

# Andrew Agile Platform

## 17-637 Web Application Development - Project Specification

### Team members

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### Product Backlog

#### Register & Login

**1. User registration:**

Users can register a new account by providing their personal information, including username, password, email, first name and last name.

**2. User login:**

The web application requires users to login by checking username and password.

**3. Authentication protection:**

When the user's login session becomes invalid, the next attempted user interaction will automatically redirect the user back to the login page.

#### Kanban Board

**1. Workspace/Project Selection:**

Provide a dropdown list of all workspaces for selection. After the user selects a workspace, all projects under that workspace appear in another dropdown list. All tasks under the selected project appear on the Kanban board.

**2. Task searching bar**

Search tasks whose workspace/project/reporter/assignee/description matches the user's input, and display them on Kanban board. Also provides an icon to cancel search.

**3. Create task button**

A window pops up after clicking the button to create a new task.

**4. Create task popup window**

A pop up window containing input fields of task details, and a create button. After creation, the popup window will be closed and the new task will automatically appear on the Kanban board if it matches the current project, without refreshing the page.

**5. Kanban board**

A board with four columns spread horizontally, corresponding to the four status of tasks (Backlog, Todo, In Progress and Done). Within each column, tickets are represented as cards that spread vertically.

#### **6. Task popup window**

A window containing details of the task will pop up after clicking the task card on the Kanban board. Task details can be edited or deleted through the popup window. The updated task will be shown on the Kanban board without refreshing the page.

The window also provides a button to close the window without editing.

## **Progress Analysis**

The page is used to help users have an overview of the projects' progress. It summarizes the detailed information of each project. According to the Workspace and Project that the user chose, users are able to read the overall information about the project ID, project name, description of the project, workspace ID, owner, created time.

#### **1. Workplace & Project Selection**

This function provides a dropdown list selection of the workspace. After making a selection from the dropdown list, the page will have all progress analysis information on the page.

#### **2. Information Table**

The table will display all of the information related to the specific workplace that user chose through the selection.

## **Access Management**

The function of this part is to control the access of the workplace. Basically, there are three different levels of control. The highest level of control is admin, enabling users to invite others to the specific workplace. The second level is called an editor, who is able to view and edit the workplace. The third level is called viewer, who is only able to view the workplace.

#### **1. Workplace dropdown list**

This provides the dropdown list of all workplace for selection. After clicking a workplace, the whole list of authenticated users of that workplace will be displayed.

#### **2. Invite button**

This button will only be activated for the admin. Admin could make use of this button to invite people into this workplace.

For other characters, this button will be disabled.

#### **3. User search bar**

Search users' names match the input. Then display the results on the main page.

#### **4. Users info and authentication information**

This part will show the users' name as well as their authentication. As for the admin, he/she can see a dropdown list after everyone's name. It could be used to change the level of this user's authentication.

As for other types of authentication, they could only see a column showing all the users' info and authentication info in this workplace. They could not change the authentication levels of other people.

# First Sprint Backlog

## Product owners

- Nianyi Guo [nianyig@andrew.cmu.edu](mailto:nianyig@andrew.cmu.edu)
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## Sprint summary

Name	Completed functionality
Nianyi	Functionality design, UI wireframes
Yucen	Functionality design, kanban frontend development
Zhiqi	Functionality design, UI wireframes
Peng	Project proof-of-concept, data model design

# Data Models

## Workspace

**Definition:** A workspace is open to a group of users, such as separate workspaces for DevOps and engineering teams. Users' access is granted based on workspace scopes.

**Schema:**

```
class Workspace(models.Model):  
    name = models.CharField(max_length=30)  
    description = models.TextField(max_length=300)  
    created_at = models.DateTimeField(default=timezone.now)  
    last_updated_at = models.DateTimeField(default=timezone.now)
```

## Permission

**Definition:** Permissions record each user's roles within a workspace. There are three types of user roles. "Admin" is the highest level, and can grant permissions to new users. "Editor" can view and edit the projects and tasks in the workspace. "Viewer" however, is only allowed to view.

**Schema:**

```

class UserRole(models.TextChoices):
    ADMIN = 'admin'
    VIEWER = 'viewer'
    EDITOR = 'editor'

class Permission(models.Model):
    workspace = models.ForeignKey(Workspace,
on_delete=models.CASCADE)
    user = models.ForeignKey(User, on_delete=models.CASCADE)
    role = models.CharField(choices=UserRole.choices, max_length=6)
    created_at = models.DateTimeField(default=timezone.now)
    last_updated_at = models.DateTimeField(default=timezone.now)

```

## Project

**Definition:** A project is the second-level scope under a workspace. Each project has a number of tasks created by users. When the user switches projects on the web page, it will show all the tasks of the selected project in the Kanban control plane.

