



HW1 - Project Management Tools

System Analysis and Design

GROUP 1

AmirReza Azari	99101087
Omid Daliran	400104931
Parham Rezaei	400108547
Reza Heidari	400109616
Reza Vahidi Majd	99102491

2024-10-25

Contents

1	Introduction	1
2	Asana	1
2.1	Overview	1
2.2	Features	1
2.3	Pricing	2
2.4	Pros & Cons	3
2.5	Usage Guide	4
3	Jira	8
3.1	Overview	8
3.2	Features	8
3.3	Pricing	10
3.4	Pros & Cons	11
3.5	Usage Guide	13
4	ClickUp	18
4.1	Overview	18
4.2	Features	19
4.3	Pros & Cons	21
4.4	Pricing	22
4.5	Usage Guide	24
5	Trello	30
5.1	Overview	30
5.2	Features	30
5.3	Pricing	30
5.4	Pros & Cons	31
5.5	Usage Guide	32
6	Smartsheet	35
6.1	Overview	35
6.2	Features	35
6.3	Pricing	35
6.4	Pros & Cons	37
6.5	Usage Guide	37
7	Comparison and Conclusion	41
	References	43

1 Introduction

Project management tools have become essential for effectively organizing tasks, resources, and timelines in various domains, from software development to marketing. These tools provide frameworks and functionalities to streamline collaboration, enhance productivity, and support teams in achieving project goals efficiently. In this assignment, we examine five popular project management platforms: **Asana**, **Jira**, **ClickUp**, **Trello**, and **SmartSheet**. Each tool offers unique features catering to specific project management needs, from agile development to task tracking and team collaboration.

We will explore each tool's strengths, limitations, and ideal use cases, providing a comprehensive understanding of how these platforms can assist managers in organizing complex workflows and improving team performance. This comparative analysis aims to guide organizations and project leaders in selecting a project management solution that aligns with their objectives and operational requirements.

2 Asana

2.1 Overview

Asana[1] is a versatile and user-friendly project management tool designed to help teams organize, track, and manage their work efficiently. It is known for its intuitive interface, enabling seamless collaboration, task management, and project tracking. Asana stands out as a popular choice for teams of all sizes, providing multiple views and layout options to suit various project needs.

2.2 Features

Asana offers a wide array of features to simplify project management. Some of its notable features include:

- **Task Management:** Create and assign tasks to team members, set priorities and deadlines, and track progress in real time.
- **Multiple Layout Options:** Choose from views like timelines, calendars, or lists to visualize your project and its progress.
- **Collaboration Tools:** Add team members via email, assign roles, and collaborate on tasks and projects directly within the platform.
- **Timeline View:** This Gantt-style view helps teams map out project timelines and dependencies.
- **Integrations:** Asana integrates with popular tools like Google Drive, Slack, and Microsoft Teams to streamline workflow.

- Mobile Access: Available on mobile devices, making it easy to manage tasks and projects on the go.

2.3 Pricing

Asana offers three main pricing tiers designed to cater to different types of users, from individuals and small teams to larger organizations with more complex project management needs.[2] Below is an outline of the features included in each tier:

Personal	Starter	Advanced
<p>For individuals and small teams looking to manage their tasks.</p> <p>\$0</p> <p>Free forever</p> <p>Get started</p> <p>Manage tasks and personal to-dos:</p> <ul style="list-style-type: none"> ✓ Collaborate with up to 10 teammates ✓ Unlimited tasks ✓ Unlimited projects ✓ Unlimited messages ✓ Unlimited activity log ✓ Unlimited file storage (100MB per file) 	<p>For growing teams that need to track their projects' progress and hit deadlines.</p> <p>\$10.99</p> <p>Per user, per month billed annually \$ 13.49 billed monthly</p> <p>Get started</p> <p>Purchase now</p> <p>Everything in Personal, plus:</p> <ul style="list-style-type: none"> ✓ Collaborate with up to 500 teammates ✓ Timeline view ✓ Gantt view ✓ Asana AI ✓ Workflow Builder ✓ Project dashboards 	<p>For companies that need to manage a portfolio of work and goals across departments.</p> <p>\$24.99</p> <p>Per user, per month billed annually \$ 30.49 billed monthly</p> <p>Get started</p> <p>Purchase now</p> <p>Everything in Starter, plus:</p> <ul style="list-style-type: none"> ✓ Collaborate with up to 500 teammates ✓ Goals ✓ 100 Portfolios ✓ Asana AI ✓ Workload ✓ 25,000 Automations per month

Figure 1: Asana Pricing

• Personal

Ideal for individuals and small teams managing personal tasks and basic collaborations. This tier is free forever and includes:

- Collaborate with up to 10 teammates
- Unlimited tasks, projects, messages, and activity logs
- 100MB per file for unlimited file storage
- Views: List, Board, and Calendar
- Basic search filters, status updates, and iOS/Android mobile apps
- Time tracking with integrations, and access to over 100 free integrations

• Starter

Suitable for growing teams requiring enhanced project tracking and deadlines. Priced at \$10.99 per user/month (billed annually) or \$13.49 per user/month (billed monthly), it includes everything in the Personal plan, plus:

- Collaboration with up to 500 teammates
- Timeline and Gantt views, Asana AI, Workflow Builder
- Project dashboards, advanced search, global custom fields, and forms
- 250 automations per month, start dates, and custom project templates
- Admin Console, private teams projects, unlimited free guests

- **Advanced**

Designed for companies managing portfolios and cross-departmental goals, at \$24.99 per user/month (billed annually) or \$30.49 per user/month (billed monthly). This tier includes all features of the Starter plan, along with:

- 100 Portfolios, Goals, Workload, and Asana AI
- 25,000 automations per month, forms branching and customization
- Approvals, proofing, lock custom fields, and advanced reporting
- Scaled security options and advanced time-tracking capabilities

2.4 Pros & Cons

Pros.

- **User-friendly and lightweight:** Asana is easy to use and lightweight despite its wide range of capabilities.
- **Mobile accessibility:** The platform offers mobile access, making it convenient for users to track and manage tasks from anywhere.
- **Version control:** Features like task histories, comments, and version tracking akin to Git are highly valuable.
- **Comprehensive project overview:** Provides a detailed view that summarizes everything from team roles to tasks and project timelines.

Cons.

- **Limited access in the free version:** Certain advanced features are not available unless you subscribe, and there is only a 30-day free trial for premium versions.
- **Geographic restrictions:** Access is restricted in certain regions like Iran, limiting its usability for some users.
- **Lack of offline functionality:** Asana requires an internet connection and does not function in offline mode.

2.5 Usage Guide

Logging In. Logging into Asana[3] is simple. You can sign in using your email credentials.

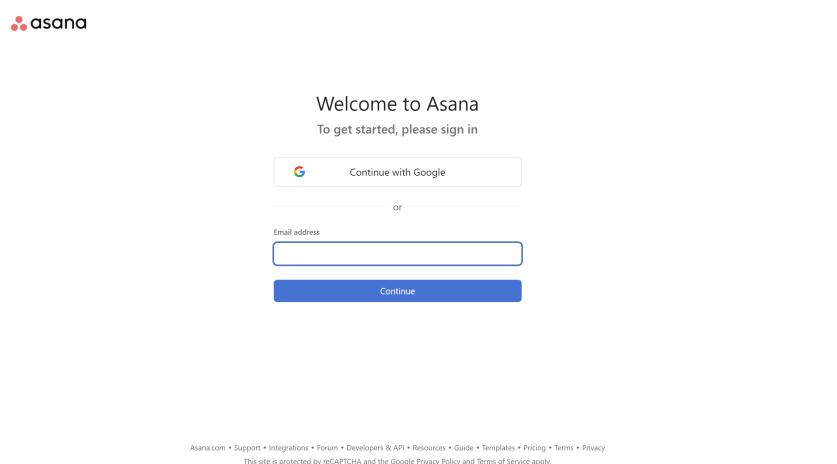


Figure 2: Login Interface

Creating a Project. To create a new project, you can define its purpose and objectives, list out the tasks, and specify important details about what needs to be done.

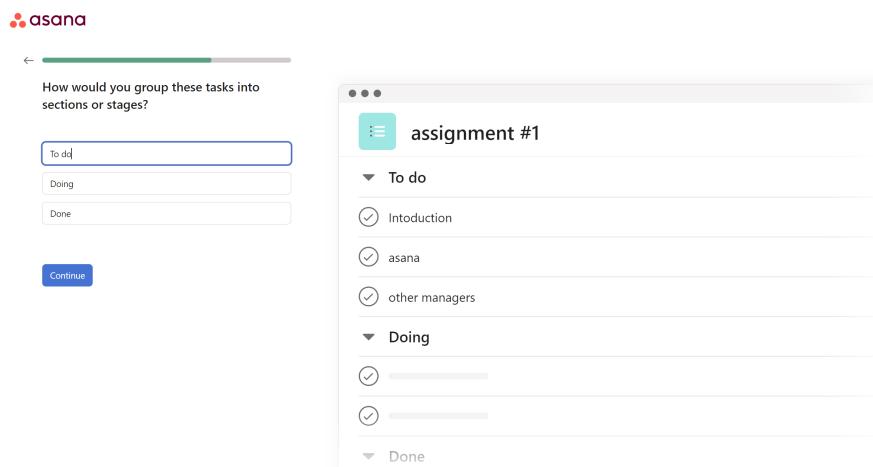


Figure 3: Project Creation

You can also invite collaborators to the project by simply using their email addresses.

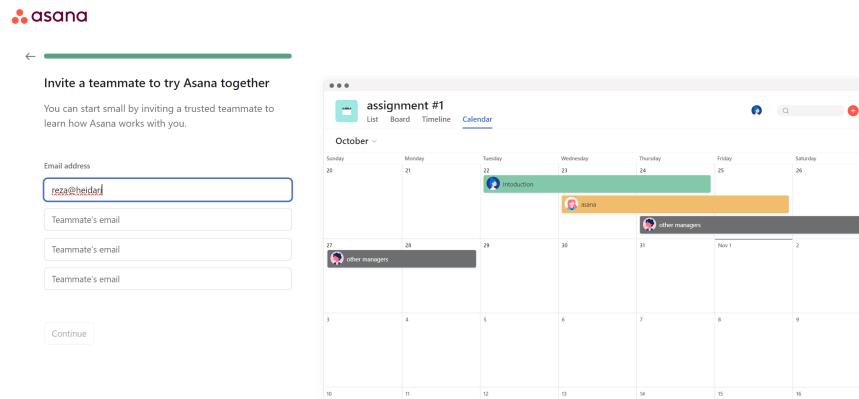


Figure 4: Adding Collaborators

Choosing a Layout. Asana offers various layout options, allowing you to pick the one that best fits your project's structure. Options include timeline, list, and calendar views.

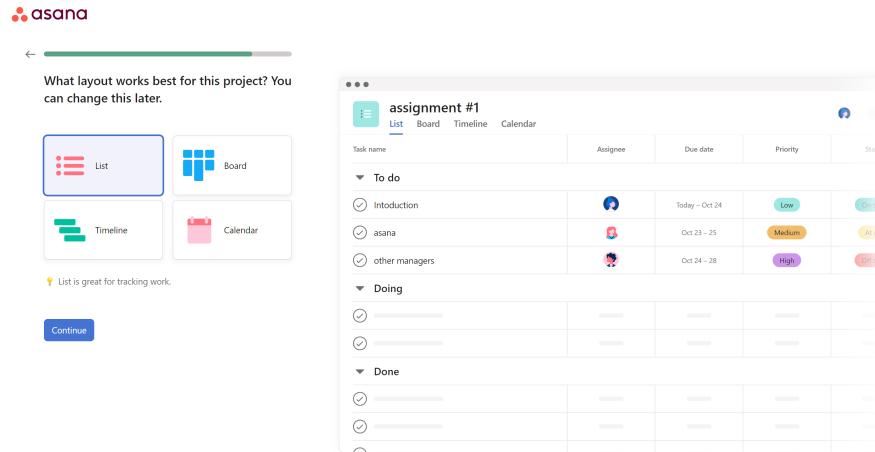


Figure 5: Choosing a Layout

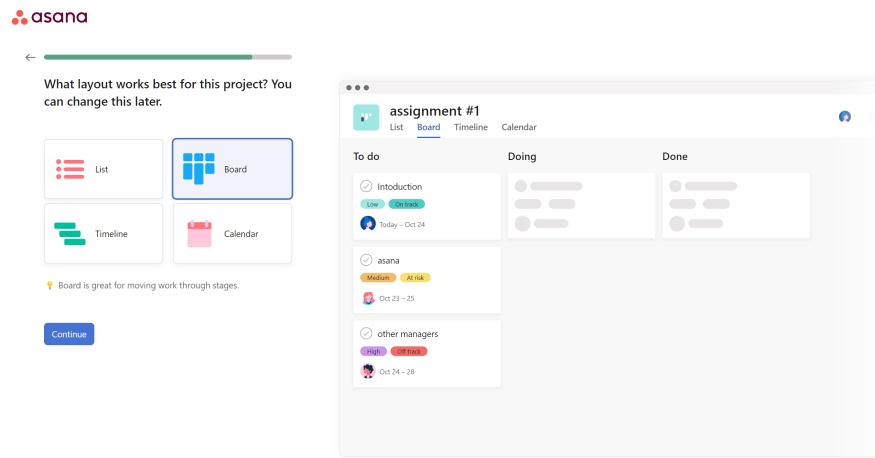


Figure 6: Task Overview

Project Views and Task Management. Asana offers multiple views to monitor the progress of your project. Whether it is a timeline view, a calendar, or a task summary, the platform gives a clear overview of project status. You can easily add tasks, assign them to team members, and prioritize deadlines.

