AI Models and GPTs

In this section we provide an update on the various AI models and illustrate GPTs.

DALL-E: This is now part of the ChatGPT natural language interface. A specialized AI model designed for creating images from textual descriptions. DALL-E demonstrates remarkable ability in understanding and generating complex and nuanced images based on a wide range of text prompts.

ChatGPT Prompt: Using Dalle please generate an image of a rabbit using a cell phone.

A narrative description follows the generated text.

Here is the image of a cute, cartoon-style rabbit using a cell phone. The rabbit is standing upright, holding the phone with its paws, and smiling as it looks at the screen.

Note: The leader in the AI image space Midjourney offers more customizations but is not as easy to use and get going. See a side-by-side comparison at: https://writesonic.com/blog/dall-e-3-vs-midjourney

It is recommended that you use iphone or ipad apps to experiment speech modality. Investigate Whisper for advanced understanding of such capability.
Whisper: An automatic speech recognition system developed by OpenAI. Whisper is notable for its ability to understand and transcribe speech accurately, even in challenging acoustic conditions or with heavily accented speech.

For projects involving software development project teams should investigate Codex.

Codex: An AI model tailored towards understanding and generating programming code. It powers tools like GitHub Copilot, assisting developers in writing code more efficiently by suggesting code snippets and entire functions.

Opensource AI Models

Most of the AI models that power popular services like ChatGPT today — including projects at OpenAI, Google and Microsoft — are closely owned and held. However, there are other AI projects available under full open-source license, which means anyone can access their code and build on it. The field of open source general AI is advancing rapidly with models becoming more capable and available to the public each month.

Meta has released a number of its AI products under partial open-source terms. See image below from https://ai.meta.com/resources/models-and-libraries/#models
Bing AI GPT4

Bing's redesign provides a cohesive user experience, seamlessly blending search, browse, and chat. DALL·E 3 is available via the Bing app for free as well. Use prompts on your phone or iPad to generate images.

![Bing: Chat with AI & GPT-4](image)

The new Bing used the next-generation OpenAI large language model and is still designed to support search. It uses Microsoft's proprietary Prometheus Model and OpenAI's technology. This integration of the new AI model into Bing's core search ranking engine continues to represent the impact of AI on traditional search engines.

**Amazon's Olympus and Titan Model**

The "Olympus" model, as it was anticipated, did not make a debut at Amazon's re:Invent conference. Instead, the spotlight was on the introduction of Amazon's new image generation model named "Titan." This development indicates Amazon's strategic entry into the burgeoning field of AI-powered image generation, which has been gaining significant traction in recent
years. Titan represents a significant step for Amazon in this domain, showcasing the company's commitment to advancing AI technologies.

Titan is specifically designed for enterprise use, indicating that Amazon is targeting a professional rather than a consumer audience with this release. This focus on the enterprise sector suggests that the Titan model may offer advanced features and capabilities that are suited to professional needs. These could include higher image quality, more sophisticated controls over the image generation process, and integrations with other business tools and platforms. By catering to the enterprise market, Amazon is likely positioning Titan as a tool for businesses looking to harness AI for creative, marketing, or other professional purposes.

One notable feature of the Titan model is its implementation of invisible watermarking on all generated images. This is a significant step towards addressing concerns around the ownership and misuse of AI-generated content. By embedding invisible watermarks, Amazon can provide a layer of security and traceability to the images produced by Titan. This feature is particularly important for enterprise users who need to protect their intellectual property and ensure compliance with copyright laws. The watermarking also highlights the growing importance of ethical considerations in AI development, particularly in applications like image generation that have far-reaching implications for content creation and distribution.

Pi AI

Pi AI is an artificial intelligence platform Pi, released by start-up Inflection AI, is designed to perform a variety of tasks, but primarily will be a kind and supportive companion. Since projects are prone to conflicts, and communication breakdowns, PI can be a good tool for the project team. It uses machine learning and natural language processing to understand and respond to user queries. Note like all AI this tool should be used cautiously. According to experts, “A.I. companionship can create problems if the bots offer bad advice or enable harmful behavior, scholars and critics warn. Letting a chatbot act as a pseudo-therapist to people with serious mental health challenges has obvious risks, they said. And they expressed concerns about privacy, given the potentially sensitive nature of the conversations.” [1]

Below you will find a brief tutorial for individuals new to Pi AI. The context below is for its use in project management.

Step 1: Sign Up
Visit the Pi AI website. - [https://pi.ai/](https://pi.ai/)
Click on the 'Sign Up' button.
Enter your personal details and create a secure password.
Accept the terms of service and privacy policy.
Step 2: Account Verification
Check your email for a verification link.
Click the link to activate your account.

Step 3: First Login
Log in with your credentials.
Familiarize yourself with the welcome dashboard.

Step 4: Navigating the Interface
Dashboard Overview
Home: Main area for general information and updates.

Query Input: Section to type in your queries or commands.
You can always explore topics based on your choice.
Here as you see you can explore topics from “Discover” Section
Under Discover section select “Learn about something new”
Try the prompt “I would like to learn about Technical Project Management.”
A meaningful conversation will follow.
Features and Tools

One Feature currently present on the Dashboard is “Discover.” Here you can select a different range of topics to experience your personal AI.

Voice Settings

Customize your Pi AI experience. You can always choose your preferred voice tone to customize your experience better. Currently PIAI have 6 Pi voice experiences. Try something like “Pi3”
SupportPi
In this feature you can change the mode from normal PI to SupportPi. This feature enables to give expert kind of advice based on your prompts.

