem, potential privacy concerns with data sharing	Utilize AI for generating ideas and summarizing notes, be mindful of data privacy and security.
Notion AI	AI writing assistant for drafting, editing, summarizing, and brainstorming within Notion workspace	AI-powered writing and meeting assistance for efficient content creation and knowledge management.	AI capabilities may be limited to writing and meeting assistance, potential integration challenges.	Leverage AI for writing assistance and meeting summaries; integrate with other productivity tools.
Monday.com	AI-powered WorkForms for streamlined data collection, automation, and workflow triggers	Automated workflows and data consistency for streamlined project management and improved efficiency	Complexity of setting up and managing automated workflows, potential cost implications	Start with simple workflows and gradually increase complexity; monitor automation for errors and inefficiencies.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Asana	AI-powered Work Graph for analyzing project data, uncovering dependencies, and suggesting optimizations	AI-driven task suggestions and universal reporting for optimized resource allocation and communication	Potential bias in AI-driven task suggestions, reliance on accurate data input for effective analysis	Combine AI task suggestions with human input; ensure data accuracy for reliable analysis and reporting.

Streamlining Workflows

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Project Management and Collaboration				
Jira or similar Agile tools	Comprehensive platform for backlog management, sprint planning, issue tracking, and reporting; Offers robust customization and integrations	Streamline sprint planning, track progress, and generate reports. Improve transparency and collaboration across the team.	Can become complex and overwhelming with excessive customization; Requires initial setup and training	Customize workflows to fit your team's process. Provide adequate training and support to users.
Confluence or similar knowledge management tools	Centralized space for documentation, meeting notes, and knowledge sharing	Enhances team communication and transparency; Provides a single source of truth for project information	Can become cluttered and disorganized without proper management; Requires active participation from team members	Establish clear guidelines for organizing and maintaining content. Encourage regular contributions from the team.
Miro or similar virtual whiteboarding tools	Facilitates remote collaboration and brainstorming during sprint planning, retrospectives, and other agile ceremonies	Enables visual collaboration and engagement, even for distributed teams; Can be used for a variety of activities beyond agile ceremonies	Requires a learning curve for some users; Can be challenging to manage large or complex boards	Provide training on basic features and best practices. Use templates and pre-built elements to streamline workflows.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Slack or similar communication platforms	Real-time messaging and channels for quick updates, informal discussions, and fostering team connection	Enhances communication and collaboration, especially for remote teams.;Can be used for announcements, reminders, and integrations with other tools	Can lead to information overload and distractions; Requires clear guidelines for channel usage and notification management	Set up dedicated channels for specific purposes. Encourage mindful communication and avoid unnecessary notifications.
Zoom or similar videoconferencing tools	Essential for conducting remote meetings, especially important for distributed teams	Enables face-to-face communication and collaboration, even for remote teams. Can be used for a variety of meetings beyond Agile ceremonies.	Requires reliable internet connection and audio/video equipment; Can be challenging to manage large or disruptive meetings	Set clear agendas and expectations for meetings. Use breakout rooms for smaller group discussions.
Additional Specialized Tools				
Retrospective tools (e.g., EasyRetro , Retrium)	Streamline gathering feedback and generating actionable insights during retrospectives	Enhances the effectiveness of retrospectives by making it easier to collect and analyze feedback	Can be limited in functionality compared to custom retrospective formats; May require additional training for team members	Choose a tool that fits your team's needs and preferences. Encourage active participation from all team members.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
Estimation tools (e.g., Planning Poker)	Aid in collaborative story point estimation during sprint planning.	Encourages team collaboration and consensus on estimates; Can help identify potential risks and challenges early on	Can be time-consuming, especially for large backlogs; Requires clear understanding of story points and estimation techniques	Use estimation tools strategically for complex or contentious items. Provide training on estimation techniques and story points.
Burn-down chart generators	Visually track sprint progress and identify potential bottlenecks.	Provides a clear and concise overview of sprint progress; Can help identify areas where the team may need additional support	Requires accurate and up-to-date data to be effective; Can create unnecessary pressure if used incorrectly	Update burn-down charts regularly and use them as a tool for discussion, not as a measure of individual performance.
Impediment tracking tools	Centralize the logging and resolution of obstacles faced by the team.	Improves visibility and transparency around impediments; Can help identify recurring issues and areas for process improvement	Requires active participation from team members to log impediments; Can become overwhelming if not managed effectively	Encourage team members to log impediments as soon as they arise. Assign ownership and track progress toward resolution.
Team health check tools	Periodically assess and improve team dynamics and collaboration.	Provides insights into team health and areas for improvement; Can help identify potential	Requires honest and open feedback from team members; Can be time-consuming and challenging to facilitate	Choose a tool that fits your team's culture and communication style. Create a safe space for open and honest feedback.