**Schema:**

```

class Project(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField(max_length=300)
    workspace = models.ForeignKey(Workspace,
on_delete=models.CASCADE)
    owner = models.ForeignKey(User, on_delete=models.SET_NULL,
null=True)
    created_at = models.DateTimeField(default=timezone.now)
    last_updated_at = models.DateTimeField(default=timezone.now)

```

## Task

**Definition:** A task is the basic unit in a project. There are three types of tasks. “Story” defines a normal task; “Issue” is like a bug to solve; “Action” defines an operational task which usually requires managerial approval, such as creating a new instance on the cloud, or granting access to a new colleague. For each task, it has four priority levels and four stages.

**Schema:**

```

class TaskType(models.TextChoices):
    STORY = 'story'
    ISSUE = 'issue'
    ACTION = 'action'

class TaskPriority(models.TextChoices):
    CRITICAL = 'critical'
    IMPORTANT = 'important'
    NORMAL = 'normal'
    LOW = 'low'

class TaskStatus(models.TextChoices):
    BACKLOG = 'backlog'
    TODO = 'todo'
    INPROGRESS = 'inprogress'
    DONE = 'done'

```

```

class Task(models.Model):
    type = models.CharField(choices=TaskType.choices, max_length=6)
    priority = models.CharField(choices=TaskPriority.choices,
default=TaskPriority.NORMAL, max_length=9)
    status = models.CharField(choices=TaskStatus.choices,
default=TaskStatus.BACKLOG, max_length=10)
    title = models.CharField(max_length=100)
    description = models.TextField(max_length=300)
    project = models.ForeignKey(Project, on_delete=models.CASCADE)
    assignee = models.ForeignKey(User, on_delete=models.SET_NULL,
null=True, related_name='assignee')
    reporter = models.ForeignKey(User, on_delete=models.SET_NULL,
null=True, related_name='reporter')
    created_at = models.DateTimeField(default=timezone.now)
    last_updated_at = models.DateTimeField(default=timezone.now)

```

## Comment

**Definition:** Comments are made by users and appended to a task's recent activities. They can be used to track the progress of tasks.

**Schema:**

```
class Comment(models.Model):
    content = models.TextField(max_length=300)
    task = models.ForeignKey(Task, on_delete=models.CASCADE)
    user = models.ForeignKey(User, on_delete=models.CASCADE)
    created_at = models.DateTimeField(default=timezone.now)
    last_updated_at = models.DateTimeField(default=timezone.now)
```

