

## **Al-Jumum University College|Task Management System**

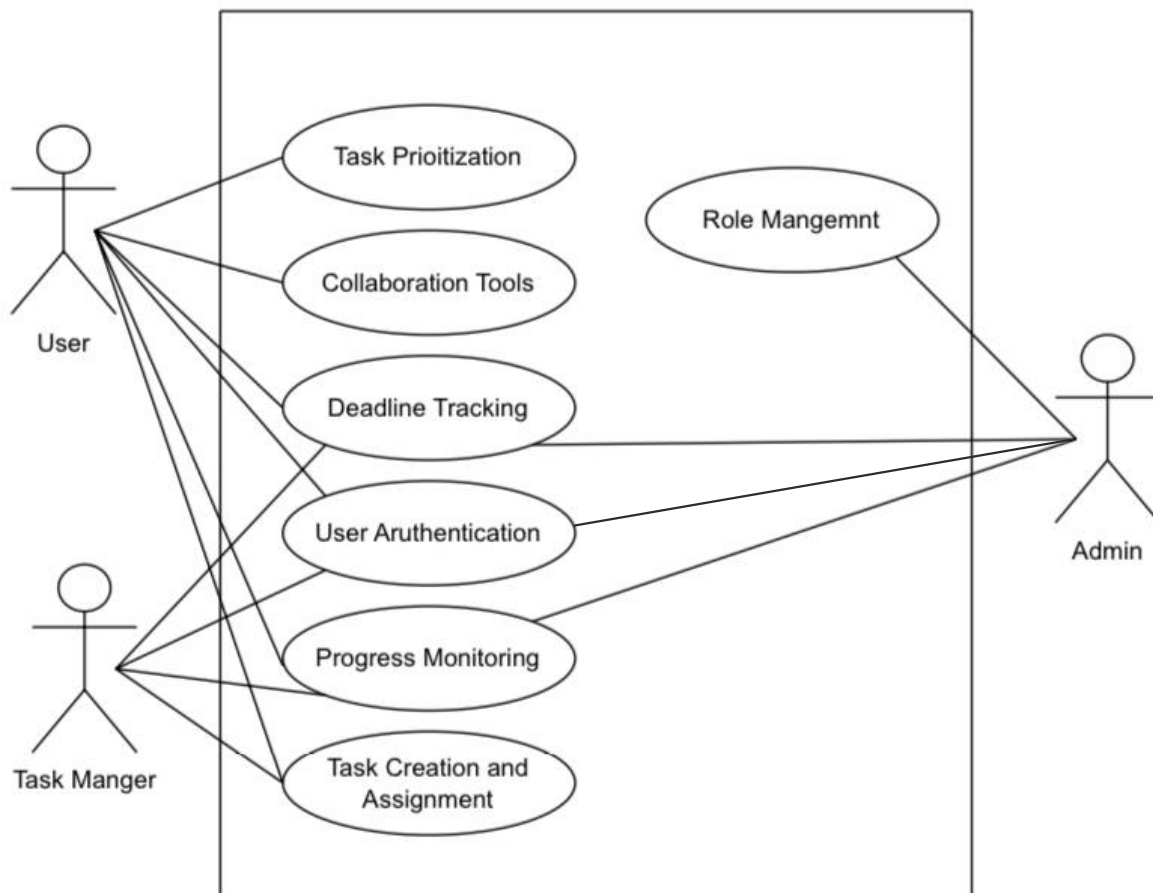
that allows users to create, assign, and track tasks within teams or  
,organizations. Include features such as task prioritization, deadline tracking  
and progress monitoring

**Group 2|Software Engineering**

<b>Danah Alahyani</b>	<b>445000524</b>
<b>Jana Ibrahim Al-Otaibi</b>	<b>445003368</b>
<b>Jana Talal Zamil</b>	<b>44512008</b>
<b>Raghad Al-Hazmi</b>	<b>44511320</b>
<b>Fatimah Al-Shrif</b>	<b>44511672</b>

