

Untitled Project Management App

Due: April 26, 2022

Concept Summary

Made to make collaborating and managing projects simple and fun. It is a project management and collaboration tool that features a Kanban-style with priorities workflow that will be familiar to teams who have used other project management tools and has an intuitive design for those new to it.

Users can manage projects by creating cards that can be used to represent tasks or be used for documenting the project. Cards are placed in pipelines that represent various stages of tasks in a project. Users can assign to cards team members, deadlines, tags, and dependencies to other cards to organize the project.

Audience/Customer

Intended for teams who need to collaborate on projects of any size. From large companies to students working on projects large to small.

Background

Be familiar with other project management tools, like Trello.

Application Cost and Projected success (optional)

Costs:

- Cloud database and server
- Engineers

The app uses a monthly subscription-based model for each user. There are three plans suited for various team sizes: Basic and Pro. The Basic plan is free and covers the core features. Pro allows for a larger team size and includes all the features of Basic and more.

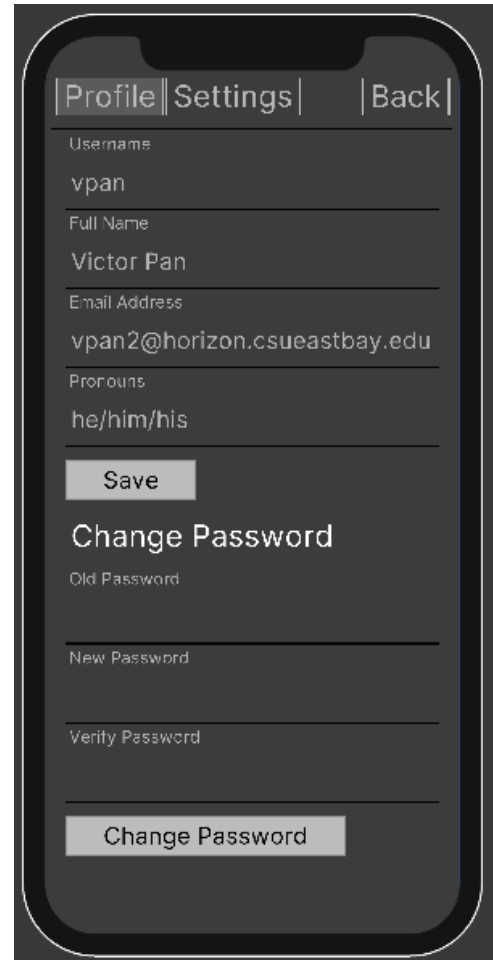
- Basic: Free
- Pro: \$5 per user per month

Interface Mockups (for projects that have a presentation layer/ GUI)

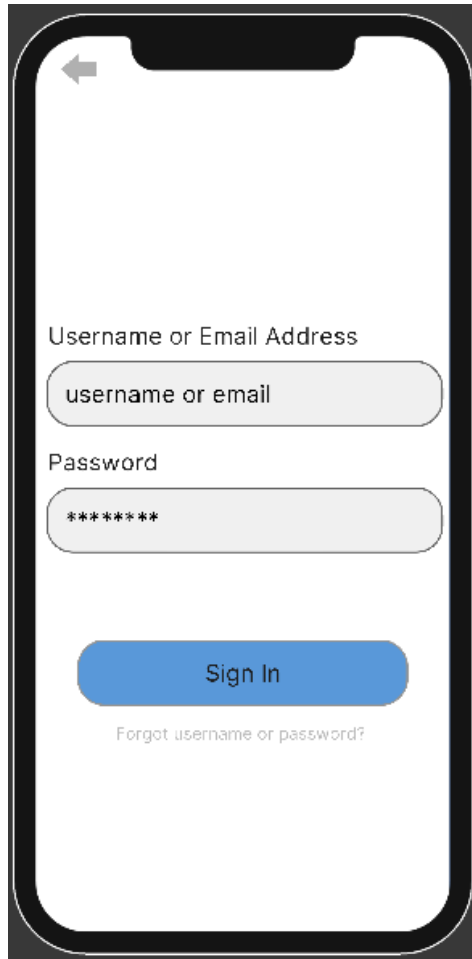
Main Screen



Profile Menu



Login menu



A mobile app login screen with a white background and rounded corners. At the top left is a grey back arrow. The main content area contains three input fields: the first is labeled 'Username or Email Address' and contains the placeholder text 'username or email'; the second is labeled 'Password' and contains seven asterisks. Below these fields is a blue rounded button labeled 'Sign In'. At the bottom, there is a link that says 'Forgot username or password?'.