Tool	Description/Benefits	Possibilities	Pitfalls/Challenges	Tips for Effective Use
		conflicts or issues before they escalate		

Facilitation Tips for Instructor-Led Trainings (ILTs)

All Facilitation Guides for ILTs (instructor-led training) include training instructions and summarize global best practices. In this document, you'll find both instructional strategies as well as activity-specific tips. Feel free to integrate these suggestions into your training as you see fit!

Instructional Strategies:

Instructional strategies help trainers engage students in the learning process.

- **Think, Pair, Share:** In discussion, brainstorming, or other sharing activities, giving learners time to think through their responses increases engagement and confidence. Pose a question and give learners roughly two minutes to make notes for themselves. Then, put them in pairs to discuss their responses before you bring the entire class together to share ideas.
- **Popcorn:** When sharing or reading aloud, it can be helpful to “popcorn” (students take turns reading aloud from a text) to avert the stress of volunteering and encourage participation (although you should honor the right to pass). Pick one volunteer to speak, then that person picks another randomly, who then picks another so that speaking turns jump around the room like popcorn. Alternative reading techniques: silent reading, paired reading, echo reading (instructor reads the text, students repeat the instructor).
- **Gamification:** Gamification brings aspects of game playing to the classroom, which includes point scoring, badges, meaningful stories, team competition, and achievements. There are many ways to bring aspects of game playing to both virtual and in-person classes; research shows gamification increases engagement, participation, and knowledge retention for learners. See [this educational website](#) for a formal explanation of gamification and suggestions.
- **Polls / surveys:** Engages the audience by asking questions and reflecting responses during presentations. There are many useful free online resources like [Mentimeter](#), [Kahoot](#), or [Poll Everywhere](#) for quick check-ins and reflection during classes.



Class Discussions

Provide opportunities for learners to engage in topics and think about how to apply new concepts to real life. Adding structure to discussions can diversify learning and help students learn from each other.

- **Debate switch:** Let learners choose sides of a debate, but halfway through the discussion, have them switch sides.
- **Different roles:** Assign roles/accountabilities to learners that make sense for the discussion, for example, manager, stakeholder, or scrum master, and have learners discuss an issue from those perspectives.
- **Pros/Cons:** Discuss all the pros of an issue, then the cons, then invite learners to discuss their positions.
- **Continuum:** On a virtual white board or on a wall, construct a continuum that matches a question so that one side is “very much” and the other “not at all.” Have learners move in the classroom or show with stickies where they fall on the continuum and discuss. Invite learners to move if other perspectives influence them.



Learning Exercises

Help keep learners engaged, reinforce new concepts, and build connections with the material and each other. There are various examples of learning exercises, and multiple ways to incorporate them in an educational setting. When beginning an activity, it is best practice to outline what will happen and what learners will do to orient them.

Icebreakers

Informal activities that help learners connect personally and build community within the class. It's valuable to tie ice breakers to the topic of the course and to not urge learners to reveal personal information if they don't wish.

Examples:

- **Five things in common:** In pairs, learners have 3 - 5 minutes to discover five things they have in common.

- **Have you ever?** Read off a series of statements (which usually grow increasingly complex) and have students raise their hands if it applies to them.
 - Example: “Have you ever traveled overseas?” → “Have you ever traveled overseas, and been lost?”
 - Example: “Have you ever been to Disneyland?” → “Have you ever been to Disneyland and rode more than six rides in a day?”
- **Rock, paper, scissors** (In person only): Build pairs and have them play rock (indicated by a balled fist), paper (indicated by a flat hand with palm facing downward), scissors (indicated by the hand sign for number two). Best out of three games win. When someone loses, they join the winners’ team and cheer for them as they continue to play until there are just two people left. Final best of three wins!
- **What is it?** One person instructs the group in drawing a simple object without naming it, using only descriptions of shapes and lines. When complete, all show their drawings and try to figure out what the object is.

Brainstorming

A technique used to think about new ideas, and generate perspectives, thoughts, and ways to solve a problem or task. Useful when engaging with a new topic to see what learners know, think about it, or want to know as well as for representing diverse viewpoints. When brainstorming, it is essential to truly welcome all perspectives and ideas without examining or judging them.

Examples:

- **Affinity mapping:** Brain dump (write down thoughts or ideas without structure or judgment) for an allotted time and then group similar ideas to find patterns and connections.
- **KWL (KnowWantLearned) chart:** Make a three-column chart and label the columns “What we KNOW,” “What we WANT to know,” and “What we’ve LEARNED.” At the beginning of a topic, fill in the first two columns, then once the learning has concluded, fill in the last one.
- **Mind mapping/Visual Diagram:** On a virtual or physical white board, put a topic in a center circle and ask for thoughts. Add ideas intentionally, by branching and grouping as you go.
- **Team Brainwriting:** Have one piece of paper or space on a virtual white board per person. Give learners five minutes to respond individually to a problem or idea on paper, then pass the papers to the left once and give another five minutes to respond to the new thoughts. Continue until everyone has seen every paper (or been to every virtual space) and the conversations on them. You can have the same topic on all pieces of paper or have each paper discuss a different topic / question.
- **Star burst/Collaborative Problem Solving:** In a six-pointed star, write the problem or brainstorming topic. On the points, write who, what, where, why, how, and when, and use those words as foci for brainstorming on the topic.