Additional Resources
- About PI AI - https://inflection.ai/company
- PI AI Video Tutorial - https://www.youtube.com/watch?v=qQTe0KZ_NVs
- Community Support - https://discord.com/invite/VavJn8Ff5Y

Reference

Custom GPTs
At the first OpenAI Dev conference, in Nov 2023, Sam Altman introduced custom GPTs. With this feature you can create custom versions of ChatGPT that combine instructions, and train on any extra knowledge. In this section we will describe such GPTs – as they are very useful and the builder community is happy with it.

OpenAI has introduced GPTs (custom versions of ChatGPT), allowing anyone to create and share tailored ChatGPT models for specific purposes like learning board game rules, teaching math, or designing stickers.

Creating a GPT requires no coding and can be used personally, internally in a company, or shared with everyone. Custom Instructions, introduced in July, allowed some customization, but GPTs offer more control and automation.
To improve Actions OpenAI updated the configuration interface, enabled one click testing, added debug messages in preview, and allows multiple domains. Uploaded files are downloadable when using Code Interpreter, so they have made this feature default off and added messaging to better explain this.

GPTs are designed with privacy and safety in mind. User data is controlled and not shared with builders, and users have the option to allow or disallow data sharing with third-party APIs. New systems are in place to review GPTs against usage policies, preventing harmful content sharing. Builders can verify their identity, enhancing trust and safety. These systems are part of a broader approach to responsibly introduce AI "agents" that can perform real-world tasks.

Developers can enhance GPTs by connecting them to real-world applications through custom actions and APIs, similar to plugins. This integration allows for diverse functionalities like accessing databases, managing emails, or aiding in e-commerce.

GPTs can be exclusively internal in scope and visibility (within an organization). However, a GPT Store will be available starting 2024. This will provide them developers opportunity to commercialize their customer GPTs.

We illustrate examples of two GPTs that we have built in order to demonstrate their value in this document. The first one shown in the figure below is Risk Management GPT and the second is WBS Coach.

Let us illustrate sample prompts for both.

**Risk Management GPT**
Let us assume that your organization has historical assets of project risks. These are usually cataloged and archived at the end of a project.
When you create a GPT you will be asked to give a name. We selected Risk Management Coach – its goal is to support the project team with their project risk backlog. ChatGPT builder will generate an image for you such as shown in the figure. Next you have an opportunity to “train” the GPT with your historic risks. Upload risks from previous projects. Provide other specific risk management templates and approaches. These are considered when the teams enter prompts.

The following prompts have been optimized for use as shown in the figure below:

a) Comment on my risk register – you will upload a risk register and you will be able to request ChatGPT
b) Enhance the risk register with addition risk events: The GPT will identify missing risk events.
c) Comment on my Risk Response Plan – Did you correctly document transfer for certain risks? Especially to your external vendor?
d) Create a contingency plan for risks – This is useful for high risks. Based on your project environment you will be recommended a suitable contingency plan.

Note that you will use ChatGPT the way you normally do.

WBS Coach

This GPT assists you with project scope decomposition. It will use best practice that your organization uses. For instance, we have trained it for "Rule of 40".

Select the first option. Notice how the output renders the data that we trained ChatGPT. This is shown in italics below.

Prompt: Let us review WBS best practices.

Output from the GPT:

When reviewing Work Breakdown Structures (WBS), it’s essential to adhere to several best practices to ensure the WBS is effective, clear, and serves its purpose in project management. These best practices, drawn from the knowledge sources I have, include:

1. **Use of Verb-Noun Naming**: In constructing a WBS, it's crucial to use a clear and consistent naming convention, specifically the verb-noun format. This approach enhances understanding and provides a standardized way to name WBS elements. For example, instead of naming a task "Research," use "Conduct Literature Review." This
naming style clearly indicates the action and the object of that action, making it easier for team members to understand what is expected.

2. **Top-Down Approach**: Begin with a high-level task and subdivide it into more detailed tasks. For example, start with "Develop Project Plan," then break it down into detailed tasks like "Define Project Scope," "Identify Stakeholders," and continue breaking down until you reach manageable work packages. This top-down approach helps maintain alignment with overall project objectives and ensures that each lower-level task contributes to a higher-level task.

3. **Decomposing WBS Using the Rule of 40**: This rule is applied to determine how far to break down tasks. It suggests that if a task takes more than 40 hours, it should be decomposed further. For instance, if a task like "Obtain Funding" is estimated to take 70 hours, it could be broken down into "Estimate Funds Required" (28 hours) and "Communicate with Sponsors" (32 hours), following the 40% and 60% split of the original estimate, respectively. This method ensures that tasks are neither too large to manage effectively nor too small to be efficient.

4. **Work Package Specifications**: Work packages should be clear enough to be assigned to an external contractor, if necessary. They are characterized by a specific name, start and finish dates, tasks describing the work to be performed, and budget and cost centers responsible for it.

5. **Detailing Work Packages**: Each work package should detail the tasks to be performed. For example, for a "DJ for Party" work package, tasks could include "Bring all equipment," "Set up and install wiring," and "Bring music selection."

Another prompt that the GPT has assists the project team to decompose. They can upload their draft WBS outline.

Let us decompose to sub-tasks by applying the Rule of 40.

To effectively decompose a task using the Rule of 40, we need to identify a specific task and its estimated total effort in hours. The Rule of 40 suggests breaking down tasks that exceed 40 hours into smaller sub-tasks, each ideally taking no more than 40 hours to complete. This method ensures that each sub-task is manageable and can be more accurately estimated in terms of time and resources.

Could you please provide a specific task along with its total estimated effort in hours? Once I have this information, I can assist you in decomposing it into sub-tasks using the Rule of 40.

Assume that a project is to create a user document. Estimated effort is 350 hours by the team. Here is the suggested decomposition:
WBS COACH

Given a total effort of 350 hours for writing a user document, we'll apply the Rule of 40 to decompose the project into manageable sub-tasks or chapters, each involving approximately 40 hours of work. Since 350 hours do not divide evenly by 40, we will adjust the last task to accommodate the remaining hours.