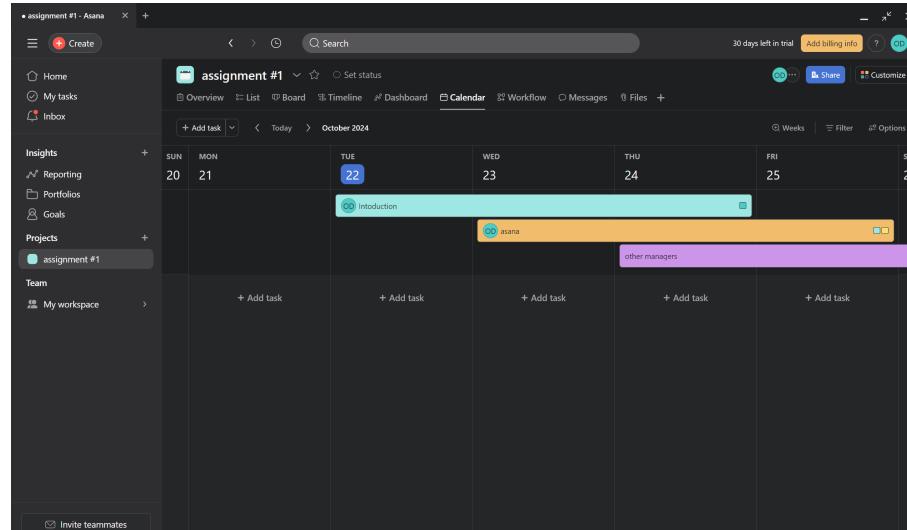


Figure 7: Project Timeline

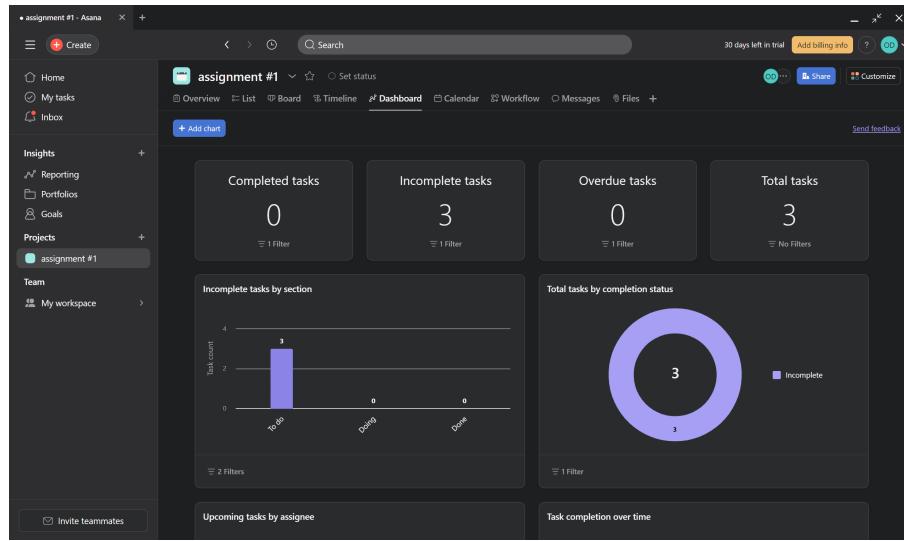


Figure 8: Project Overview

Tasks can be color-coded for better visualization, and you can update details such as deadlines and assignees at any time.

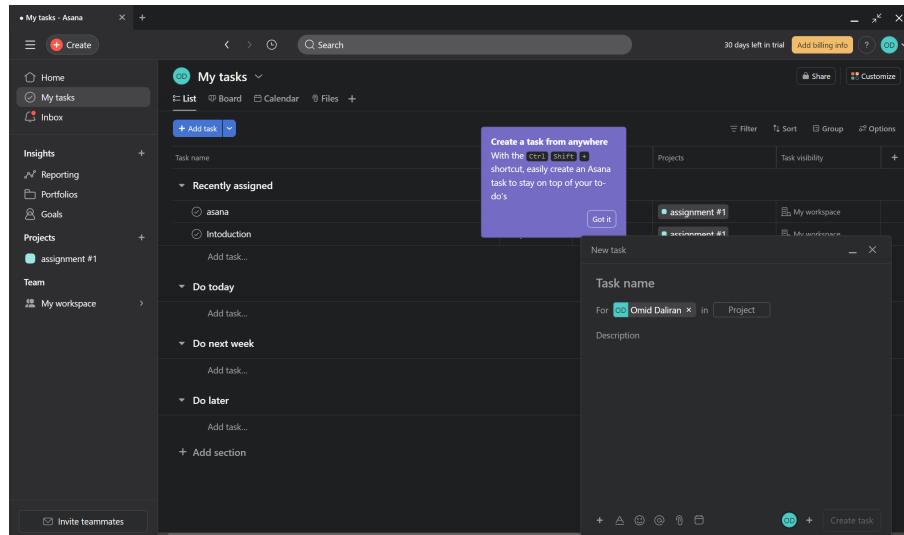


Figure 9: Task Assignment

3 Jira

3.1 Overview

Jira, created by Atlassian, is a powerful tool used for project management and issue tracking. It started out in 2002 as a way to track bugs for software development teams, but over time it has grown into a versatile platform that supports all kinds of projects, from IT operations to business workflows.

One of the reasons Jira is so popular is its support for agile methods like Scrum and Kanban, making it easier for teams to plan, track, and manage their work. Its flexibility allows users to customize workflows and integrate with other tools, which makes it suitable for teams of any size and across different industries.

One thing to put emphasis on is that Jira is mainly for Agile which is conveyed in their website so many times.

3.2 Features

Atlassian presents Jira's features across four main areas [4].

Plan The first area is all about planning tasks. It's important for us to align our teams, resources, and goals to keep the project on track. The features here help us structure work across teams, break tasks down into manageable chunks, and see who's responsible for what.

- List View: We can replace messy spreadsheets with the list view, letting us organize everything in one place. It's sort of easy to update and prioritize tasks as we go with in-line editing.
- calendar: We can use the calendar to see how our work maps out over time, helping everyone stay on schedule and hit deadlines.
- sprints and backlog This feature is claimed to be mainly helpful for agile teams, letting them (and us) prioritize tasks and decide what to tackle in the next sprint. See Figure 15.
- Timeline The timeline gives us a big-picture view of all tasks, showing timing, duration, and dependencies. You can see Figure 16.

Track With Jira, we get full visibility across the entire project timeline, whether we're using Scrum, Kanban, or a mix of both. Jira claims to have enough tools to help us stay on top of every phase.

Once the planning is done and the project is underway, Jira lets us see both the big picture and all the tiny details. It helps us keep track of the major moving parts and also zoom in to check out the finer aspects like each individual child issue. Here are some of the key features that Atlassian claim that make this possible:

- Project Boards: The project boards give us an easy way to check the status of everyoneâs tasks at each stage of the workflow. We can quickly see whatâs in progress, whatâs done, and what still needs attention. This way, we get a clear view of how work is spread across the team and make sure nothing gets overlooked. See Figure 17.
- Task management: Each task in Jira has lots of info to track real-time progress. We can see development activity, issue updates, and other details all in one place. Plus, Jira integrates with popular apps, so we can bring in data from the tools we already use (although can be troublesome for some apps as I will explore in Section 3.4).
- Dependency management: Jira helps us keep track of task dependencies by showing the order in which things need to get done. This way, we can spot any bottlenecks before they become a problem and keep the project running smoothly.
- Goal Tracking: Jira makes it easy to see how our work aligns with the big-picture goals. The summary view lets us track progress toward these goals over time, and we can quickly share updates with everyone.

Collaborate and Launch. Jira acts like a central hub for team collaboration, making it easy for us to stay connected and on the same page throughout the project. It gives us real-time updates from popular third-party apps, plus features like commenting, smart links, and attachments, so weâre all in sync. Here are some of the ways Jira makes collaboration smoother according to [4]:

- Shared Release Dates: With Jira, everyone involvedâfrom the people building the product to those launching itâis connected. When release dates change, everyone across teams gets notified right away, so no oneâs left out of the loop.
- Integration with Apps like Slack, Figma, and GitHub: Jira links up with popular apps like Slack, Figma, and GitHub, bringing in real-time updates from all the tools we already use. So we donât have to constantly switch between different apps to see whatâs going on.
- Workflows and Automation: With Jiraâs no-code automation, we can set up workflows to keep things moving forward even if no oneâs actively managing them. From automated approvals to simple task reminders, these workflows help us stay on track, save time, and make team collaboration a lot easier.

Report. Jira makes it super easy to gather insights at every stage of the project, whether just starting, in the middle of things, or wrapping up. It offers built-in reports, real-time dashboards, and handy insights which are quite helpful.

- As you plan your work: We can see what our teamâs workload looks like in real time. This helps us balance tasks and keep the project moving along as planned.

- During your project: We get goal updates right on the board view. If any blockers come up, we can raise them fast and tackle issues before they get in the way.
- launch: We can set up custom views to track the important tasks needed for launch. Plus, we get deployment and cycle time insights that help fine-tune the process.
- dashboards: There are plenty of built-in widgets helping us to create dashboards customized for our team.

3.3 Pricing

Jira offers four pricing tiers: Free, Standard, Premium, and Enterprise. The main difference between them is that each one is designed to accommodate teams of different sizes. According to the Jira website, all tiers include the project management essentials, such as unlimited issues, projects, forms, goals, and other basic features. However, when it comes to features that scale with the size of the team, the plans differ. As shown in Figure 10, things like the number of users per site, storage, and email notifications become limiting factors in the cheaper versions.

FEATURE	Free	Standard	Premium	Enterprise
User limit per site	10 users	50,000 users	50,000 users	50,000 users
Number of sites	1 site	1 site	1 site	Up to 150
Storage	2 GB file storage	250 GB file storage	Unlimited file storage	Unlimited file storage
Email notifications	100 emails per day	Unlimited	Unlimited	Unlimited
User roles and permissions		✓	✓	✓
Anonymous access		✓	✓	✓

Figure 10: Space-related features for teams

Pricing also depends on team size. As the team size increases, the price goes up super-linearlyâmeaning you will pay more than double for double the number of users. Jiraâs website also recommends the most suitable version based on your team size. The annual and monthly prices for a team of 100 users are shown in the Figures 11 and 12.