Knowledge Check

Knowledge checks are important not only at the end of a course to validate learning but also during a class to check in on learner understanding. Knowledge checks help learners self-assess whether they have solidified concepts or still have questions.

Examples:

- ***Fist of five, Roman voting (thumb voting):*** These check in techniques are visual validations for the trainer of whether students are clear on a topic or question. Learners can respond to a question with a fist to five fingers, five meaning they are confident in the material, or with Roman voting of thumbs up, down, or horizontal to indicate partially understood.
- ***Role play:*** If the course contains soft skills (character and interpersonal), consider including role plays (acting out a scenario) as knowledge checks to practice skills that will challenge learners to think on their feet.
- ***Group quiz vs individual quiz:*** If a quiz is included in the course, it is important to be clear about the purpose. Do students need to pass it to get credit for the course? Or is it to validate knowledge, review knowledge as a group, and increase retention.
- ***Quiz game:*** Use an online website like [Kahoot](#) to create topical interactive quizzes for your courses.



Breakout Groups

Give learners a chance to process material together and learn from each other in smaller groups. When using group activities in a course, encourage different learners to report back each time so that students hear different voices. Also, consider whether each group needs to report out each time or whether it's enough to have only one or two groups share so that information isn't repeated.

Examples:

- ***Scenarios / Role playing:*** Scenarios are real-world situations where learners are given details about a pretend story or real world example, and they discuss how to respond together. Role playing includes a scenario as well as specific roles learners need to pretend to take on so that they can figure out how to respond using that particular perspective.
- ***Elevator pitch/Summary of key points:*** Use a time-boxed outcome to create a different approach to a group activity. Once learners have information for the activity, they work in groups to get an elevator pitch ready: it must take two minutes or less! How can they highlight the important facts and persuade the manager or teammate to their point of view?

- **Facts & feelings:** In groups of three, the speaker thinks of a conflict situation (real or simulated) and tells the other two people about it. One person listens for the facts of the story and one listens for the feelings present in the story. When the speaker has finished, the two listeners share their responses. While this originated in conflict resolution, it could be a valuable exercise in listening for different aspects of a situation so consider assigning more appropriate topic-specific items the listeners can pay attention to.



Presentation

Introduce learners to new concepts and help them explore their thoughts on how they might experience those new concepts within their work.

Examples:

- **Lecture:** The trainer gives the information, usually with visual aids that should have a minimal text. It is important to limit lecturing to 10 minutes at a time and to encourage note taking through participant guides for content retention.
- **Jigsaw/Expert-Teacher Learning:** Learners first meet in Expert Groups and uncover knowledge through outside sources, ie, case studies, weblinks, etc. Then, one person from each Expert Group meets to make new groups, Teaching Groups, with one expert from each topic. In Teaching Groups, learners take turns teaching each other until all students have all the material.
- **Corrections:** The trainer gives information to the class with a preface that some of the information is incorrect. In small groups or as a class, the learners discuss the material to find the errors.
- **Group presentations:** Divide lengthy content like lists, techniques, or strategies into group presentations (build a slide, draw an illustration that depicts the concepts, etc.) so that learners teach one other.



Reflection

Allow learners to think through executing new skills and consider how new learnings could impact their workplace. Provide an opportunity to solidify new concepts as learners personalize them. Our

Facilitator Guides contain opportunities for reflection and give you a selection of questions from which to pick.

Examples:

- **Impactful learning:** Each learner reflects in writing or in small groups what the most impactful part of the course (or recent section) was. Sharing these out supports learners in gathering key tangible takeaways from the course.
- **Closing a section:** Consider including one or two questions at the end of a section to wrap it up before you move to a new topic. These could be related to learning objectives for the section, could be fun questions relevant to the topic, or could be call backs to earlier sections that connect the topics.



Breaks

Whether in person or virtual, be sure to give breaks once an hour to hour and a half, and as relevant based on the total duration of the course. Work in small increments to reinvigorate the class and bring them back together as a community.

Examples:

- **Movement breaks:** Invite one or more learners to lead the group through a movement break (stretching, rotation of arms, jumping jacks), to help refocus.
- **Find something...:** Ask learners to find something blue or something that's circular or another description and share when back from break.
- **Chat bomb/Mass Response** (Virtual only): Ask a question (What's your dream vacation? What superpower would you like to have? What animal would you be?) and then when the class returns from break, have learners all enter their answers into the chat at once.