Here's a revised decomposition:

1. **Outline Document** (40 hours)
   * Developing a comprehensive outline of the user document, including chapter titles and key topics.

2. **Introduction Chapter** (40 hours)
   * Writing an introductory chapter to explain the purpose and scope of the document.

3. **Chapter 1: Basic Features** (40 hours)
   * Detailing basic features and functionalities of the product or service.

4. **Chapter 2: Advanced Features** (40 hours)
   * Exploring advanced features and specialized functionalities.

5. **Chapter 3: User Guide** (40 hours)
   * Creating a detailed guide for users, including step-by-step instructions and usage tips.

6. **Chapter 4: Troubleshooting and Support** (40 hours)
   * Providing a troubleshooting guide and information about obtaining further support.

7. **Chapter 5: Maintenance and Upgrades** (40 hours)
   * Covering maintenance procedures, upgrade paths, and related best practices.

8. **Final Review and Editing** (70 hours)
   * Conducting a thorough review and editing of the entire document for consistency, accuracy, and clarity; incorporating feedback, and making necessary revisions.

1. **Comprehensive Review** (35 hours)
   * Conducting a detailed review of the entire document. This includes checking for clarity, consistency, accuracy, and overall flow. It would involve reading through each chapter, ensuring that all information is correct and presented logically.

2. **Editing and Proofreading** (35 hours)
   * Focusing on language, grammar, syntax, and formatting. This task involves correcting any spelling and grammatical errors, refining sentence structures, and ensuring that the document adheres to the prescribed style guide or formatting standards.

This breakdown allows for a focused approach where the first half of the time is dedicated to ensuring the content is accurate and well-structured, while the second half is devoted to polishing the language and presentation of the document. This division not only conforms to the Rule of 40 but also ensures a thorough and detailed finalization of the user document.
This WBS Coach GPT illustrates how project teams can get meaningful assistance while creating a WBS for their project. Note the GPT Builder capability is for paid customers. To try it you need the premium $20/month account.

ChatGPT is Lazy

Every new technology comes with no jargon. An intriguing term going around is that ChatGPT is lazy. What does that mean?

When media or individuals refer to LLMs such as ChatGPT being "lazy," it can mean a few different things, depending on the context:

- **Limited Understanding and Responses**: ChatGPT is demonstrating limitations in understanding complex prompts or providing detailed well-formed responses.
- **Generic or Repetitive Answers**: Sometimes, ChatGPT might provide answers that seem generic, or repetitive.
- **Limited Initiative**: The AI doesn't take initiatives beyond what it's programmed for or what the user asks. It doesn't proactively offer insights or elaborate on topics unless prompted and is not innovative in the solutions it provides.
- **Conservative and Overcautious**: ChatGPT is programmed to avoid risk, which means it might steer away from providing answers that could be controversial, incorrect, or harmful.
- **Performance Issues**: In some cases, the term could refer to technical limitations like slower response times, or the inability to access real-time information.
Chapter 10
Landscape of Project Management AI Tools (Expanded)

Introduction

This chapter delves deep into the evolving landscape of project management tools that seamlessly integrate AI features with their products. The overview spans the following categories: Project Management Systems that streamline task allocation and progress tracking, Scheduling Tools that optimize time management, Communication and meeting Tools that enhance team interactions, Productivity and Documentation Tools that boost efficiency, and Collaboration and Brainstorming Tools that foster creative teamwork.

As we journey through this exploration, our objective is to shed light on the transformative power of AI and how it's reshaping and advancing the fabric of modern project management.

Readers must understand that the products and tools mentioned in this chapter are not endorsed or sponsored by the authors. Their inclusion is purely for informational purposes, to offer a glimpse into the current state of AI-integrated project-oriented tools. Additionally, it's worth noting that some of these products are in closed and limited beta testing stages at the time of this writing. Further, these products may change, particularly regarding their feature availability.

Project Management Systems

Project management systems are software tools that help teams and organizations plan, execute, and monitor their projects. They are used to streamline workflows, improve collaboration, track progress, and manage resources. Project management systems can have various features, such as task management, file sharing, communication, reporting, scheduling, or budgeting. Depending on the users’ needs and preferences, project management systems can be customized and integrated with other tools and platforms. As technology has advanced, so has the sophistication of these systems. The recent integration of AI into project management platforms has ushered in a new era of project management. Leading project management platforms such as Monday.com, Wrike, Asana, and Smartsheet are integrating AI capabilities to completely transform planning, productivity, insight generation, and collaboration.

The core advantage is freeing project managers from repetitive administrative tasks and allowing them to focus on leadership, strategy, and stakeholder relationships through AI’s data synthesis and automation capabilities. However, intentional human guidance remains critical to...
upholding oversight and ethics as these AI tools continue maturing.

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**Monday**

Monday.com is a cloud-based WorkOS, leveraging a blend of no-code and low-code frameworks, allowing users to craft custom software and work tools (Figure 10.2). Beyond being just a project management platform, it promotes a holistic work management system. Its main features are Boards, which symbolize projects or products; Columns, flexible units that
can denote functions or sort items; and Views, which display board data in varied formats, assisting in informed decision-making.

**Monday AI Assistant**

- Monday AI Assistant: A beta tool aiming to transform user interactions with the WorkOS platform, focusing on intelligent daily activity assistance rather than just automation.
- Task Automation and Generation: The AI can autonomously create project plans from user inputs, allowing for rapid and thorough project setup.
- Summarizing and Rephrasing: The AI distills complex topics for clearer understanding and rephrases content to minimize confusion.
- Formula Builder: Users can describe their goals to the AI, which then crafts the necessary formulas, maximizing efficiency and precision.
- Email Assistance: An upcoming feature with which the AI aids in drafting and refining emails, ensuring clear and error-free communication.