**The group leader:Jana Al-Otaibi**  
**Dr.Areej Banjar**

## ***Task Management System – Use case Diagram***



# Use case Description

## 1. Use Case Name: Task Creation and Assignment

**Actor:** User, Task Manager

**Summary:** Allows users and task managers to create tasks and assign them to other users.

**Dependency:** User Authentication.

**Precondition:** The user or task manager must be logged in.

**Main Sequence:**

1. User or Task Manager selects "Create Task".
2. User or Task Manager enters task details (title, description, deadline, etc.).
3. User or Task Manager assigns the task to another user.
4. The task is saved to the system.

**Alternative Sequence:**

- If no user is assigned, the task is saved as unassigned.

**Postcondition:** Task is created and saved in the database.

## 2. Use Case Name: Task Prioritization

**Actor:** User

**Summary:** Enables users to set priority levels for tasks.

**Dependency:** Task Creation and Assignment

**Precondition:** At least one task exists.

**Main Sequence:**

1. User views the list of tasks.
2. User selects a specific task.
3. User chooses a priority level (High, Medium, Low).
4. The system updates the task's priority.

**Alternative Sequence:**

- User can change the priority at any time.

**Postcondition:** Task priority is updated in the system.

### 3. Use Case Name: Progress Monitoring

**Actor:** User, Task Manager, Admin

**Summary:** Users, task managers, and admins can track the status and progress of tasks.

**Dependency:** Task Creation and Assignment

**Precondition:** At least one task exists and has been started.

**Main Sequence:**

1. User, Task Manager, or Admin opens the task dashboard.
2. They view progress status (e.g., Not Started, In Progress, Completed).
3. They update the progress if needed.

**Alternative Sequence:**

- Status may be updated automatically based on task activity.

**Postcondition:** Task progress is updated.

### 4. Use Case Name: Deadline Tracking

**Actor:** User, Task Manager, Admin

**Summary:** Allows users, task managers, and admins to monitor task deadlines and receive alerts.

**Dependency:** Task Creation and Assignment

**Precondition:** The task must have a defined deadline.

**Main Sequence:**

1. User, Task Manager, or Admin views a list of tasks with approaching deadlines.
2. System sends reminders or alerts when deadlines are near or passed.

**Alternative Sequence:**

- User, Task Manager, or Admin may update the deadline if allowed.

**Postcondition:** Deadline status is tracked and updated.

### 5. Use Case Name: Collaboration Tools

**Actor:** User

**Summary:** Enables users to communicate and collaborate on tasks.

**Dependency:** User Authentication.

**Precondition:** The user must be assigned or have access to the task.

**Main Sequence:**

1. User opens the task details.
2. User adds comments, attachments, or mentions teammates.
3. Other users view and respond to comments.

**Alternative Sequence:**

- User disables notifications or restricts access.

**Postcondition:** Collaboration data (comments, files) is saved and visible to involved users.

**6. Use Case Name: User Authentication**

**Actor:** User, Admin, Task Manager

**Summary:** Authenticates users, admins, and task managers before allowing access to the system.

**Dependency:** None

**Precondition:** The user, admin, or task manager has registered credentials.

**Main Sequence:**

1. User, Admin, or Task Manager enters username and password.
2. System verifies credentials.
3. If valid, user is granted access.

**Alternative Sequence:**

- On failure, an error is displayed and retry is allowed.