Team size: 100 users		Bill me: <input checked="" type="radio"/> Monthly <input type="radio"/> Annually <small>SAVE UP TO 17%</small>	
Free Free forever for 10 users \$0 Get it now	RECOMMENDED Standard Everything you need to get started \$8.60 <small>per user / month</small> Start free trial	Premium Align multiple teams \$17 <small>per user / month</small> Start free trial	Enterprise Advanced analytics, scale and security for enterprises <small>Billed annually. Switch to Annual billing above to view Enterprise pricing.</small> Contact sales
Includes: <ul style="list-style-type: none"> > Unlimited goals, projects, tasks, and forms > Backlog, list, board, timeline, calendar, and summary views > Reports and dashboards > 100 automations per site per month 2 GB of storage > Support from Atlassian Community Up to 10 users	Everything from Free plus: <ul style="list-style-type: none"> > User roles and permissions > External collaboration > Multi-region data residency > 1,700 automations per site per month 250 GB of storage > 9/5 regional support Up to 50,000 users on a single site	Everything from Standard plus: <ul style="list-style-type: none"> > Generate, summarize, and search content with Atlassian Intelligence (AI) <small>NEW</small> > Cross-team planning and dependency management > Customizable approval processes > Per user automation limits (1000 per month) Unlimited storage > 24/7 support for critical issues 99.9% uptime SLA	Everything from Premium plus: <ul style="list-style-type: none"> > Cross-product insights with Atlassian Analytics and Data Lake > Advanced admin controls and security > Enterprise-grade identity and access management > Unlimited automations > Multiple sites (up to 150) > 24/7 support for all issues 99.95% uptime SLA

Figure 11: Jira's monthly price for 100 users

Team size: 100 users		Bill me: <input type="radio"/> Monthly <input checked="" type="radio"/> Annually <small>SAVE UP TO 17%</small>	
Free Free forever for 10 users \$0 Get it now	RECOMMENDED Standard Everything you need to get started \$8,600 <small>per year</small> <small>User tier: S1 - 100</small> Start free trial	Premium Align multiple teams \$17,000 <small>per year</small> <small>User tier: S1 - 100</small> Start free trial	Enterprise Advanced analytics, scale and security for enterprises <small>Enterprise plan pricing is available when you enter 801 or more users above</small> Contact sales

Figure 12: Jira's annual price for 100 users

3.4 Pros & Cons

Pros.

- There is a free version to use and you have trial version for the more advanced ones to test them before paying the price.
- It has great abilities for organizing the scope of major features or project launches which can be visualized across teams
- Has a comprehensive tool for visualizing and understanding for the timeline of project to track it over time
- It can easily be integrated with 3rd party software like Hipchat and Slack for notifications and communication (As I showed earlier, you can even login using your Slack account) [5].
- Supports Scrum and Kanban
- Has a large active community which can be helpful to resolve any bugs you encounter
- Lots of extensions and plugins to customize the environment for your specific project

Cons.

- It needs a license for companies and also does not open in sanctioned countries
- There is a limited file size upload of 10MB which can be problematic. They say it is to keep the product fast but anyway it can makes your life more difficult.
- Migration from one board to another is quite difficult. Also migrating from other systems like Microsoft Teams is very time-consuming.
- If you want to share just one issue, you cannot. You have to share the whole project with someone to let them click into the issue.
- People in the web, I observed commonly claim that Jira is not intuitive to a new user and there is a learning curve to working with Jira [6].
- Jira has multiple versions, and if working on multiple projects on different Jira versions, might create a little confusion

Although Jira requires a license, its features have helped many companies manage projects effectively, contributing to a large user community. However, browsing through Reddit, it's clear that people are starting to reconsider using Jira. It no longer enjoys the same level of popularity or stock performance it had during its peak years in 2021-2022.

3.5 Usage Guide

In this section, we'll take a visual tour of some parts of Jira [7] to help you get more familiar with the platform. Due to sanctions, the Jira website is restricted in Iran, so you'll need a tool like a VPN to access and use Jira.

Sign Up. The first step is to sign up for Jira. You can either enter your email to receive a verification code or, as shown in Figure 13, sign up using popular accounts like Google, Apple, Microsoft, or Slack. After that, you'll just need to enter your name, create a password, and choose a web name for your workflow, which can only include lowercase letters and numbers.

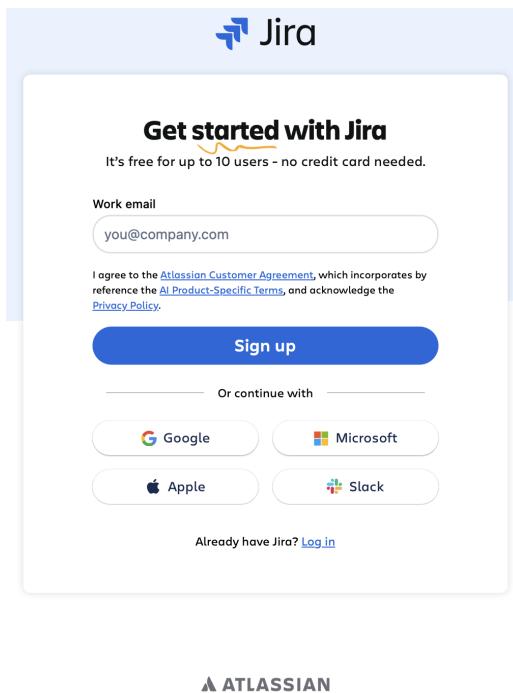


Figure 13: Jira's sign up panel

Making A Project. The next step is creating a project. You'll name the project and select a template from the many available options. For the rest of the figures, I've chosen the Scrum project management template, though you could use Kanban for a similar setup.

Creating An Issue. Issues are individual tasks you assign to teammates, like project tasks, support tickets, request forms, or any other relevant unit of work. Each issue has various details associated with it (the following list is taken from the Jira's instruction manual [7]):

- the issue type

- a summary
- a description of the issue
- the project which the issue belongs to
- components within a project which are associated with this issue
- versions of the project which are affected by this issue
- versions of the project which will resolve the issue
- the environment in which it occurs
- a priority for being fixed
- an assigned developer to work on the task
- a reporter (the user who created the issue)
- the current status of the issue
- a full history log of all field changes that have occurred
- a comment trail added by users
- resolution status (if the issue is resolved)

You can see an example of an issue in Jira in Figure 14.

The figure consists of two screenshots of the Jira interface. Screenshot (a) shows the 'Create' screen where an issue is being created with the title 'writing the issue section'. Screenshot (b) shows the details of the issue 'writing the issue section' after it has been created, including its status, activity log, and various metadata fields.

(a) Creating an issue in Jira:

(b) The issue in Jira:

Figure 14: Visualization of the page for creating an issue named "writing the issue section" and then observing the built version

Backlog. In the backlog panel, you can see all issues on the board and add new ones directly to either the board or the backlog for later. Jira also has an insights panel that gives you project progress updates based on metrics like deployment speed. The Jira backlog is shown in Figure 15.

The screenshot shows the Jira backlog interface. At the top, there is a search bar and filters for 'Epic' and 'Type'. Below this, the 'HOM Sprint 1' backlog is displayed, containing four issues: 'HOM-1 writing the issue section' (In Progress), 'HOM-2 writing the Board Secti...' (To Do), 'HOM-3 Creating the latex proj...' (Done), and 'HOM-9 The figure sizes should...' (To Do). A 'Create issue' button is located at the bottom of this section. Below the sprint backlog is the 'Backlog' section, which contains three issues: 'HOM-4 The tables should be columnwidth' (To Do), 'HOM-6 adding photos' (To Do), and 'HOM-7 writing the text' (To Do). A 'Create issue' button is also present here. At the bottom right is a 'Quickstart' button. To the right of the backlog, there is an 'Insights' panel titled 'Backlog insights' with sections for 'Sprint commitment' and 'Issue type breakdown', and a 'Give feedback' button.

Figure 15: Jira's backlog panel

Timeline. In the timeline panel, you can view the progress of each Epic over time, helping you track deadlines and compare progress to keep everything on the right track. Each Epic is a block of work that should be completed, so it can be divided into smaller child issues, as shown in Figure 16. Epics (also known as parent issues) are displayed in different colors, which you can customize in the timeline.

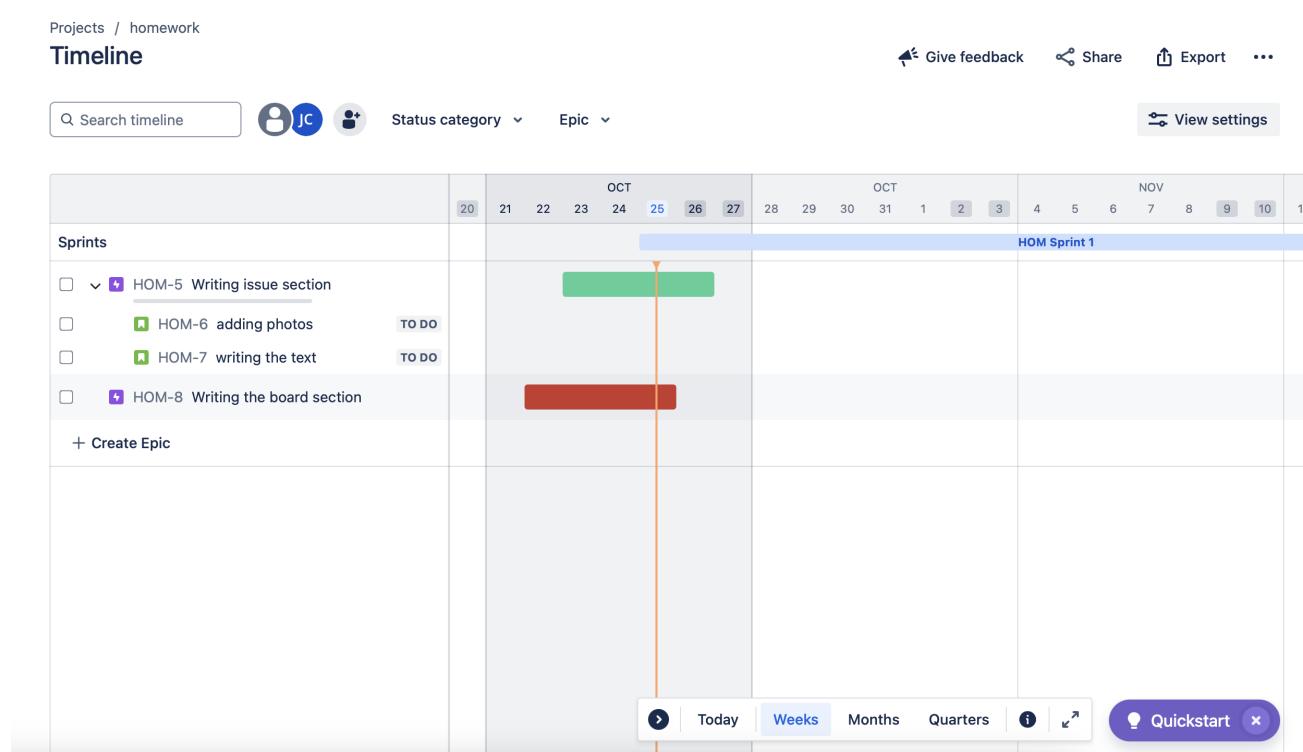


Figure 16: Jira's timeline panel

Board. Here, you have an agile board that lets you see the status of each part of the project and manage them easily. You can view the issues created for the project organized into columns based on their status, like TO DO or In Progress. Figure 17 shows a simple version created for this homework.

The screenshot shows the Jira board interface for a project named "HOM Sprint 1". The board is divided into three columns: "TO DO 2", "IN PROGRESS 1", and "DONE 1".

- TO DO 2:** Contains two items:
 - "writing the Board Section" (checked, assigned to HOM-2)
 - "The figure sizes should be fixed" (unchecked, assigned to HOM-9)
- IN PROGRESS 1:** Contains one item:
 - "writing the issue section" (checked, assigned to HOM-1)
- DONE 1:** Contains one item:
 - "Creating the latex project of homework" (checked, assigned to HOM-3)

At the top, there are search and filter options, and buttons for "Start stand-up", "Complete sprint", and "View settings". A "Quickstart" button is located at the bottom right.

Figure 17: Jira's board panel

4 ClickUp

4.1 Overview

ClickUp is a versatile, cloud-based project management and productivity tool, accessible on both computers and smartphones. It's designed to meet the needs of teams of any size by offering a comprehensive suite of features, including task management, time tracking, document sharing, goal tracking, and communication tools. As an all-in-one platform, ClickUp enables users to plan, track, and organize everything from simple to-do lists to complex projects with customizable options. While there is a free version available, the full version does not offer a free trial, which might be a consideration for new users exploring the platform. This assessment draws on direct experiences with ClickUp, providing insights into its effectiveness as a project management solution and highlighting its strengths and limitations. [8]

Hierarchy ClickUp is organized into a hierarchical structure designed to simplify project management and facilitate efficient collaboration.