←

Username or Email Address

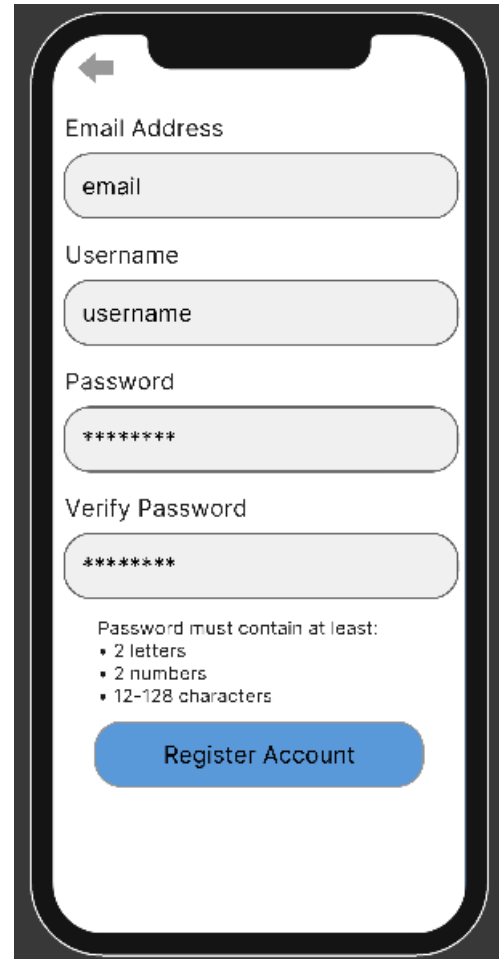
username or email

Password

Sign In

[Forgot username or password?](#)

Sign up menu



A mobile app sign-up screen with a white background and rounded corners. At the top left is a grey back arrow. The form consists of four input fields: 'Email Address' (placeholder 'email'), 'Username' (placeholder 'username'), 'Password' (placeholder '*****'), and 'Verify Password' (placeholder '*****'). Below the password fields is a list of requirements: 'Password must contain at least:' followed by a bulleted list: '2 letters', '2 numbers', and '12-128 characters'. At the bottom is a blue rounded button labeled 'Register Account'.

←

Email Address

email

Username

username

Password

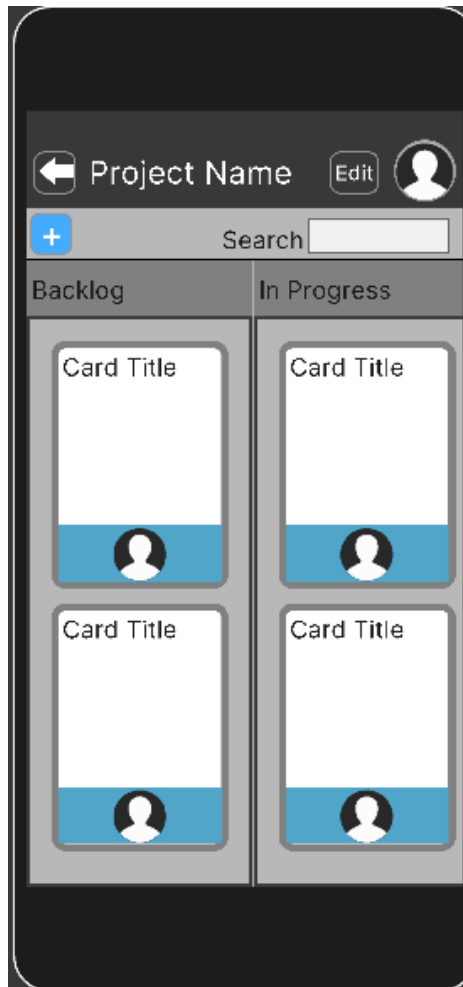
Verify Password

Password must contain at least:

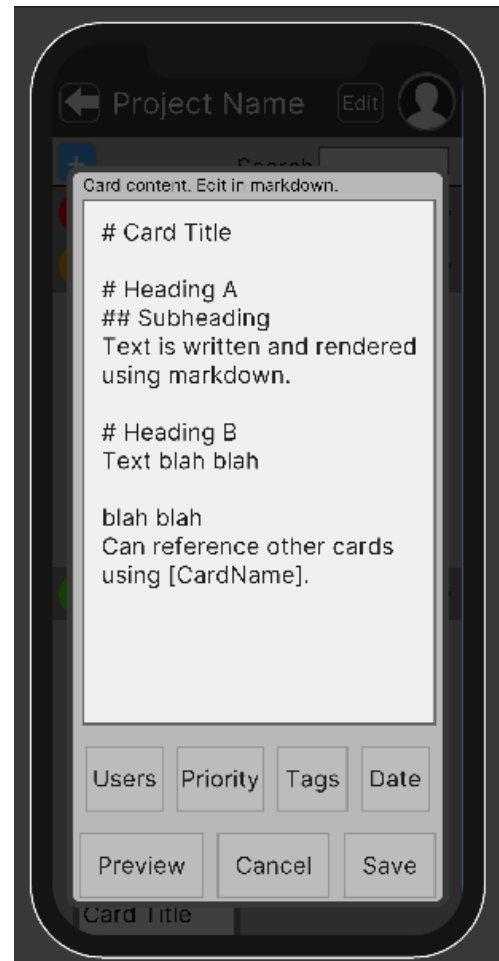
- 2 letters
- 2 numbers
- 12-128 characters

Register Account

Project View



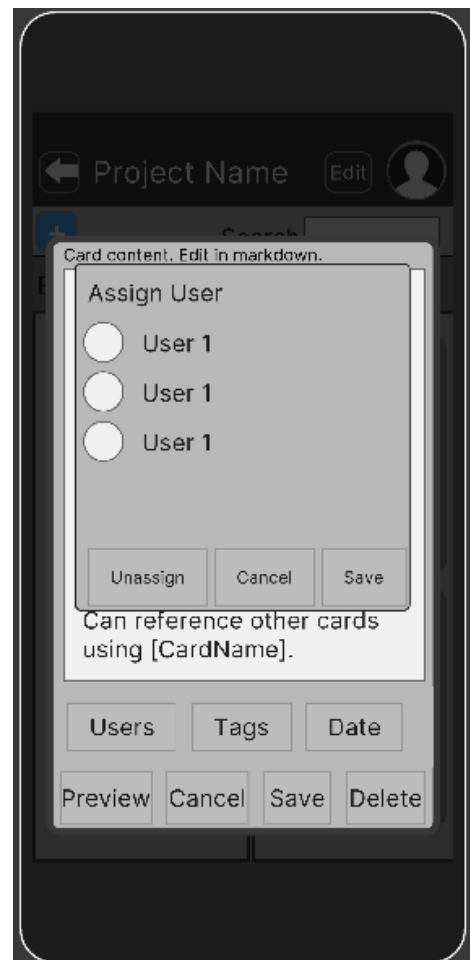
Creating a card



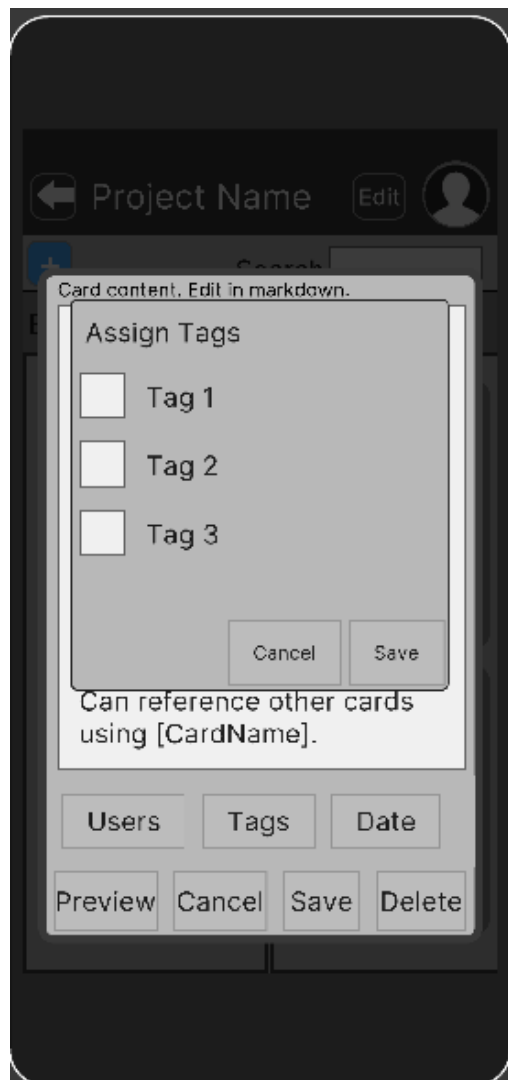
The Project view can scroll horizontally to view different pipelines and vertically on each pipeline