**Wrike**

Wrike is a comprehensive work management platform that streamlines workflows across various departments (Figure 10.3). It provides teams with the tools to collaborate, manage projects, drive strategic initiatives, and achieve their goals. With its innovative Work Intelligence, Wrike aims to revolutionize how organizations work by offering a centralized platform that integrates with popular apps, enhances collaboration, and boosts efficiency. Wrike’s key features include centralized work management, adaptable workspaces, automation, real-time dashboards, mobile apps, proofing and approvals, custom request forms, and templates.
Automated Task Prioritization: Wrike’s AI can recommend and arrange tasks based on urgency.

Historical Pattern Recognition: The platform identifies recurring issues and patterns, highlighting potential risks for more efficient project execution.

Mobile Voice Commands: Users can give voice directives via smartphones to create and access tasks.

Document Digitization: The system can transform written papers into digital formats, reducing manual data input.

Subtask Generation: Wrike’s AI analyzes notes and plans, automatically creating detailed subtasks from initial concepts.

Asana

Asana is a web-based project management tool designed to help teams organize, collaborate, plan, and execute tasks (Figure 10.4). It is a centralized platform to manage tasks, eliminating the need for email-based communication for task tracking. Asana has gained popularity among industry leaders for its comprehensive project management and collaboration features.
Key features of this software include task management, workspaces, calendar integration, communication tools, multiple views, reporting, team creation, privacy controls, and app integration.

Key AI-driven features include:

- **Goal-Based Resource Management:** Uses historical data and future projections to recommend resource allocations, enhancing decision making speed.
- **Health Check:** Detects potential issues and roadblocks, offering teams clear directives for efficient goal achievement.
- **Self-Optimizing Workflows:** The AI designs tailored automated workflows, recommending best practices for streamlined processes.
- **Writing Assistant:** Promotes clear and impactful communication that matches the desired tone.
- **Instant Summaries:** Provides concise recaps of meetings, tasks, and comments, maintaining team alignment.
- **Ask Asana Anything:** Delivers instant insights on projects, minimizing the need for extra meetings.
- **Work Organizer:** Suggests structure improvements by autogenerating fields and smart rules, helping managers effectively prioritize tasks.
Smartsheet

Smartsheet is a dynamic work management platform designed to empower teams by consolidating people, processes, and information into one collaborative space. With a focus on project management, Smartsheet provides a unified platform that allows teams to work together seamlessly, track project progress in real-time, and deliver projects efficiently. It offers a variety of features, including sheets, multiple views, custom reports and dashboards, integrations, and automation.

Smartsheet's commitment to revolutionizing the project management sphere is evident in its AI-powered features, which are designed to empower users to work smarter and more efficiently. Here's a highlight of some of its capabilities:

- **Fast Insights through AI-Powered Charts:** With the sheer volume of data that project managers handle, deriving meaningful insights can be challenging. Smartsheet's AI swiftly processes complex data sets, enabling users to create charts that offer fast and actionable insights.

- **Simplified Formula Creation:** The AI in Smartsheet takes the complexity out of formula creation. Instead of manually writing formulas, the AI crafts them, ensuring accuracy and promoting a more data-driven approach to project management.
• On-the-Spot Guidance: AI isn’t just about automation; it’s about assistance. Smartsheet’s AI acts as a helpful assistant, providing real-time guidance to users, ensuring they can navigate the platform with ease and efficiency.

ClickUp
ClickUp is a comprehensive project management and collaboration platform designed to centralize all work-related tasks, documents, goals, and more. It aims to be the singular application that replaces multiple tools, offering a unified platform for tasks, documentation, chat, goals, and other work essentials. The platform is suitable for various industries and caters to teams ranging from startups to large enterprises.

• Role-Based AI Assistant: ClickUp has introduced a unique AI assistant tailored to specific roles. This ensures that the AI tools provided are relevant and beneficial to the user’s specific job function, thereby streamlining tasks and enhancing efficiency.

• Content Summarization: ClickUp’s AI can swiftly generate summaries of extensive content, be it comment threads, meeting notes, or other lengthy documents. This
feature is invaluable for project managers who need to quickly grasp the essence of discussions or documents.

- **Action Item Generation:** The platform can instantly extract action items and insights from documents and tasks, ensuring that crucial points are not overlooked and are actioned upon promptly.

- **Writing and Editing Assistance:** ClickUp's AI serves as a personal copy editor, refining content to be clear, concise, and engaging. This is particularly beneficial for project managers who need to draft communications, reports, or proposals.

- **Task, Doc, and Subtask Creation:** The AI can generate content for tasks, documents, and subtasks, streamlining the process of task allocation and documentation.

OnePlan's Sophia GPT is an AI-enabled strategic portfolio and work management platform that bridges strategy with execution (Figure 10.5). Sofia GPT is an advanced Azure OpenAI GPT module. The platform is versatile, catering to various organizational needs, and integrates seamlessly with such as like Microsoft Project, Azure DevOps, Jira, Smartsheet, and more. This integration provides a comprehensive view of all work related activities across an enterprise. OnePlan provides strategic portfolio alignment, adaptive project management, agile practices expansion, product portfolio alignment, streamlined professional services, business capability modeling, and a unified Microsoft tool experience.