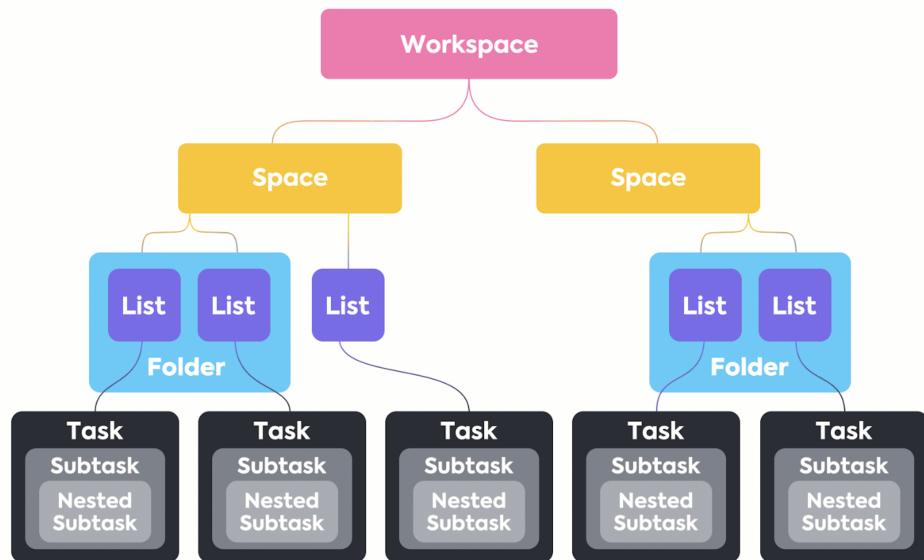


Figure 18: Hierarchy structure of ClickUp

This structure can be summarized as follows:

1. **Workspace:** The *Workspace* is the top level in ClickUp's hierarchy. Each team or organization typically has its own Workspace, serving as the main hub where all projects, tasks, and users are organized. Workspaces can have separate settings, members, and integrations, making it easy for larger organizations to maintain distinct environments.

2. **Spaces:** Within each Workspace, *Spaces* act as sub-divisions, usually designated for departments, teams, or specific projects. Spaces contain all related projects, tasks, and folders, keeping everything well-organized. Each Space can have customized settings, statuses, and even access permissions for team members.
3. **Folders:** *Folders* exist within Spaces and are used to further categorize projects or activities. They are optional but are often used to group similar tasks or projects together, making it easier to locate and manage related work.
4. **Lists:** *Lists* are found inside Folders or directly within Spaces if Folders are not used. Lists group individual tasks according to specific categories, project phases, or workflows. They offer a structured way to organize tasks and can be viewed in different formats, such as lists, boards, or calendars, based on team preferences.
5. **Tasks and Subtasks:** *Tasks* are the actionable items within Lists. Each task can be assigned to specific users, prioritized, set with due dates, and customized with custom fields and tags. Tasks can be broken down further into *Subtasks*, allowing larger tasks to be divided into smaller, more manageable parts.

This hierarchy makes ClickUp a highly adaptable tool for organizing complex projects, with various viewing options (like List, Board, Calendar, and Gantt) that allow users to work in the format that best suits their workflow. [9]

4.2 Features

ClickUp offers a comprehensive suite of features designed to streamline project management and collaboration. Below is a summary of its key features:

1. **Task Management:** ClickUp allows users to create, assign, and prioritize tasks, with the ability to set due dates, add descriptions, and attach files. Tasks can be organized by lists, boards, or timelines, depending on user preference.
2. **Customizable Views:** ClickUp offers multiple view options, including List, Board, Box, Calendar, tables, mind map and Gantt charts. This flexibility allows teams to visualize tasks and projects in the way that best suits their workflow. [10]

The screenshot shows the ClickUp interface with the 'Table' view selected. The left sidebar includes sections for Home, Notifications, Goals, Spaces (Everything, Development, Marketing, Product), Dashboards, and Docs. The main area displays a table with columns for Task, Due Date, Time Remaining, and Note. The tasks listed are:

#	Task	Due Date	Time Remaining	Note
1	Update contractor agreement	IN PROGRESS	Tomorrow	Planning
2	Plan for next year	PENDING	-	-
3	How to manage event planning	READY FOR DEV	Apr 28	-
4	Reminders for Tasks	REVIEW	-	2h
5	Budget assessment	ISSUES FOUND	-	-
6	Finalize project scope	IN PROGRESS	Today	1h
7	Gather key resources	READY FOR DEV	-	-
8	Resource Table	IN PROGRESS	Today	-
9	Resource allocation	REVIEW	May 21	-
10	New contractor agreement	ISSUES FOUND	Tomorrow	1d
11	Update key objectives	IN PROGRESS	-	-

Figure 19: Tables in ClickUp

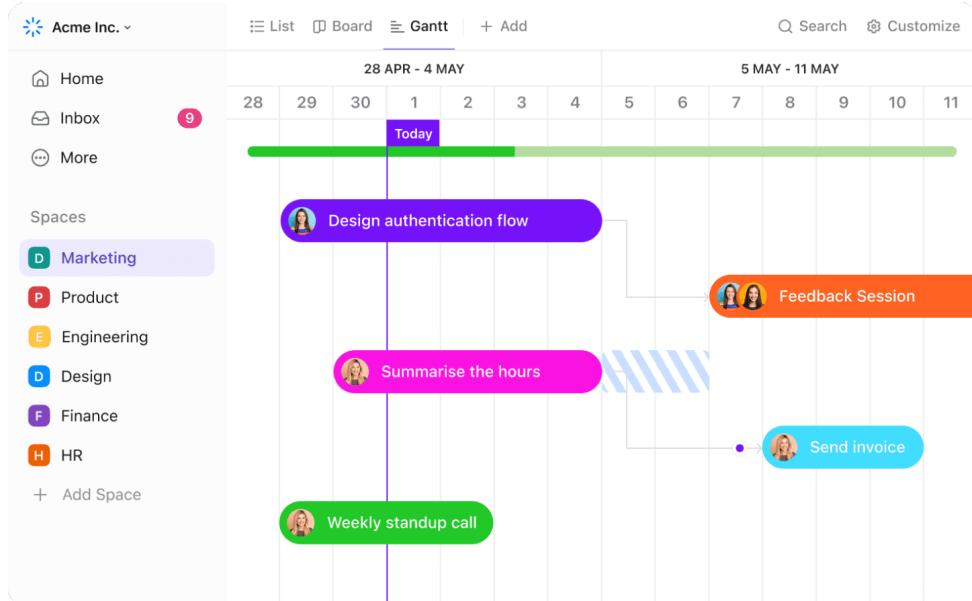


Figure 20: Gantt chart in ClickUp

3. **Time Tracking:** The built-in time tracking tool allows users to log the time spent on tasks, making it easier for managers to assess productivity and for employees to track their own efficiency.
4. **Goal Tracking:** This feature lets users define goals and break them down into smaller, manageable objectives. Users can track progress, set deadlines, and align tasks with specific goals.

5. **Automations:** ClickUp offers automations that allow users to streamline repetitive tasks, such as status updates or due date changes, making project management more efficient.
6. **Integrations:** It integrates with a variety of third-party tools like Slack, Google Drive, Zoom, and Trello, enhancing its capabilities and ensuring smooth workflows across different platforms.
7. **Docs and Collaboration:** ClickUp includes a Docs feature where users can create, edit, and share documents within the app. This allows for centralized information storage and real-time collaboration.
8. **Custom Fields:** Users can add custom fields to tasks to ensure specific information is captured and organized according to project needs.
9. **Reporting and Dashboards:** ClickUp provides insightful reporting and dashboard tools that help managers keep track of team performance and project progress.

4.3 Pros & Cons

Pros. ClickUp offers several advantages, making it suitable for a range of users:

- **Highly Customizable:** Offers extensive customization options, allowing users to adapt the tool to their unique workflows.
- **Multiple Views:** Provides various task visualization options (List, Board, Gantt, Calendar, etc.), making it easier to manage tasks based on preference and need.
- **Comprehensive Feature Set:** An all-in-one platform that reduces the need for multiple project management tools.
- **Collaboration Tools:** Built-in communication and documentation features enable seamless team collaboration.
- **Affordable:** Competitive pricing makes ClickUp accessible for startups and small businesses.

Cons. However, there are some disadvantages to consider:

- **Learning Curve:** The abundance of features can be overwhelming for new users, requiring a learning period.
- **Overly Complex for Simple Projects:** Smaller teams or individuals with basic task management needs may find it too elaborate.
- **Performance Issues:** Some users report occasional lag and slow load times when handling large projects.

- **Limited Offline Access:** ClickUp relies on an internet connection, which can hinder productivity during offline periods.

4.4 Pricing

The images provide a detailed comparison of the features available across different ClickUp pricing plans, ranging from the Free Forever plan to the Enterprise plan. Each plan includes an increasing number of features tailored to different levels of usage and security needs.

	Current Plan	Free Forever	Unlimited \$7 Member / Month	Business \$12 Member / Month	Business Plus \$19 Member / Month	Enterprise Custom Pricing
Usage			Upgrade	Upgrade	Upgrade	Contact Sales
File Storage	100MB	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Privacy and Sharing	✓	✓	✓	✓	✓	✓
Guests	Guests must be given full access (no permissions)	✓	✓	✓	✓	✓
Custom Fields	60 uses ⓘ	✓	✓	✓	✓	✓
Custom Field Manager Basic	✓	✓	✓	✓	✓	✓
Custom Field Manager Advanced	✗	✗	✗	✗	✓	✓
Pinned Custom Fields	✗	✗	✓	✓	✓	✓
Template Everything	✓	✓	✓	✓	✓	✓
Connected Search	✗	✗	✗	Personal Connected Search	Workspace Connected Search	
Views						
List	✓	✓	✓	✓	✓	✓
Board	✓	✓	✓	✓	✓	✓
Calendar	✓	✓	✓	✓	✓	✓
Team	✗	100 uses ⓘ	✓	✓	✓	✓
Gantt	60 uses ⓘ	✓	✓	✓	✓	✓
Activity	1 days	7 days	✓	✓	✓	✓

Figure 21: Pricing

Security			+ SMS for Two-Factor Authentication	+ SMS for Two-Factor Authentication	+ SMS for Two-Factor Authentication
Two-Factor Authentication	✓	✓			
Require Two-Factor Authentication	✗	✗	✓	✓	✓
Google Single Sign-On	✗	✗	✓	✓	✓
Microsoft Single Sign-On	✗	✗	✗	✗	✓
Custom SAML Single Sign-On	✗	✗	✗	✗	✓
Okta Single Sign-On	✗	✗	✗	✗	✓
Okta Support for Custom Roles	✗	✗	✗	✗	✓
Session Management	✗	✗	✗	✗	✓
HIPAA Compliance	✗	✗	✗	✗	Contact Sales
Contract and Legal Review	✗	✗	✗	✗	Contact Sales
Custom Permissions ⓘ	✗	✗	✗	✓	✓
Custom Roles ⓘ	✗	✗	✗	1 Custom Role	✓
Restrict Public Sharing	✗	✗	✗	✗	✓
Manage Private Spaces	✗	✗	✗	✗	✓
Restrict Who Can Add Guests	✗	✗	✗	✓	✓
Default Personal Views	✗	✗	✗	✗	✓

Figure 22: Comparison

Although the Free Forever plan is a solid starting point for small teams, there are several important features that are not included in this plan. Here are some of the most significant ones:

- **Custom Fields:** The Free plan limits the number of custom fields to 60 uses, while all paid plans provide unlimited access.
- **Gantt Charts:** Only 60 uses are allowed in the Free plan, but this restriction is lifted in the paid plans, making it a crucial feature for teams needing more comprehensive project management tools.
- **Advanced Security:** Features like Single Sign-On (SSO) with Google and Microsoft, custom roles, and HIPAA compliance are only available in the Enterprise plan.
- **Connected Search:** The Free plan does not offer connected search functionality, which is only available in Business and higher plans. This feature is crucial for larger teams needing better search capabilities across projects.
- **Custom Permissions:** This is only available starting with the Business Plus plan, limiting the ability to set specific access levels in the Free plan.
- **Two-Factor Authentication:** While the Free plan does offer basic two-factor authentication, more advanced options such as SMS-based 2FA are only available in higher-tier plans.
- **Session Management and Compliance:** Essential security features like session management and HIPAA compliance are exclusive to the Enterprise plan.