Clicking the Date button



Assigning Users



Assigning tags

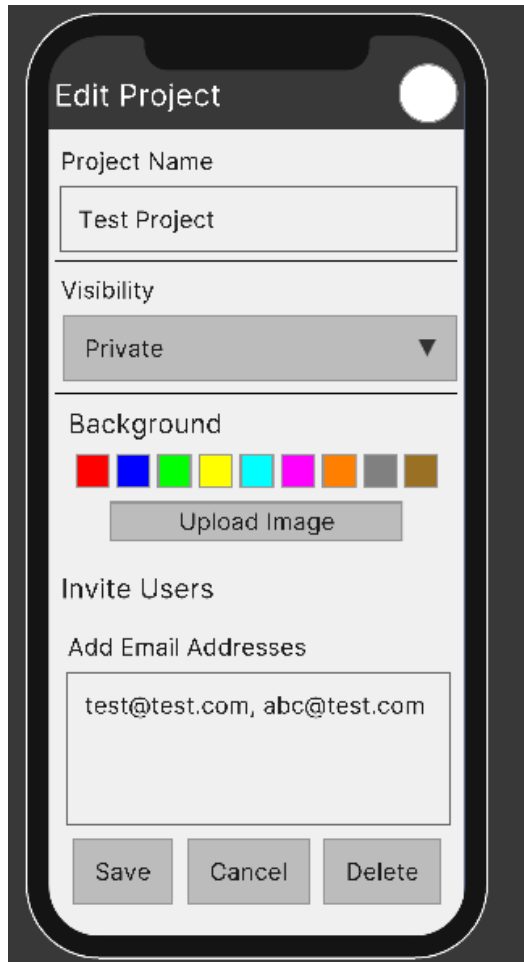
Projects Menu



Creating new Project

A screenshot of a mobile application's 'New Project' form. The header 'New Project' is at the top left, with a profile icon to its right. The form contains several sections: 'Project Name' with a text input field containing 'New Project'; 'Visibility' with a dropdown menu showing 'Private'; 'Background' with a row of eight color swatches (red, blue, green, yellow, cyan, magenta, orange, grey) and an 'Upload Image' button; 'Invite Users' with a label 'Add Email Addresses' and a text input field containing 'test@test.com, abc@test.com'; and two buttons at the bottom, 'Add' and 'Cancel'.

Editing project



The image shows a mobile application interface for editing a project. The screen is titled "Edit Project" at the top. It contains several sections: "Project Name" with a text input field containing "Test Project"; "Visibility" with a dropdown menu set to "Private"; "Background" with a row of nine color swatches and an "Upload Image" button; "Invite Users" with a sub-label "Add Email Addresses" and a text input field containing "test@test.com, abc@test.com"; and a bottom navigation bar with three buttons: "Save", "Cancel", and "Delete".

Edit Project

Project Name

Test Project

Visibility

Private ▼

Background

Color swatches: Red, Blue, Green, Yellow, Cyan, Magenta, Orange, Grey, Brown

Upload Image

Invite Users

Add Email Addresses

test@test.com, abc@test.com

Save Cancel Delete

Design - Use-Case Diagram(s)

Models (data)

User

Has:

- id
- firstName
- lastName
- emailAddress
- profilePicture
- password
- projectIds - The projects that the user has access to

Can:

- Update name
- Update email address
- Update password

Project

Has:

- id
- name
- ownerId
- editors
- pipelines
- tags
- background

Can:

- Update name
- Reassign owner
- Add/remove a user as editor
- Add/remove pipelines

- Can set background

Card

Has:

- id
- content
- assignedDate
- assignedUserId
- tagIds

Can:

- Update content
- Set/remove date
- Set/remove user
- set/remove tags

Pipeline

Has:

- name
- cardIds

Can:

- Update name
- Add cards

Tag

Has:

- id
- name
- color

Can:

- Update name

Views (data presentation/UI)

User Profile

- Displays and allows editing the user fields
 - Name
 - Email
 - Password
 - Profile picture

Projects Menu

- Displays all the projects a user is a part of in a scrollview
- Show project name and ideally a background color/image
- Create new projects
- Clicking/tapping on a project opens the **Project View**

Project View

- Displays all the cards in a project in various “pipelines” (In Progress, Backlog, Needs Review, Complete, etc as defaults)
- Each pipeline should be a list scrollview and hold cards in them.
- Can rename pipelines and reorder them
- Cards should display
 - their title
 - assigned user
 - assigned date
 - Tags
- Create cards
- Drag and drop cards from pipeline to pipeline
- as well as rearrange cards in a pipeline by dragging and dropping them
- Filter cards by user/tags
- Filter cards by text content using a string
- Sort cards by date
- Open **Project Settings**
- Clicking a card opens the **Card View**

Project Settings

- Display users with access to the project in a scrollview
 - Display name and profile picture
- Displays tags in a scrollview
- Add users to the project
- Remove users from the project
- Change access level of a user
- Create/delete tags
- Rename tags
- Delete project
- Return to **Project View**

Card View

- Edit mode and preview mode
 - Preview mode displays card content in pretty format
 - Edit mode displays card content as plain text and allows for editing the content
- Assign/remove users
- Assign date
- Add/remove tags
- Delete card
- Move card to a different pipeline

Enums

Role

Defines a user's access level to projects and what they can do

- Viewer
- Editor
- Admin

Database

The Firestore database is document-based instead of relational database. We will have two main documents: Users and Projects.

Each entry in the Users document contains the user's id, name, email, and profile image link.

Each entry in the Projects document contains the project id, name, owner id, and three subdocuments: tags, pipelines, and editors. Pipelines further contain a Cards subdocument and a name. Cards contains a Tags subdocument

Each level of indentation represents a subdocument

- Users
- Projects
 - id
 - ownerId
 - Name
 - Editors
 - userId
 - Access level
 - Tags
 - Name
 - Id?
 - Pipelines
 - Name
 - Cards
 - Tags
 - Id

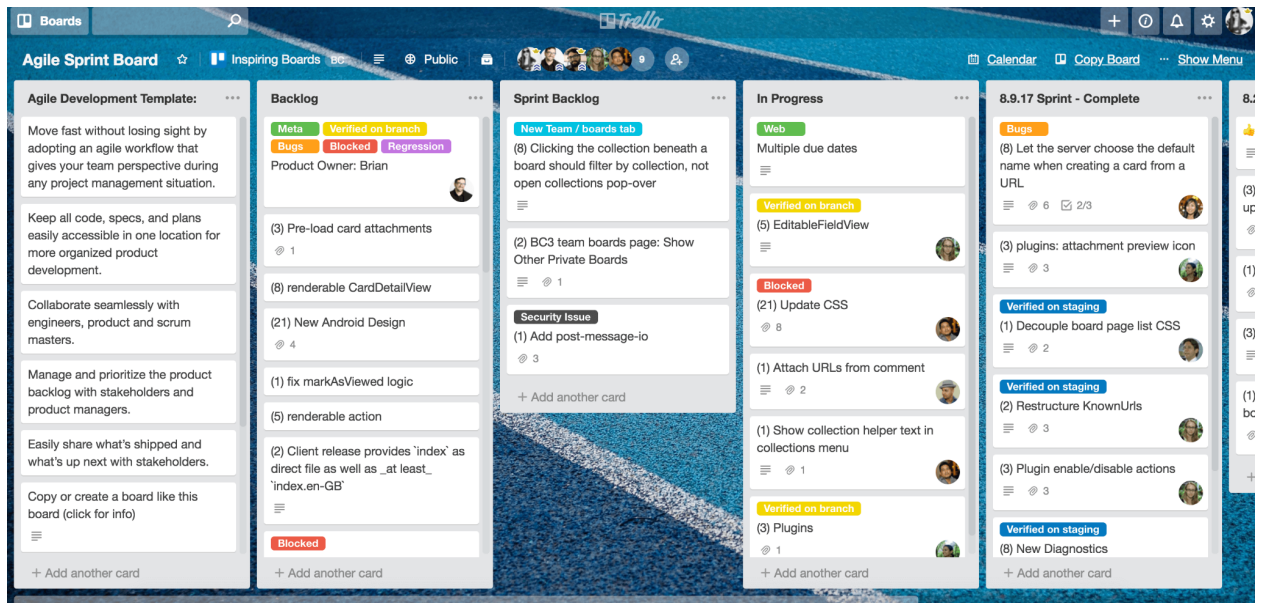
- Assigned user id
- Assigned date
- Content