OnePlan’s Sophia GPT, powered by Azure OpenAI GPT, aims to transform strategic portfolio, resource, and work management. Key features include:

- **Natural Language Understanding:** Allows seamless user–system interaction, elevating strategic planning.
• Time-Saving Automation: Automates mundane tasks, letting users focus on pivotal work aspects.
• Forecasting: Uses predictive analytics for precise budgeting, risk identification, and anomaly detection.
• Personalized Assistance: Adapts responses based on individual user preferences for a tailored experience.
• Augmented Data Entry: Simplifies data input by analyzing and extracting relevant OnePlan data.
• Communication Automation: Generates automatic updates, ensuring smooth stakeholder communication.
• Budget and Resource Optimization: Provides recommendations for efficient resource use and improved ROI.
• Risk Identification: Analyzes various data points to pinpoint potential threats.
• Portfolio Prioritization: Evaluates data to prioritize high-impact projects, leading to efficient resource allocation and strategic success.

PMOtto

In the dynamic world of project management, generative AI is becoming an increasingly crucial component. AI-powered tools revolutionize how teams collaborate, formulate strategies, and execute projects. At the forefront of this transformation is PMOtto.ai (Figure 10.6). The PMOtto platform is a state-of-the-art virtual assistant that aims to redefine how users handle their assignments and interact with project management software.
• PMOtto.ai employs natural language processing (NLP), allowing users to communicate in everyday language, which is then turned into actionable tasks within their project management software. This fosters a more intuitive and user-friendly experience.

• The platform prides itself on its extensive knowledge base, built upon thousands of resources such as books, articles, templates, and use cases. This vast repository of knowledge ensures that users have a wealth of information at their fingertips, aiding in more informed decision-making.

• PMOtto.ai also offers a customized enterprise layer for organizations. This layer enables the integration of organization-specific project documents, historical data, methods, and other internal system data, ensuring a tailored PMOtto experience.

• Data security and confidentiality are of utmost importance to PMOtto.ai. The platform secures all data with stringent security measures, and control over data access remains with the user’s servers, ensuring maximum privacy.

**Taskade**

Taskade is a collaborative platform designed for task management, note-taking, and team collaboration. It offers a unified workspace where teams can create and manage tasks, take notes, and communicate in real-time. Taskade provides customizable templates, real-time collaboration, and hierarchical task views, enabling teams to visualize their workflow and stay organized.

• Generate Workflows: Taskade’s AI capabilities allow users to spark creativity with individual tasks or objectives. It can dynamically generate to-do lists, flow charts, mind maps, and more. This feature aids in visualizing projects in various formats, such as lists, boards, calendars, and organizational charts, ensuring a holistic view of the project’s progress.
• Chat with AI: Taskade introduces an AI assistant designed specifically for brainstorming and task coordination. This assistant facilitates conversations with tasks and documents, allowing users to select a persona tailored to different roles and expertise levels. This feature ensures that the AI is contextually aware and can assist users effectively within their projects.

• Visualize Notes: Taskade offers a smart, structured outlining experience that mirrors the brain’s natural organization. This feature allows users to create infinite connections and levels of hierarchy, all while ensuring real-time synchronization.

• Brainstorm with AI: The platform harnesses AI to generate new ideas and map out concepts. It can transform thoughts into actionable items and track progress across various views, making brainstorming sessions more productive.

• AI-Powered Productivity: Taskade boasts the ability to automate over 700 tasks, ranging from marketing and sales to support and HR. This automation is powered by an AI chatbot, a project assistant, and workflow automation tools.

Notion
Notion is a versatile platform designed to be a unified workspace for individuals and teams. It offers a single space where users can think, write, plan, and manage projects. Whether it’s capturing thoughts, managing intricate projects, or even running an entire company, Notion provides the flexibility to customize the workspace according to individual or team needs.

• Transformative Textual Interactions: Notion AI can generate text from scratch, rewrite existing content, and even summarize key points. This is particularly beneficial for project managers who often need to distill complex information into concise reports.
• Efficient Meeting Summaries: Notion AI can automatically summarize meeting notes, extracting action items and key points. This ensures that post-meeting documentation is both accurate and time-efficient.

• Task Generation: Based on selected text, Notion AI can generate task lists, ensuring that all crucial action points are captured and organized.

• Translation Capabilities: Notion AI can provide translations, making it easier for global teams to collaborate without language barriers.

• Formatting and Ideation: Notion AI can transform rough notes into polished documents, aiding in the presentation of ideas in a more structured manner.

Scheduling Tools

Scheduling tools are indispensable for professionals, ensuring organized days and punctual meetings. They adeptly navigate the intricacies of daily agendas, harmonizing the myriad of tasks, deadlines, and obligations we juggle. The integration of AI has amplified the prowess of these tools. With AI at the helm, they can glean insights from our past actions and preferences, proposing meeting times and slots that align with our patterns. Moreover, they seamlessly merge with other productivity platforms, enhancing our efficiency.

Clockwise

Clockwise AI is a groundbreaking calendaring tool that leverages AI’s power to transform how we schedule and manage our time (Figure 10.7). At its core, Clockwise AI aims to make scheduling as effortless as having a casual conversation. This is achieved by analyzing and adjusting calendar events in real time, ensuring optimal time management and minimizing conflicts.
Clockwise AI features:

- Intuitive Scheduling: Skilled in navigating complex calendar demands, it finds available slots, reschedules events, and manages out-of-office times efficiently.
- Mobile Management: Enables on-the-go schedule adjustments via chat, eliminating the challenges of traditional calendar management.
- Personalized Preferences: Adapts to individual scheduling preferences, such as preferred lunch breaks, ensuring each day aligns with the user’s ideal routine.
- Team-Wide Benefits: Not just for individuals, it offers each team member a personal calendar assistant, ensuring harmonized, conflict free scheduling.