In summary, the Free Forever plan is suitable for small or personal projects, but for more advanced teams with higher security, customization, and collaboration needs, upgrading to the Business or Enterprise plans is recommended.

4.5 Usage Guide

Logging In Logging into ClickUp is simple and you can sign in using your email credentials.

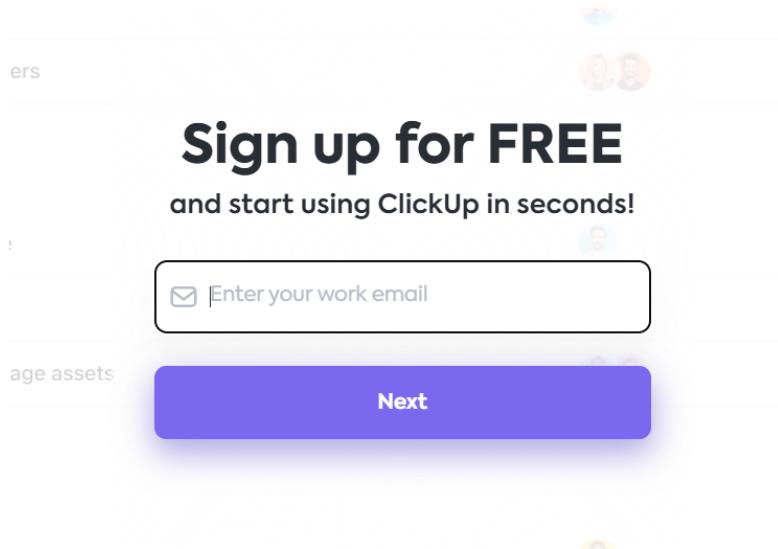


Figure 23: Login Interface

Project Page After signing-up, ClickUp asks you some information about you and your goal to use it and then you can see this environment:

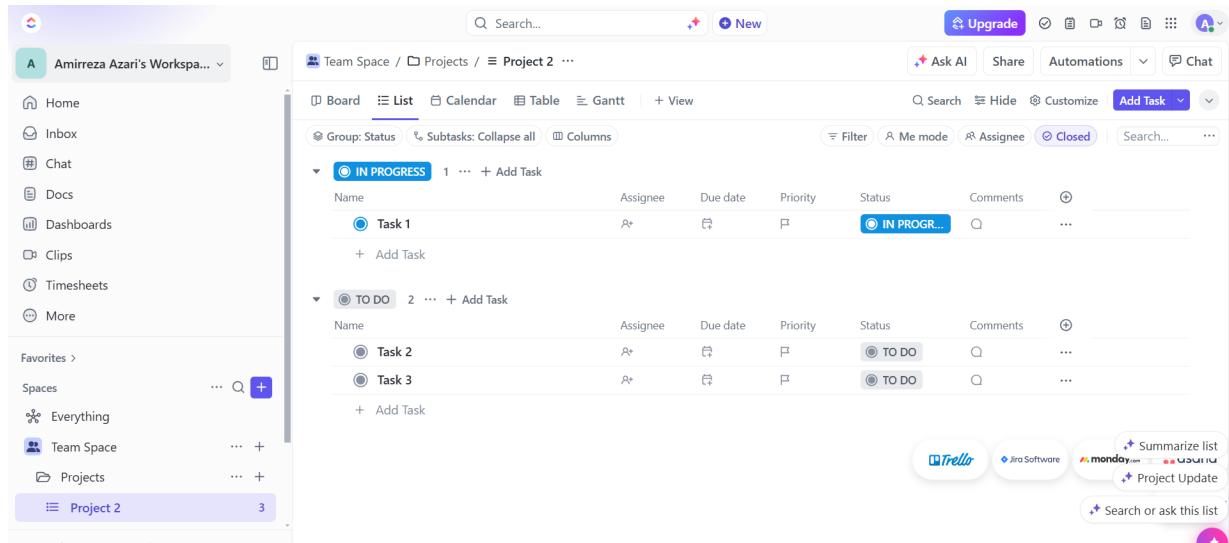


Figure 24: ClickUp Environment

Creating a Task For creating a new task, you choose *Add task* and also choose the features of your task. Furthermore, you can add deadline and calendar to the task and assign it to your friend.

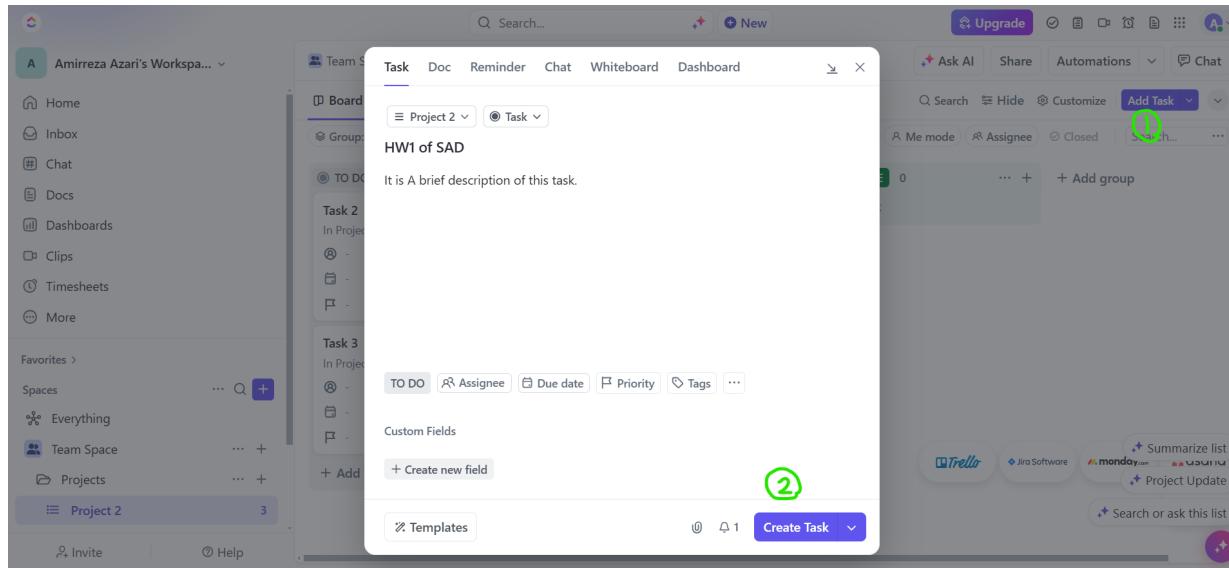


Figure 25: Creating a new task

State of your tasks There are three states for tasks. To-do, In-progress, Complete. You can easily change the state of a task with drag and drop.

The screenshot shows a project management interface with a sidebar on the left containing links like Home, Inbox, Chat, Docs, Dashboards, Clips, Timesheets, and More. The main area displays a board view for 'Project 2'. The board has three columns: 'TO DO' (2 tasks), 'IN PROGRESS' (2 tasks), and 'COMPLETE' (2 tasks). The 'IN PROGRESS' column contains 'Task 1' and 'Task 2'. The 'COMPLETE' column contains 'HW1 of SAD' and 'Task 3'. A modal window is open in the bottom-left corner, showing a task with a status of 'COMPLETE' and a button labeled '+ Add Task'.

Figure 26: States of the tasks

Calender & Gantt Chart You can define the deadlines for tasks and organize the calendar to reflect these schedules. Also, you can see the Gantt chart of your project.

The screenshot shows a project management interface with a sidebar on the left containing links like Home, Inbox, Chat, Docs, Dashboards, Clips, Timesheets, and More. The main area displays a calendar view for 'Project 2' in October 2024. The calendar shows several tasks: 'start phase 1' on Monday, 'meet with groups' on Tuesday, 'complete phase 1' on Wednesday, 'start phase 2' on Thursday, and 'meet with groups' on Friday. There are also two unscheduled tasks: '2 Overdue' and '5 Overage'.

Figure 27: Calender

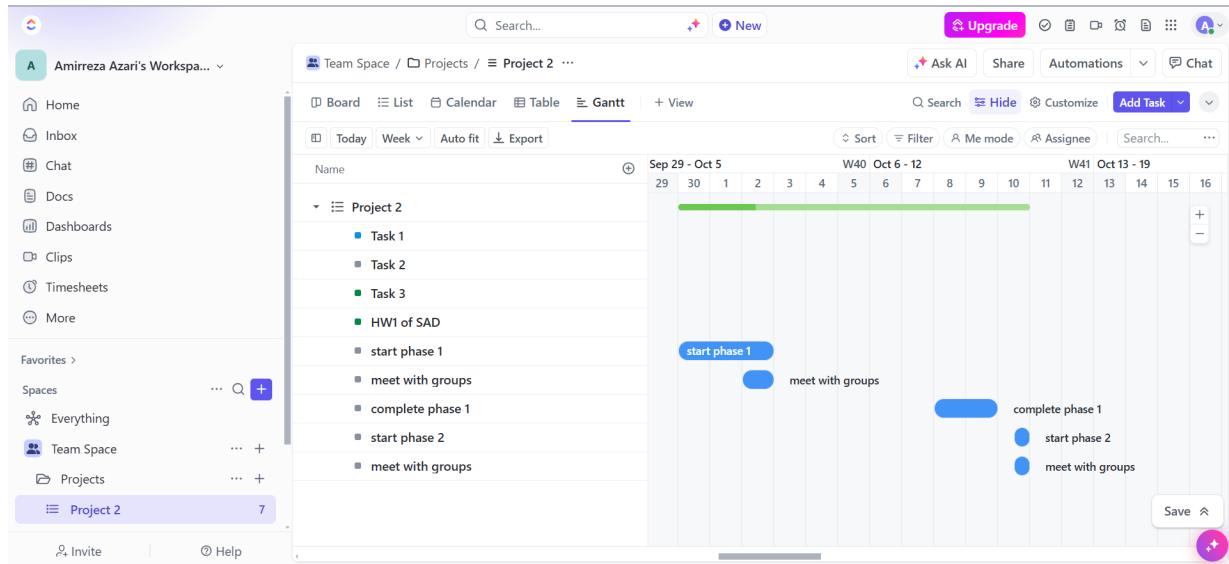


Figure 28: Gantt Chart

Information of each task and Sub-tasks With click in each task you can see its information. Moreover, you can make a task to be a sub-task of another task easily.