TODO (previous uml diagram was really bad)

Related Work

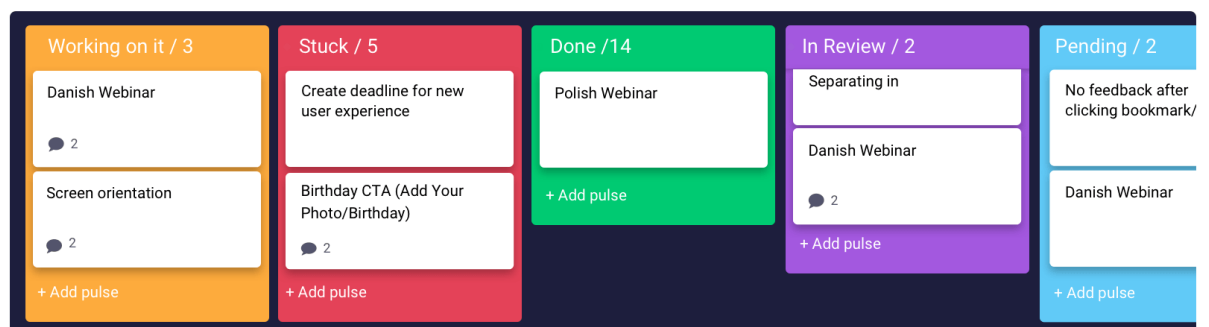
Project management tools like

- Trello - Kanban style project management tool



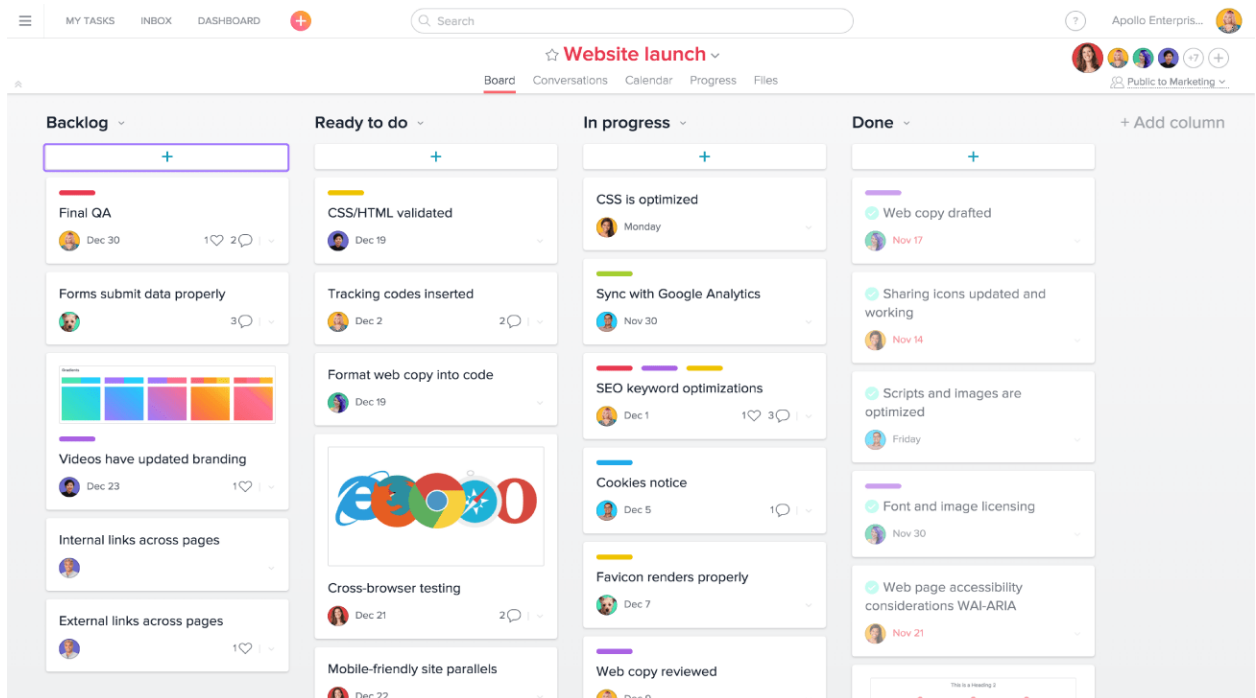
- Monday - Kanban style project management tool