Communication and Meeting Tools

Communication and meeting tools are software applications that enable people to collaborate, communicate and coordinate with each other in real time. They are used for various purposes, such as:

- Holding online meetings, webinars, conferences and presentations
- Sharing files, documents, screens and multimedia
- Chatting, messaging and calling with colleagues, clients and partners
- Creating, managing and tracking tasks, projects and workflows
- Providing feedback, support and training
AI-powered communication platforms like Microsoft Teams, Slack and Zoom are automating intensive documentation tasks that have traditionally drained project managers' time. Features like intelligent meeting summaries, notes auto-generation, and transcription relieve project managers from exhaustive manual note-taking after meetings and calls. This enables them to reallocate time towards more strategic planning and execution. With enhancements like real-time translation and localization, AI also removes communication barriers caused by language and geography. This facilitates seamless collaboration with global, multicultural teams.

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<td>Automated Workflows &amp; Tasks</td>
<td>· Slack GPT (e.g., integrate large language models like ChatGPT)</td>
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<tr>
<td>Meeting Summaries &amp; Recaps</td>
<td>· Microsoft Teams, Slack GPT, Zoom AI, OtterAI, Tactiq, Read AI</td>
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<td>Real-time Transcriptions</td>
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Slack GPT

Slack, a renowned communication platform, has recently amplified its capabilities by integrating generative AI to redefine how teams collaborate and manage projects.

Slack is a business-oriented messaging application that fosters collaboration by connecting individuals to the required information. It aims to transform organizational communication by giving teams a unified platform. Slack offers dedicated channels where the teams and information come together. The platform supports asynchronous work, ensuring that users can access necessary information at their convenience, regardless of location, time zone, or function. Slack promotes inclusivity by giving everyone in an organization access to shared, searchable information, enabling teams to remain aligned and make swift decisions.

Here are Slack’s AI-driven features:

- **Natively Integrated AI Features:** Slack enhances user experience with AI features that meld with the platform’s primary functions. For instance, Slack GPT refines the tone and length of messages for clear communication.
- **Automated Workflows:** Slack offers advanced tools for creating custom workflows without coding. Integration with large language models, such as ChatGPT, further boosts automation efficiency.
- **Einstein GPT App:** An integration of Salesforce’s AI assistant, Einstein GPT gives real-time customer insights, proving crucial for sales and CRM teams.
- **Conversation Summaries:** Slack GPT instantly summarizes conversations, ensuring users are updated quickly, thus promoting better team cohesion.

Microsoft Teams Premium

Microsoft Teams provides an organization’s unified workspace, facilitating real-time communication, collaboration, meetings, file sharing, and app integration. With the increasing significance of AI in the business landscape, Microsoft Teams Premium has integrated AI-driven functionalities to enhance its collaborative features. This isn’t just about automation; it’s about transforming organizational collaboration to be more intuitive and productive. Microsoft’s dedication to AI is evident in the latest updates to Teams Premium, aiming to maximize IT efficiency, elevate productivity across the board, and align with the evolving demands of today’s workplace.

The Microsoft Teams AI-enhanced capabilities include:

- **Intelligent Recap:** Automatically curates meeting notes, recommends tasks, and provides tailored highlights. Additionally, it segments meeting recordings for easy reference.
• Personalized Meeting Highlights: Offers timeline markers indicating user’s meeting participation, with upcoming features such as name mentions and screen sharing markers.
• Live Translations: Provide real-time translations for meeting captions, ensuring clear language communication.

Zoom AI Companion
Zoom is a prominent videoconferencing platform enabling virtual interactions, proving invaluable when face-to-face meetings aren’t possible (Figure 10.8). It’s become a go-to solution for professional and personal gatherings alike, ensuring uninterrupted daily activities for diverse teams. Zoom provides cloud-supported video meetings, allowing users to join through video, audio, or both, coupled with real-time chat functionality. Key features encompass limitless individual meetings, group conferences accommodating up to 1,000 participants (based on the chosen plan), the ability to share screens, and session recording options for future reference.

Zoom AI Companion (formerly Zoom IQ): A new generative AI assistant that helps users be more productive, collaborate better, and improve their skills across the Zoom platform.

Zoom AI Companion capabilities include:
• AI-Enhanced Chat: Zoom’s chat now boasts AI-driven message composition based on chat context. It also offers customization for message tone and length.
• Scheduling meetings: AI Companion can automatically detect the intent to have a meeting in chat messages and display a scheduling button, simplifying the process of booking a meeting.

• Providing meeting summaries and action items: During or after a meeting, AI Companion can provide a summary of the meeting and important information, creating next steps for participants to take action.

• Generating ideas on a whiteboard: When brainstorming with a team, AI Companion can generate ideas on a digital whiteboard and categorize them.

**OtterAI and OtterChat**

Otter.ai is a productivity tool designed to enhance team collaboration during meetings. It offers real-time automated notes and audio transcription, allowing users to follow along live during meetings, whether they're on Zoom, Microsoft Teams, or Google Meet. Additionally, Otter.ai captures slides shared during virtual meetings and integrates them into the meeting notes, ensuring a comprehensive context of the discussed content. The platform also generates real-time summaries during meetings, ensuring that users can catch up on any missed details. Otter.ai provides automated meeting notes, integrates with popular meeting platforms, captures slides automatically during virtual meetings, and offers real-time summaries to keep everyone aligned.

• Real-time Transcriptions: Otter.ai provides real-time automated notes and audio transcriptions. This ensures that every word spoken in a meeting is accurately captured, allowing for better post-meeting reviews and accountability.

• Automated Slide Capture: During virtual meetings, when someone shares slides, Otter.ai automatically captures and integrates them into the meeting notes. This provides a holistic view of the discussion, ensuring that no detail is overlooked.

• Live Summary: Otter.ai generates a summary in real-time during meetings. If a participant misses any part of the discussion, they can easily catch up without having to go through the entire transcript. This feature is particularly beneficial for project managers who may need to quickly grasp the essence of a meeting.