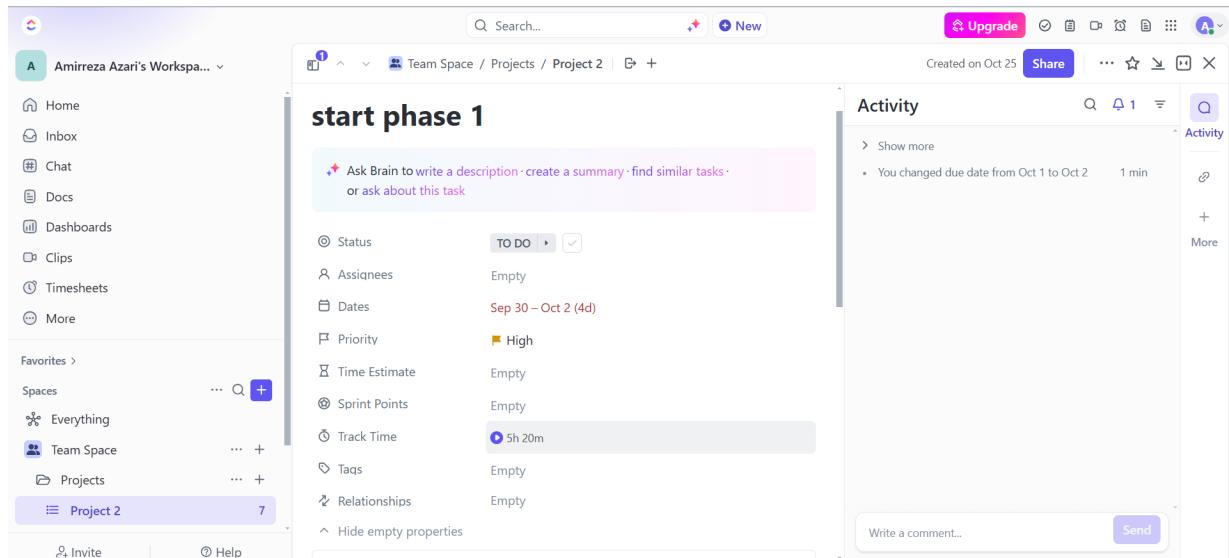


Figure 29: Information of Tasks

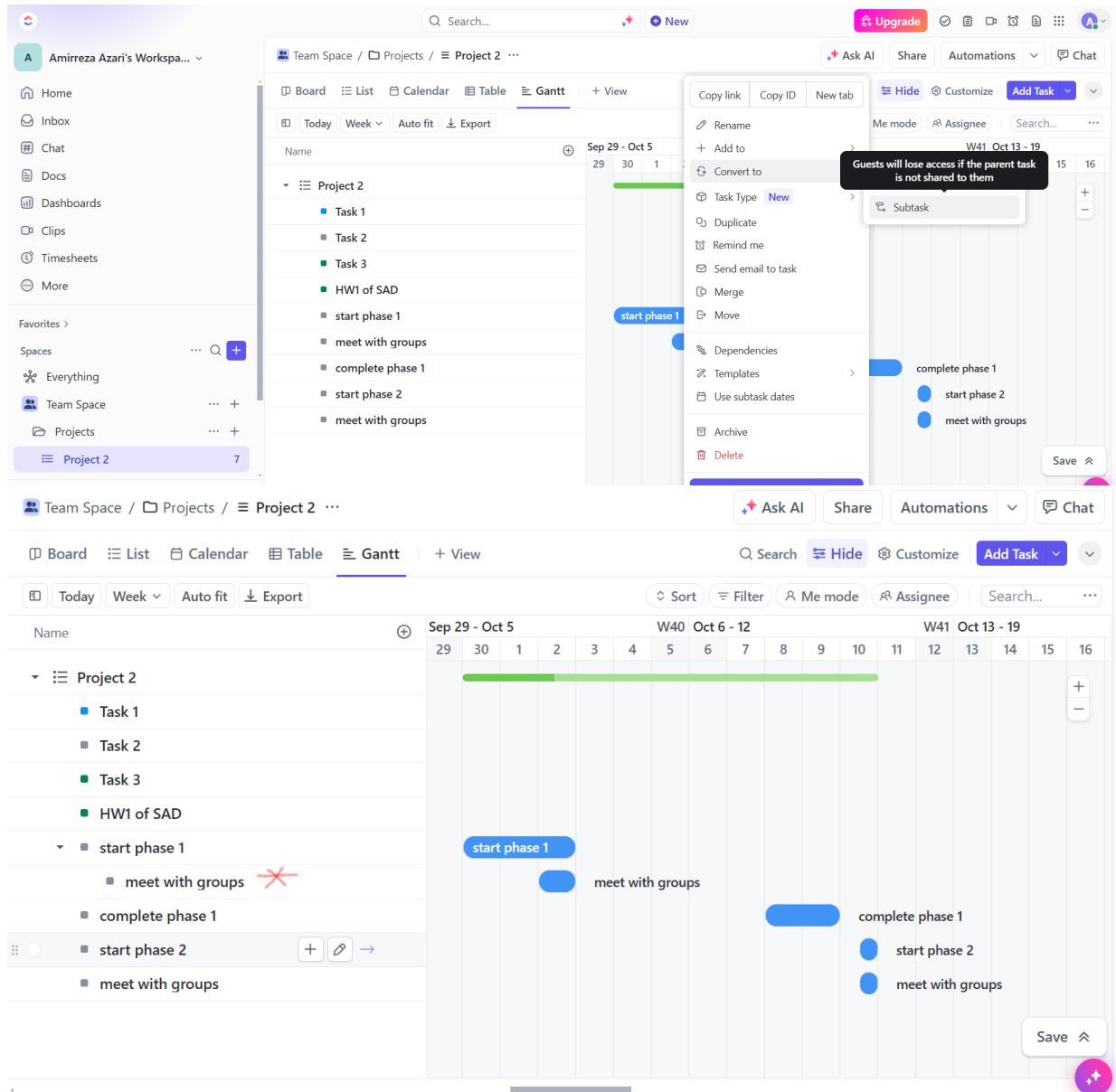


Figure 30: Subtasks

Home Page On your account's homepage, you can view upcoming tasks and their associated projects. There is also a chat section available.

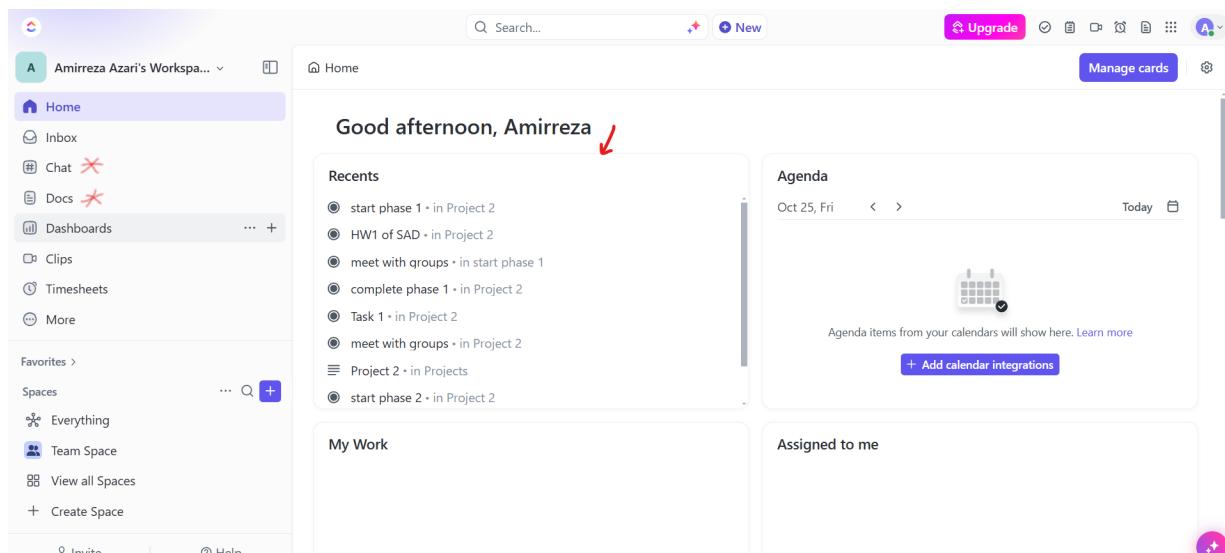


Figure 31: Home Page

5 Trello

5.1 Overview

Trello is a project management tool designed by Atlassian that can be helpful for individuals and teams in visually organizing their tasks using different items such as boards, cards and lists [11]. Users can create task boards with various columns, move tasks between them, and choose the level of completion for each task. Trello is intuitive, user-friendly and easy to use, that's why it is one of the most popular project management tools in the world.

5.2 Features

Trello is a widely used and popular project management tool that is known for its reliable usage and useful features. These features include:

- **Boards, Lists, and Cards:** Trello's main structure includes boards, lists, and cards. They represent projects, stages of completion, and tasks that move through the lists.
- **Mentions and Comments:** Project Members could comment on cards and tag others to notify them of updates or ask questions. This is done seamlessly and within a visual environment.
- **Automation:** With Butler, a powerful automation tool, users can automate their workflow by creating scheduled commands [12].
- **Drag and Drop:** With the amazing drag and drop visual interface, users can easily move cards, change item orders, and improve their workflow.
- **Task Assignment:** With Trello, teams can assign members to cards to delegate tasks, and set deadlines for each task.
- **Checklists and Attachments:** Trello allows users to attach files from their local computer or cloud services and create checklists within for sub-tasks.

5.3 Pricing

Trello offers four different plans for users [13]. The free plan Provides unlimited boards, cards, and lists but the user is limited to one power-up [14] per board and only has access to basic features such as task assignment, due dates, and file attachments (10MB per file). The Standard Plan is \$5 per month and includes unlimited power-ups, larger attachments (250MB per file), and custom backgrounds as well as advanced checklist features and group members in workspaces. The Premium Plan is \$10 per month and has everything that the Standard plan has, plus advanced views (time-line, calendar, dashboard, etc.), priority support and admin permissions. This plan is useful for larger

teams. Finally, the Trello Enterprise Plan starting at \$17.50 per month, offers a tailored experience for businesses that need more security, team management tools, and personalized onboarding.

FREE	STANDARD	PREMIUM	ENTERPRISE
\$0 USD Free for your whole team For individuals or teams looking to organize any project.	\$5 USD Per user/month if billed annually (\$6 billed monthly) For small teams that need to manage work and scale collaboration.	\$10 USD Per user/month if billed annually (\$12.50 billed monthly) For teams that need to track and visualize multiple projects in several ways, including boards, timelines, calendars, etc.	\$17.50 USD Per user/month - billed annually (\$210.00 annual price per user) For organizations that need to connect work across teams with more security and controls. Est. cost for 50 users <input type="range"/>
Get started	Upgrade now	Try for free	Contact sales

Figure 32: Trello Pricing Plans

5.4 Pros & Cons

Pros.

- **User-friendly Interface:** Trello's drag-and-drop functionality along with its visual layout makes it easy for new users to pick up and use.
- **Versatility:** Trello can be used for a variety of projects and by different teams with unique goals.
- **Collaboration:** Users can collaborate, assign tasks to team members, set deadlines, and manage their projects by providing feedback in real time.
- **Customization:** Trello's power-ups, allow users to extend its functionality, integrating it with tools like Slack, Google Drive, or Microsoft Teams.
- **Visual Aspect:** The board, list, and card in Trello, allow you to manage your tasks visually and effectively.
- **Free Version:** Trello offers a free version with essential features for small teams or individual users.

Cons.

- **Limited access in the free version:** Certain advanced features such as more automation options and increased power-ups are not available in the free plan.

- **Limited Reporting and Analytics:** Trello doesn't provide advanced data analysis tools, which may be a drawback for teams that need such features.
- **Lack of Complex Features:** Trello's simplicity can be limiting for larger, complex projects. Teams that require certain complex features including Gantt charts, detailed reports, and analysis tools might have to use other project management tools.

5.5 Usage Guide

Logging In. You could easily sign up and log in to your Trello account with an email. You could also enable two-factor authentication.

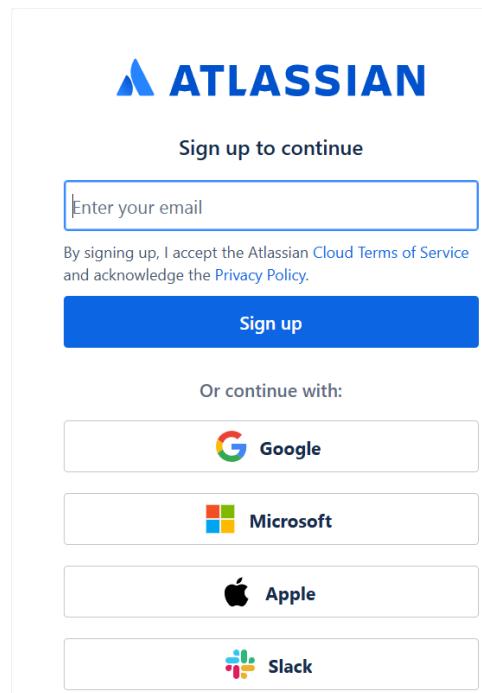


Figure 33: Login Interface

Home Page. You could easily create an empty board or use one of the many templates to create more visually appealing boards.