## Wireframes

### Register & Login

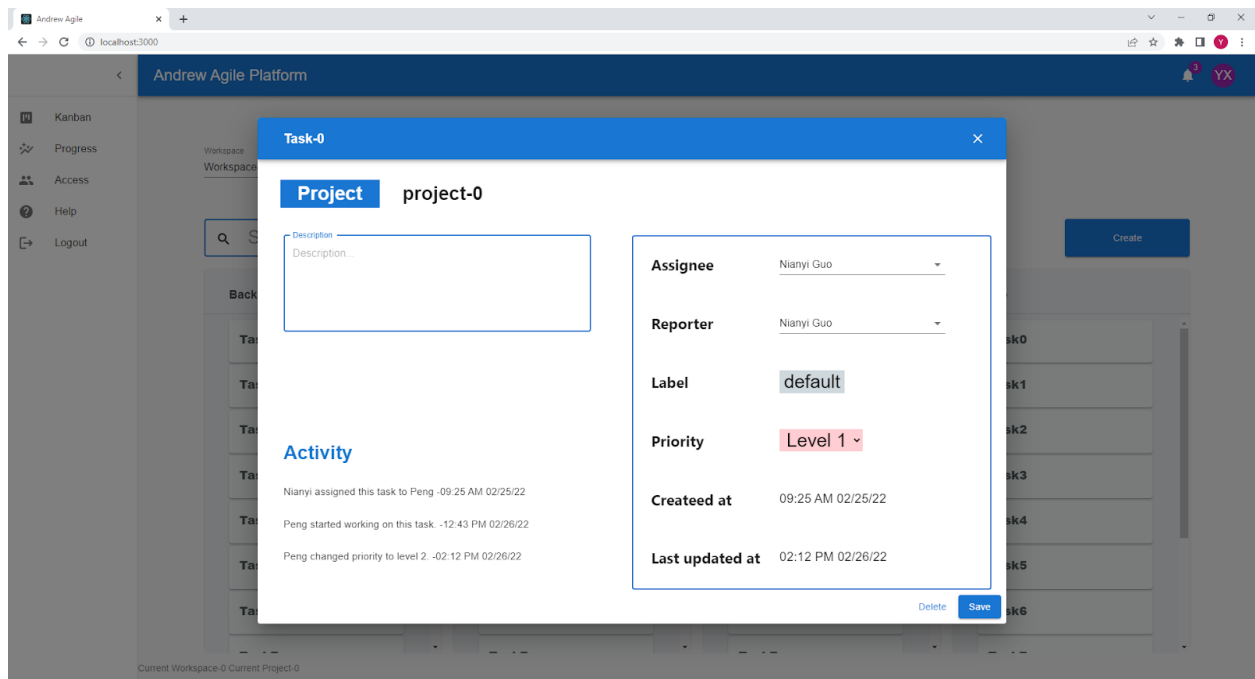
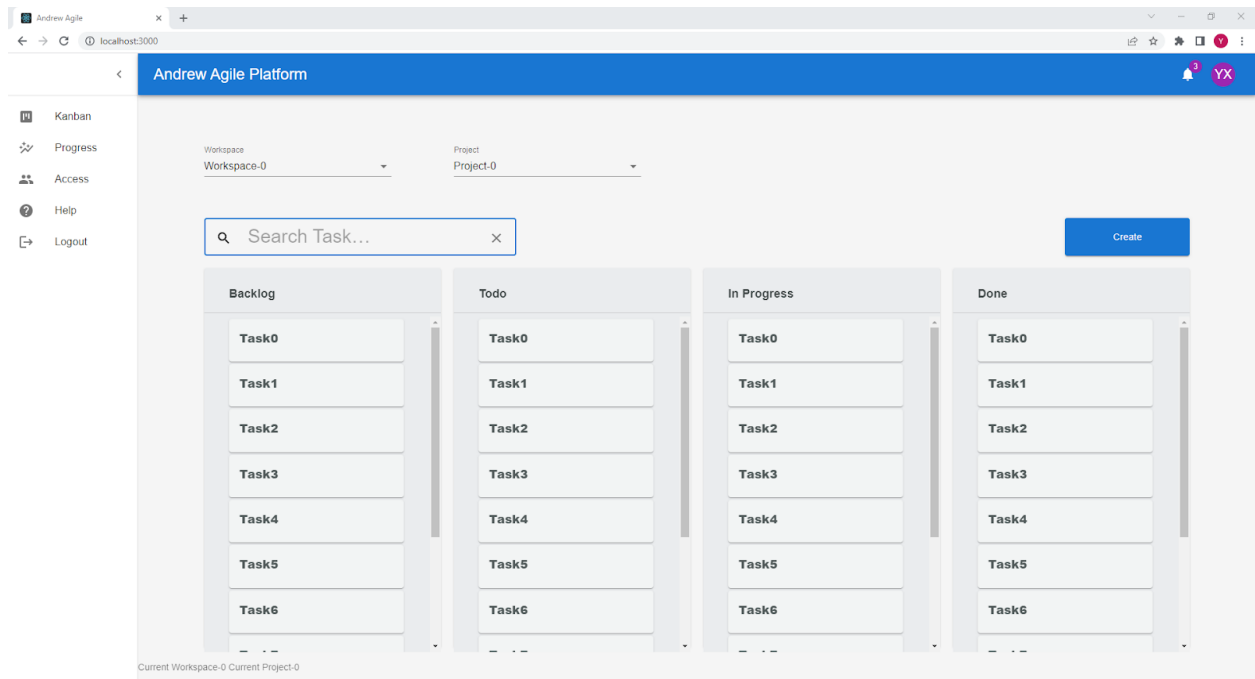
#### Register

<input type="text"/>	<input type="text"/>
<input type="text"/>	
<input type="text"/>	
<input type="password"/>	
<input type="password"/>	
<input type="button" value="REGISTER"/>	

#### Login

<input type="text"/>
<input type="password"/>
<input type="button" value="LOGIN"/>
<input type="button" value="REGISTER"/>

# Kanban Board



# Progress Analysis

◆ Access Management

Workspace

Project

Infrastructure

Messaging

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Table

Project ID	Name	Description	Workspace ID	Owner	Created Time
1	Project A	This is the project description	1	userA	3/23/2022 14:36
2	Project B	This is the project description	1	userB	3/23/2022 14:36
3	Project C	This is the project description	1	userC	3/23/2022 14:36







# Access Management

Access Management




Workspace

Infrastructure ▾

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invite

	me	<div>Admin</div>
	Bob	<div>Editor ▾</div>
	Carol	<div>Viewer ▾</div>