• Speaker Identification: The platform can detect different speakers in a meeting and allows users to easily name them, ensuring a seamless transcription flow.

• Keyword Extraction: Otter.ai’s AI automatically identifies and highlights keywords from the transcription, making it easier for users to pinpoint crucial points of discussion.

**Tactiq**

Tactiq is a platform designed to capture and transcribe voice conversations in real-time, making it easier for teams to document, search, and collaborate on meeting notes and action items. At its core, Tactiq is designed to transcribe meetings in real-time across various platforms like
Google Meet, Zoom, MS Teams, and Webex. But beyond mere transcription, it leverages the power of AI to make these transcriptions actionable, insightful, and tailored to the user's needs.

- **Generative AI Integration:** Tactiq employs generative AI to refine meeting outcomes. This means that beyond just transcribing words, it can craft emails, tailor summaries, identify decisions, capture ideas, track requests, and extract insights from the conversation.
- **Customizable AI Meeting Kits:** Tactiq offers AI meeting kits that allow users to tailor GPT AI prompts, automating actions from discussions and creating personalized AI meeting notes.
- **Real-time Transcription:** With Tactiq, as soon as a meeting starts on platforms like Zoom or Google Meet, the transcription begins. This ensures that no detail is missed, and everything discussed is documented.
- **Engagement Analytics:** Beyond transcription, Tactiq provides engagement analytics, giving insights into the meeting’s dynamics, which can be crucial for project managers to understand team engagement and participation.

**Read AI**

Read.ai offers an AI-driven solution to enhance the efficiency and effectiveness of meetings. The platform automatically joins meetings, captures notes, and provides users with AI-generated
summaries, transcripts, and highlights, ensuring that key moments and action items are easily accessible post-meeting. Read.ai features AI-powered meeting recaps, playback options, actionable insights from meetings, integration with popular video conferencing tools, and a unique "For You" page that tailors summaries based on individual engagement in meetings.

- **AI-Enhanced Meeting Recaps:** Read.ai offers AI-enhanced meeting recaps that not only provide transcriptions but also capture listener reactions, automated summaries, topics, action items, and key questions. This ensures that no crucial detail is missed, and all participants are on the same page post-meeting.
- **Conversational Intelligence:** The platform boasts a unique feature that provides insights into meetings, helping users understand the sentiment and engagement levels of participants. This is invaluable for project managers to gauge the effectiveness of their communication and make necessary adjustments.
- **Advanced Transcription:** Traditional transcription services merely capture what’s said. In contrast, Read.ai’s transcription 2.0 includes next-gen features like audience reactions and AI-based summaries, offering a holistic view of meetings.
- **Speaker Coaching:** Read.ai’s AI-driven speaker coach provides personalized feedback on clarity, inclusion, and impact, helping individuals become more effective communicators. This is especially beneficial for project managers who often lead meetings and presentations.
• Automatic Topic Discovery: Using generative AI, Read.ai creates customized summaries of past meetings, isolating key topics based on user engagement.

Productivity and Documentation Tools
Productivity and documentation tools are software applications that help project managers create, manage, and share various documents. These tools can be used for personal, academic, or professional purposes. Some of the standard features of productivity and documentation tools are:

• Word processing: Project managers can create and edit text documents, such as letters, reports, essays, and résumés. They can also format your text and add images, tables, charts, and other elements to enhance your documents.
• Spreadsheet: AI tools can assist by creating and editing spreadsheets (tables of data arranged in rows and columns). They can also perform calculations, analyze data, create charts and graphs, and apply formulas and functions to your data.
• Presentation: Project managers can create and edit slideshows, as well as add animations, transitions, audio, video, and other effects to make presentations more engaging and interactive.
• Collaboration: One project manager can work with others on the same document in real time or asynchronously. They can also comment, chat, share feedback, and track changes to your document.
• Cloud storage: Some products allow project managers to store documents online and access them from any device with an Internet connection. They can also sync documents across multiple devices and platforms.

Creating in-depth plans, reports, emails, and presentations has always posed challenges. However, AI is now easing this process. Tools within Microsoft 365 and Google Docs utilize AI to assist users in crafting documents tailored to their requirements. From ideation to adjusting tone/style and expanding on initial thoughts, AI swiftly delivers personalized, high-quality content. Apps such as Microsoft Excel and Google Sheets also employ AI to offer automated data analysis, including forecasting, visualization, and insights, enabling quicker and more informed decisions.
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<td>Word: Text generation and editing&lt;br&gt;Excel: Data analysis, graph creation&lt;br&gt;PowerPoint: Presentation creation&lt;br&gt;Outlook: Email drafting and summarization&lt;br&gt;Teams: Information presentation, transcription, summaries&lt;br&gt;OneNote: Note creation, brainstorming, list creation</td>
<td>Docs &amp; Gmail: &quot;Help Me Write&quot; feature&lt;br&gt;Sheets: Data analysis and organization&lt;br&gt;Slides: Image generation from textual prompts</td>
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**Microsoft 365 Copilot**

Microsoft 365 is an integrated suite that amplifies productivity with advanced apps, cloud functions, and top-tier security, tailored for diverse users from individuals to large enterprises. Launched on March 16, 2023, Microsoft 365 Copilot is an AI toolset to redefine work dynamics. It integrates with core apps such as Word, Excel, and PowerPoint, automating tasks like draft creation and data analysis. The Business Chat feature further allows natural language prompts for updates, underscoring user control.

Copilot embodies Microsoft’s drive to embed leading AI within its applications (Figure 10.9).