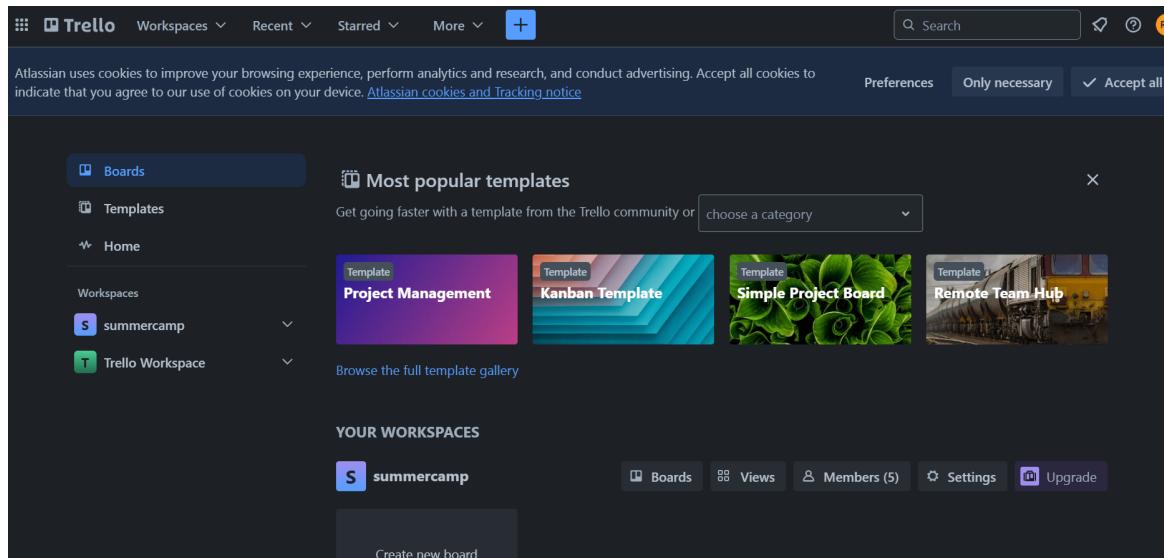


Figure 34: Home Page

Boards. When you're inside the board, you have the option to add lists, tasks, and labels and manage your project easily with just a few clicks.

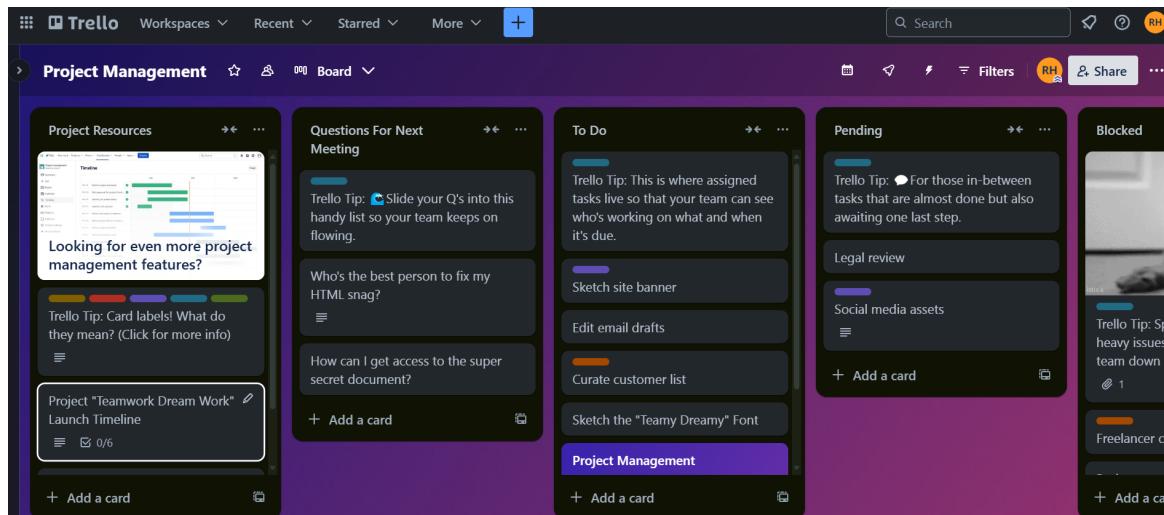


Figure 35: Boards

List Actions. Trello allows you to perform many useful actions with your list. including adding cards, moving, and copying your list.

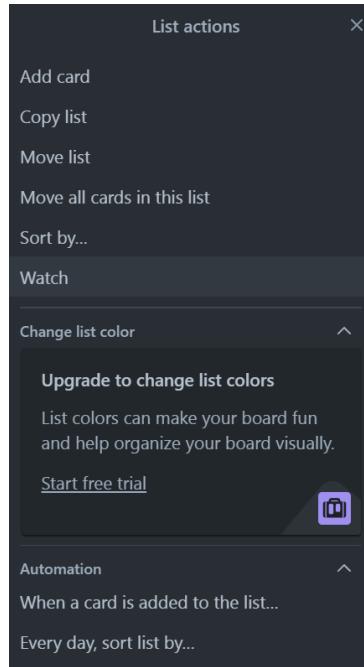


Figure 36: List Actions

Calender View. Teams could also look at the calendar view for their projects to have a better view of their deadlines.

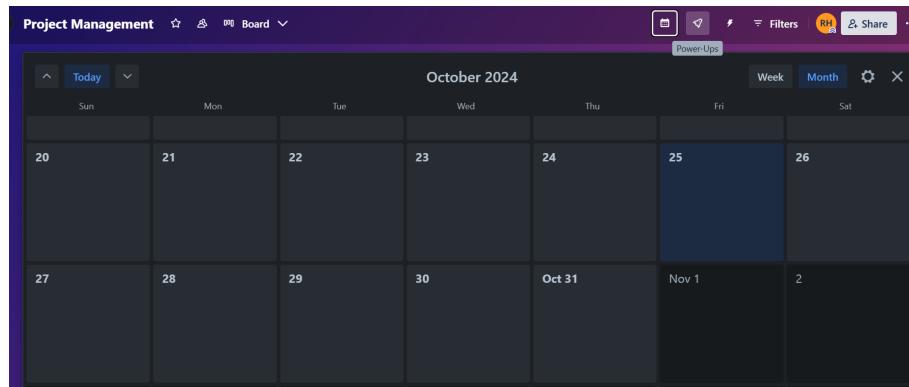


Figure 37: List Actions

6 Smartsheet

6.1 Overview

Smartsheet is a powerful project management platform designed with extensive features for various applications [15]. It allows users to efficiently manage their projects through tools for planning, execution, tracking, and reporting.

6.2 Features

Some of the key features of Smartsheet include:

- **Project Planning and Scheduling:** Create project timelines, define dependencies, and set deadlines.
- **Team Collaboration:** Share sheets, documents, and files among team members.
- **Custom Reports and Dashboards:** Visualize data and track project progress.
- **Template and Form Customization:** Tailor templates and forms to meet specific project needs.
- **Integration with Other Tools:** Connect with Google Drive, Microsoft Office, Dropbox, and more to streamline workflows.
- **Resource Management:** Optimize workforce and financial resource allocation.

6.3 Pricing

Smartsheet is available through various subscription models, allowing organizations to select a plan that fits their needs and budget [16]. The platform typically offers multiple access tiers, ranging from free versions with limited features to advanced packages with more comprehensive capabilities. Pricing depends on the number of users, usage volume, and access to features.

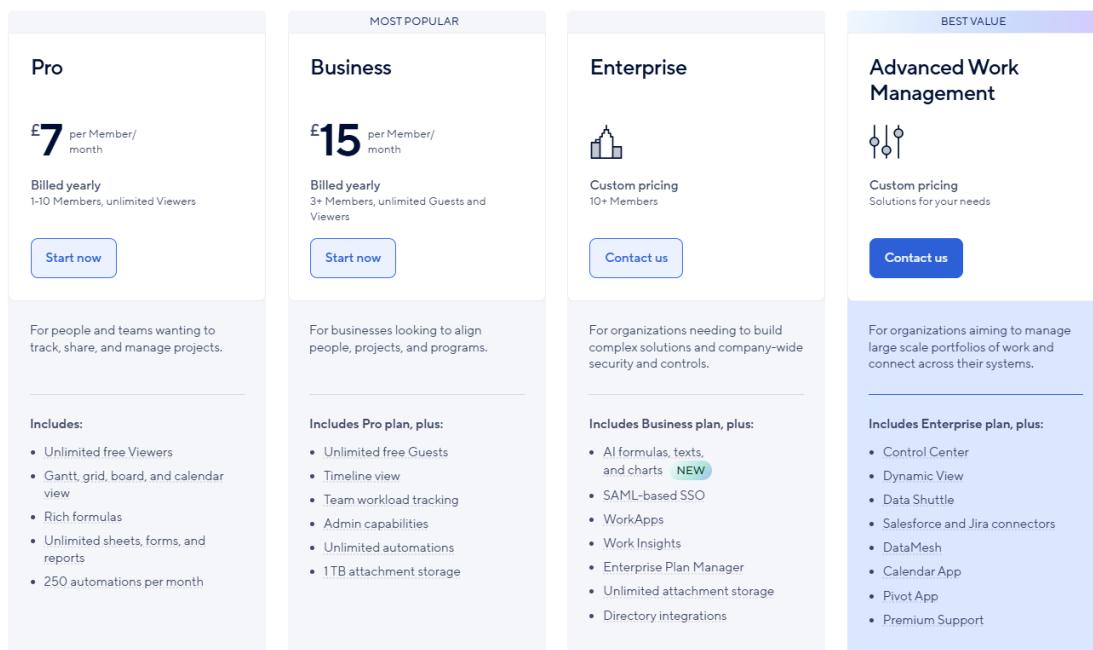


Figure 38: Pricing

	Pro	Business	Enterprise	Advanced Work Management
	Start now	Start now	Contact us	Contact us
Premium features				
WorkApps: No-code workapps	—	—	✓	✓
Brandfolder by Smartsheet	Add-on	Add-on	Add-on	Add-on
Resource Management by Smartsheet	—	Add-on	Add-on	Add-on
Control Center: Portfolio management	—	Add-on	Add-on	✓
Dynamic View: Secure request management	—	Starting at \$50 USD/month	Starting at \$50 USD/month	✓
Data Shuttle	—	Starting at \$20 USD/month	Starting at \$20 USD/month	✓
Calendar App	—	Add-on	Add-on	✓
DataMesh	—	Add-on	Add-on	✓
Pivot App	—	Add-on	Add-on	✓
Connectors	—	Add-on	Add-on	✓
DataTable	—	—	Add-on	✓
Bridge	—	—	Add-on	✓

Figure 39: Comparison in Premium features

6.4 Pros & Cons

Pros. Using Smartsheet offers numerous benefits for organizations and teams aiming to optimize their project management processes:

- **High Flexibility:** Applicable to a wide range of projects and industries with extensive customization options.
- **User-Friendliness:** A simple and easy-to-use interface that enables users with varying skill levels to quickly learn the platform.
- **Enhanced Collaboration:** Advanced collaboration tools foster effective communication and interaction among team members.
- **Role-Based Access Control:** Set varying levels of access based on users' roles within the project.

Cons. Despite its many advantages, Smartsheet may have some limitations that could present challenges for certain users:

- **Costs:** Access to all features may require relatively high subscription fees.
- **Complex Configuration:** Advanced features and customization options can be challenging for new users.
- **Training Requirements:** Users might need training to fully leverage all available features.

6.5 Usage Guide

Using Smartsheet begins with creating a user account. After registration, users can set up projects and tasks, define work teams, and leverage various features for managing and tracking their projects. To maximize productivity, users should become familiar with features like timeline creation, dependency management, and reporting and dashboard tools. Additionally, taking advantage of Smartsheet's educational resources and support services can enhance workflows and improve efficiency [17].

During the initial use, a series of onboarding tutorials will be displayed, making the platform easier to navigate moving forward. The screenshots shown reflect these tutorials, guiding users through the initial setup and familiarization process during their first interaction with the tool.