Agile Sprints



Sprint 2 (This week)	Assignee	Status	Epic	Priority	Estimation	
Write online help		Working on it	Bug	High	1 days	
Add error logging		Working on it	Homepage	High	0.3 days	
Test the middle tier		Stuck	Feature	Medium	0.1 days	

- Asana - Kanban style project management tool



- Codecks - Project Management tool themed around a deck of cards. Cards can represent tasks and are assigned to users by adding it to their hand.

Frameworks/Services/Cloud/Backends

Firestore as backend cloud and database

CommonMark Java - Markdown renderer library

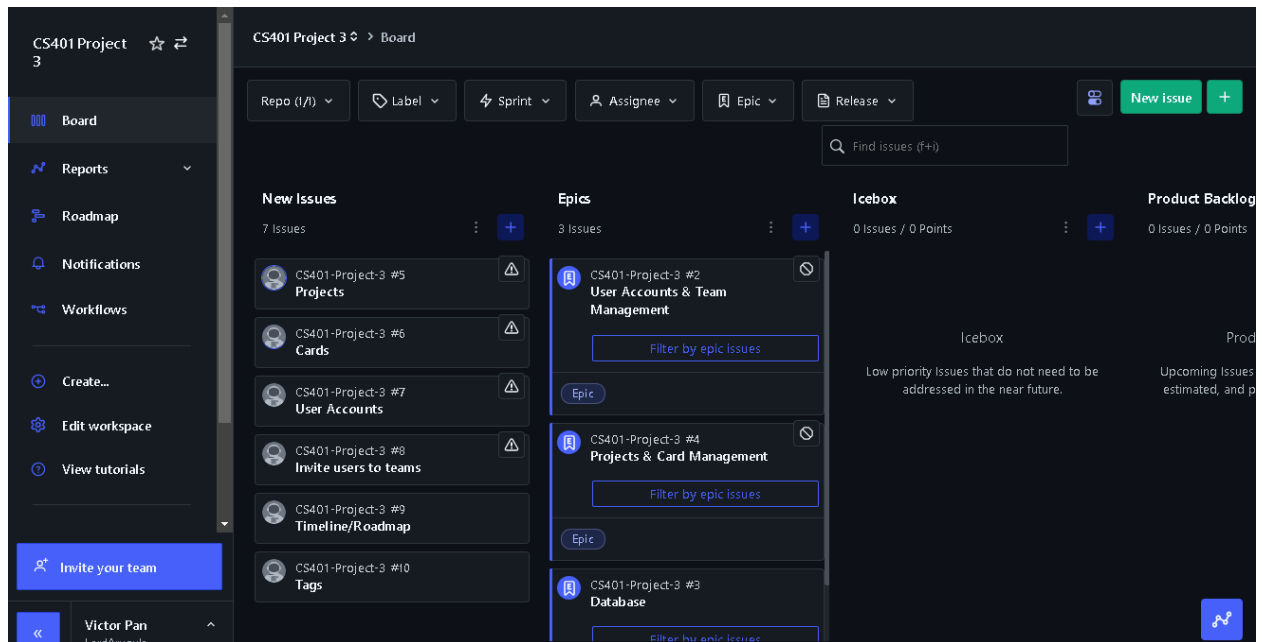
Picasso - Image downloader and caching library

Testing

Testing will be done using automated testing with JUnit and manual testing by the developers for each piece of functionality.

Schedule

Schedule is managed using ZenHub.



Dependencies

Firebase Firestore for database and cloud services

Color Picker <https://github.com/skydoves/ColorPickerView>

Image Downloader <https://github.com/square/picasso>

Markdown Renderer <https://github.com/commonmark/commonmark-java>