The Microsoft 365 Copilot AI features include:

- **AI-Powered Integration**: Copilot, built on OpenAI’s GPT-4, seamlessly merges with Microsoft 365 applications such as Word, Excel, PowerPoint, Outlook, and Teams, converting user input into significant content.
- **Enhanced Productivity**: The primary objective of Copilot is to elevate user efficiency. It aids in content generation, data analysis, presentation creation, email drafting, and collaborative tasks.
- **Relevant AI Responses**: Copilot uses the Microsoft Graph API to ensure responses are contextually apt and user-specific.

**App-Specific Capabilities:**

- **Word**: Assists with text generation and editing.
- **Excel**: Facilitates data analysis, graph creation, and formula suggestions.
- **PowerPoint**: Develops presentations based on prompts.
- **Outlook**: Composes emails, summarizing threads.
- **Teams**: Helps in presenting, transcription, and meeting summaries.
• Business Chat: A chat feature that integrates data from Microsoft 365 apps to cater to user queries.
• OneNote: Supports note creation, brainstorming, and list-making.

**Google Duet**
Introduced on May 10, 2023, “Duet AI for Google Workspace” is a new initiative by Google that integrates AI capabilities across all Workspace applications. This enhancement aims to facilitate real-time collaboration between users and AI, offering tools that assist in writing, organizing, visualizing, and streamlining workflows. Building upon previous AI features in Gmail and Google Docs, Duet AI is designed to improve productivity in both professional and personal tasks

**FIGURE 10.10** Google Duet integrates AI features into Google applications.

Here’s an overview of Duet AI features:
• **AI-Powered Integration:** Duet AI integrates generative AI into Google Workspace apps such as Docs, Gmail, Sheets, and Slides. It aids in text generation, summarization, image creation from prompts, and efficient data organization, enhancing project management tasks.
- **AI Collaboration in Real Time:** Duet AI is designed to collaborate with users in real time, as you would with human colleagues, aiding in tasks such as email drafting, presentation creation, and data analysis, improving both work quality and efficiency.

- **Tailored Content Assistance:** The Help Me Write feature in Docs and Gmail crafts customized emails and documents from user prompts, crucial for project managers conveying intricate ideas.

- **Data Handling in Sheets:** Duet AI simplifies data analysis and organization, creating automated classification and task plans. This allows project managers to grasp data swiftly and reduce manual input.

- **Visual Enhancement in Slides:** With Duet AI, users can generate images from text prompts in Google Slides, making presentations more engaging and appealing.

**Collaboration and Brainstorming Tools**

Collaboration and brainstorming tools are software platforms used to facilitate teamwork on projects, ideas, and challenges. They offer a space for teams to visualize their thoughts through diagrams, mind maps, sticky notes, and other visual aids. These applications are essential for enhancing communication, fostering creativity, and boosting productivity, particularly for teams across various locations or working remotely.

**Miro**

Miro is a visual collaboration platform designed to help teams connect, collaborate, and create, regardless of location (Figure 10.11). Catering to both in-office and remote teams, Miro offers a unified space for brainstorming, diagramming, strategic planning, and more, with the flexibility to integrate with over 100 other tools, such as Google Docs, Jira, and Zoom. Miro provides features such as sticky notes, images, mindmaps, videos, and drawing capabilities for brainstorming and offers integrations with popular tools to streamline the collaboration process.
Miro’s AI capabilities include:

- **Mind Map Creation**: Automates expansive mind map generation for brainstorming and visualization.
- **Sticky Note Summarization**: Condenses multiple stickies into a single, clear note, highlighting main ideas.
- **Text to Image**: Converts keywords in stickies into relevant visuals, enhancing content presentation.
- **Text to Code**: Enables code block generation from plain text, simplifying tasks for non-coders.
- **User Story Breakdown**: Deconstructs feature ideas into actionable user stories for streamlined developer planning.
- **Autostructuring**: Transforms freeform brainstorming into organized workflows, diagrams, and mind maps.
MURAL is a digital whiteboard platform designed to enhance teamwork and collaboration. It provides teams an interactive space to brainstorm, strategize, and align on projects. Beyond just a collaborative space, MURAL offers guidance to improve team collaboration skills, aiming for faster progress, better ideas, and consistently excellent results. In terms of functionality:

- **AI-Powered Visual Teamwork**: Mural's AI capabilities, are designed to combat the common challenge of "blank page paralysis" teams often face during brainstorming sessions.

- **Mind Maps with AI**: One of the standout features is the AI-driven mind map creation. Instead of waiting for inspiration to strike, teams can now input a central idea, and the AI will construct a comprehensive mind map around it.

- **AI-Powered Clustering**: Organizing and synthesizing ideas are crucial to the creative process. Mural's AI clustering automates this, identifying patterns and grouping related ideas, making the process less manual and more efficient.

- **Quick Start Actions**: Preparing for meetings can be time-consuming, with numerous small tasks that need attention. Mural's AI offers quick start actions that automate tasks like adding bulk sticky notes, starting timers, and initiating voting sessions.
Lucid's Collaborative AI is an upcoming feature designed to enhance workflows by integrating artificial intelligence into the ideation and planning processes. This tool aims to help users generate, sort, and summarize ideas more efficiently, ensuring diverse perspectives and promoting innovation.

- **Collaborative AI**: Lucid’s AI capabilities integrate into your entire workflow, empowering you to get more done in less time. You can use AI to generate ideas, sort them into themes, summarize them, and set next steps for your team.
- **ChatGPT+**: A plugin that allows you to diagram anything you can think of by describing it in natural language. ChatGPT+ will auto-generate an editable diagram for you in Lucidchart using large language models (LLMs) such as OpenAI’s GPT.
- **Visual LLMs**: A feature that lets you visually interact with LLMs on the Lucidchart canvas. You can enter your API key to get started without writing code, and rapidly test different models, prompts, and inputs to see what works best.