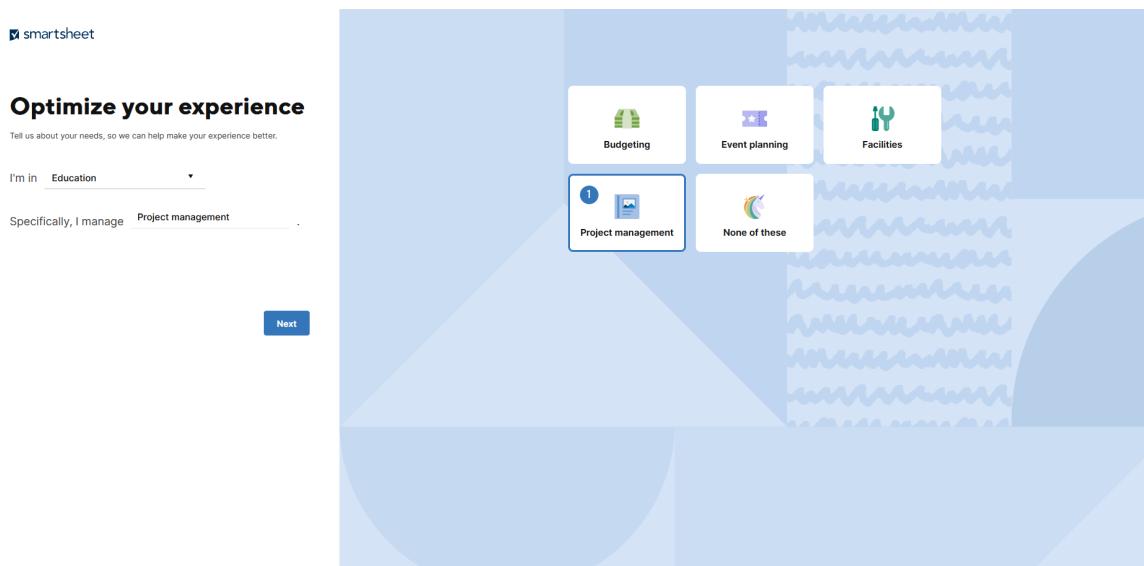


Figure 40: Choosing your occupation and up to 3 topics to customize the project

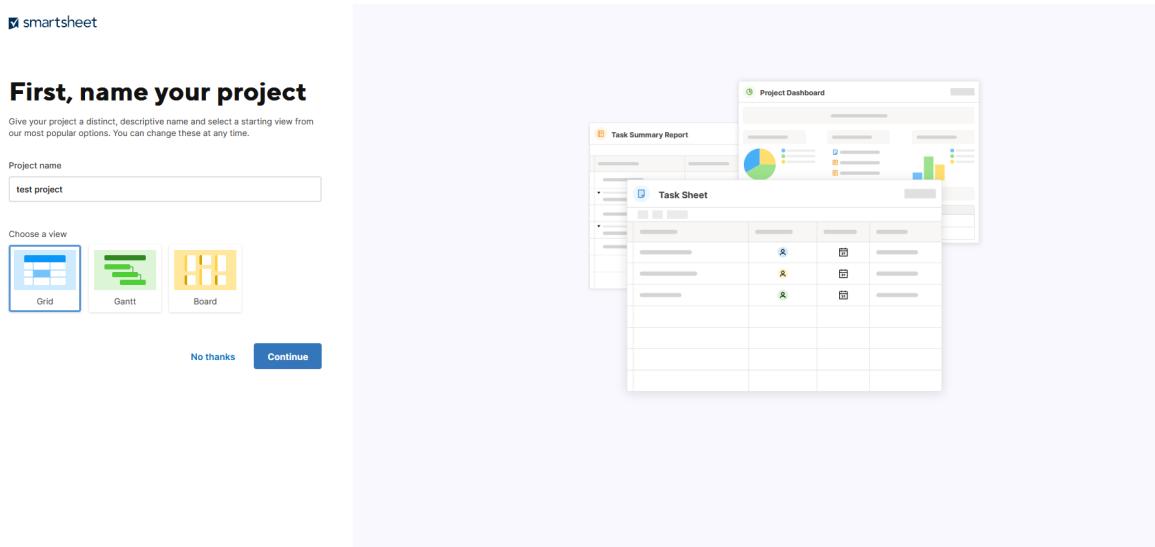


Figure 41: Selecting name of the project and your desired view of tasks

The screenshot shows the 'Add tasks' step of a project setup wizard. It includes fields for 'Task #1' (containing 'complete Smartsheet') and 'Task #2' (containing 'send report'). Below these are 'Skip step' and 'Next' buttons, and a progress bar with one green dot and four white dots.

Task Sheet

Tasks
complete Smartsheet
send report

Figure 42: Adding new tasks

The screenshot shows the project overview for 'test project'. The workspace contains four items:

- 1. Task Sheet
- 2. Task Summary Report
- 3. Overdue Tasks Report
- 4. Project Dashboard

Details for each item:

Name	Sharing	Owner	Last Update
1. Task Sheet	Workspace	Reza Vahidimajd	1 minute ago
2. Task Summary Report	Workspace	Reza Vahidimajd	1 minute ago
3. Overdue Tasks Report	Workspace	Reza Vahidimajd	1 minute ago
4. Project Dashboard	Workspace	Reza Vahidimajd	1 minute ago

Workspace Shared To: Reza Vahidimajd (Owner)

Figure 43: The project overview after it was built successfully

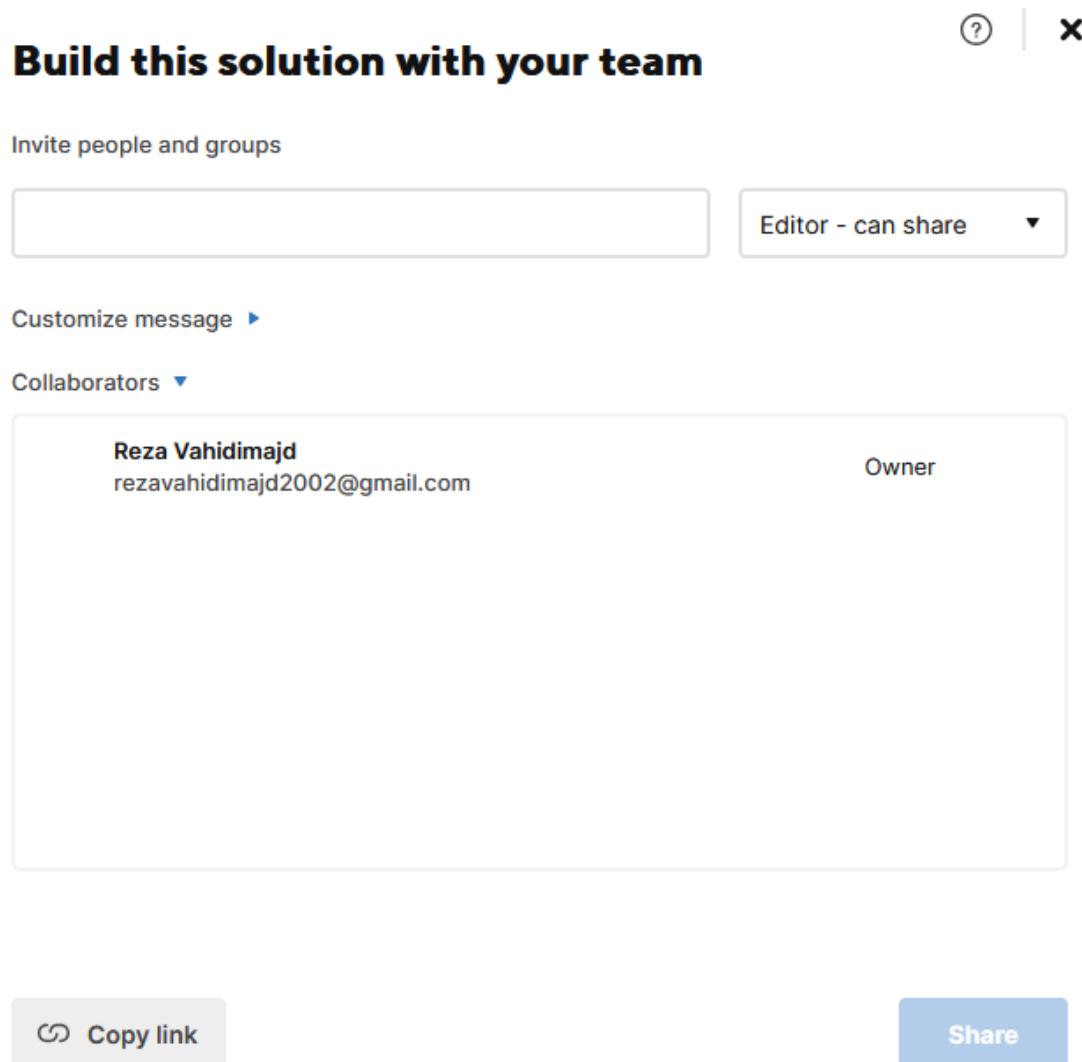


Figure 44: Sharing the project with your collaborators

7 Comparison and Conclusion

In the table below, we provide a comparison of the five project management tools: Trello, Jira, ClickUp, Smartsheet, and Asana based on various criteria such as user-friendliness, functionality, accessibility, and more.

Feature	Trello	Jira	ClickUp	Smartsheet	Asana
Free trial	Yes	Yes	Yes	Yes	Yes
Open source	No	No	No	No	No
Automation	No	When/If/Then	When/Then	No	When/Then
Risk Management Tools	No	By Addon	Yes	No	No
Time Tracking	No	Yes	Yes	Yes	No
Budget Management	No	No	No	Yes	No
Collaboration Tools	Yes	Yes	Yes	Yes	Yes
Integrations	+100	+500	+100	+50	+100
Use Case	Small	Large	Small to Medium	Data-centric	Medium
Filtered	No	Yes	No	Yes	Yes
User-friendliness score	9	6	8	7	8
Functionality score	8	9	7	7	8
Accessibility score	9	7	3	6	8
Collaboration score	7	6	7	7	8
Integration score	7	8	7	6	7
Customization score	7	9	9	6	7
Overall score	7.8	7.2	7.1	6.6	7.7

Table 1: Comparison of Trello, Jira, ClickUp, Smartsheet, and Asana

In conclusion, the comparison shows that each tool has its strengths and weaknesses.

- **Asana** strikes a good balance between functionality and ease of use, offering solid collaboration tools and a reasonable level of customization. It is a reliable choice for medium-sized teams, but it slightly falls short in accessibility when compared to Trello.
- **Jira** is more powerful and feature-rich, particularly suited for larger teams managing complex projects or software development, especially those using Agile methodologies. However, its complexity might hinder rapid onboarding.
- **ClickUp** is highly versatile, offering a broad range of features that can support teams of various sizes and needs, but its complexity might require more effort and time to master.
- **Trello** excels in both simplicity and user-friendliness, making it not only ideal for smaller teams but also effective for teams that prioritize accessibility and ease of use. Its balance of features

and ease of adoption make it a top choice for quick implementation without a steep learning curve.

- **Smartsheet** is best for teams that rely heavily on structured data and need a spreadsheet-style project management tool. However, it lacks the flexibility and ease of use found in tools like Trello and Asana.

In our evaluation, we focused on key criteria such as user-friendliness, functionality, and accessibility. **Jira** and **ClickUp** provide strong functionality and advanced features, but their complexity and learning curve make them less suitable for our current needs. **Smartsheet**, while ideal for data-centric teams, lacks the flexibility and accessibility we require.

Asana offers a good balance between functionality and ease of use, scoring well in both areas. However, **Trello** stands out due to its superior accessibility and user-friendliness. With an overall score of 7.8 compared to **Asana's** 7.7, **Trello** provides a simple yet effective project management solution that is easy for small teams to adopt quickly. It allows for seamless collaboration and customization, making it an excellent option for teams that prioritize simplicity and quick implementation without sacrificing essential functionality.

Given the minimal difference in overall score and **Trello's** stronger points in user-friendliness and accessibility, it is clear that **Trello** offers the best balance for our team's needs. As a result, **Trello** emerges as the best choice for our project, providing the features we require with the least complexity.

References

- [1] "Asana Official Website." <https://asana.com>.
- [2] "Asana Pricing." <https://asana.com/pricing>.
- [3] "Asana Login." <https://app.asana.com/-/login>.
- [4] "Atlassian Jira Features." <https://www.atlassian.com/software/jira/features>.
- [5] "Bug Reporting Website." <https://www.bugreporting.co/pros-and-cons/jira>.
- [6] "Trust Radius Website." <https://www.trustradius.com/products/jira-software/>.
- [7] "Atlassian Jira." <https://www.atlassian.com/software/jira>.
- [8] "ClickUp Blog." <https://clickup.com/blog/wp-content/uploads/2018/11/ClickUp-Marketing-handbook-1.pdf>.
- [9] "ClickUp Hierarchy." <https://help.clickup.com/hc/en-us/articles/6311877646999-Intro-to-Lists>.
- [10] "ClickUp Tables." <https://clickup.com/features/table-view>.
- [11] "Trello: A Visual Collaboration Tool for Task Management." <https://trello.com/>.
- [12] "Automate with Butler in Trello." <https://trello.com/butler>.
- [13] "Trello Plans and Pricing." <https://trello.com/pricing>.
- [14] "Enhancing Trello with Power-Ups." <https://trello.com/power-ups>.
- [15] "Smartsheet main page." <https://smartsheet.com/>.
- [16] "Smartsheet prices and services." <https://smartsheet.com/pricing>.
- [17] "Smartsheet basics and user guides." <https://help.smartsheet.com/topics/Basics>.