**Postcondition:** User, Admin, or Task Manager is either logged in or denied access.

**7. Use Case Name: Role Management**

**Actor:** Admin

**Summary:** Admin can assign and manage user roles and permissions.

**Dependency:** User Authentication

**Precondition:** Admin must be logged in.

**Main Sequence:**

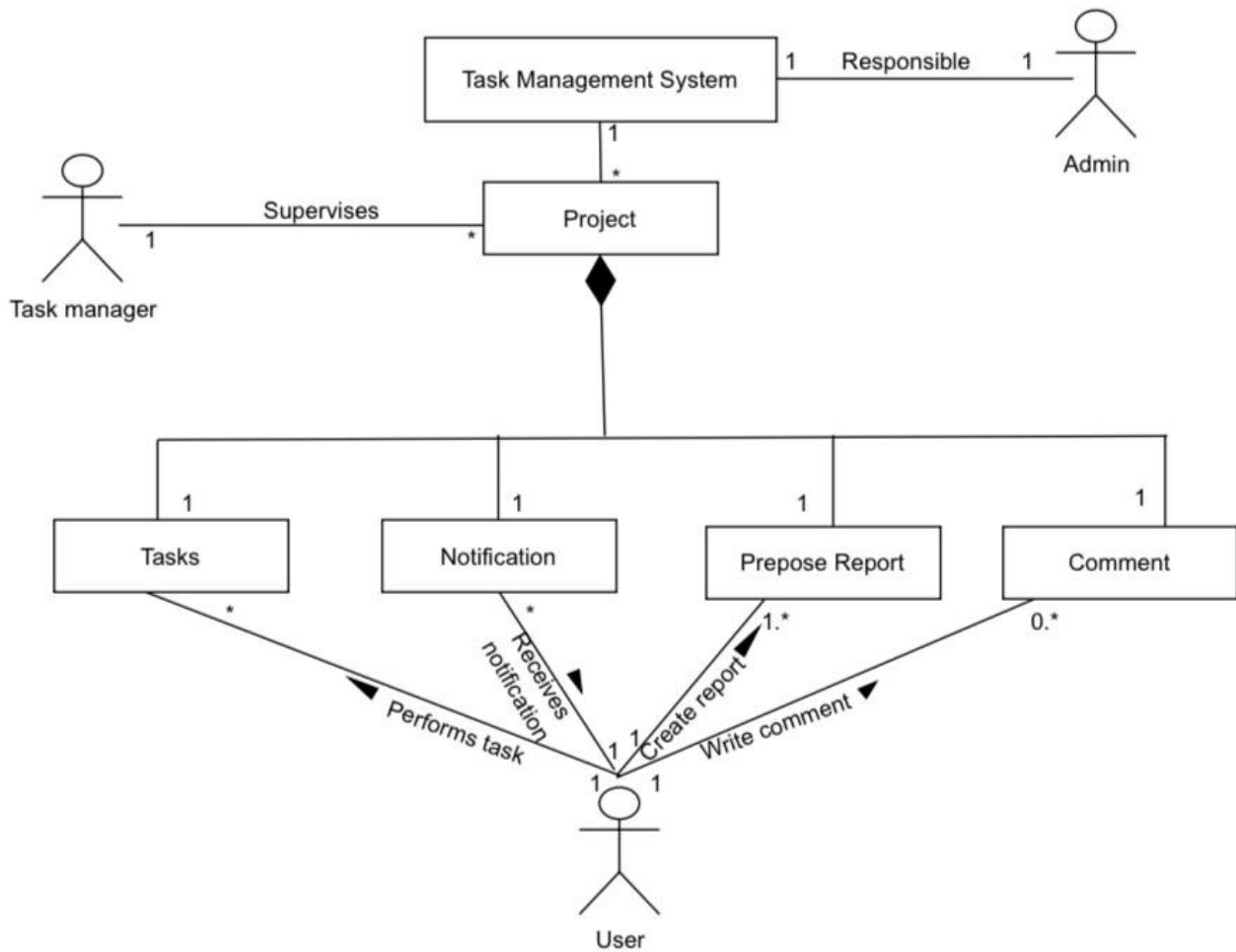
1. Admin opens the role management panel.
2. Admin views the list of users.
3. Admin assigns or changes user roles (e.g., User, Admin).

**Alternative Sequence:**

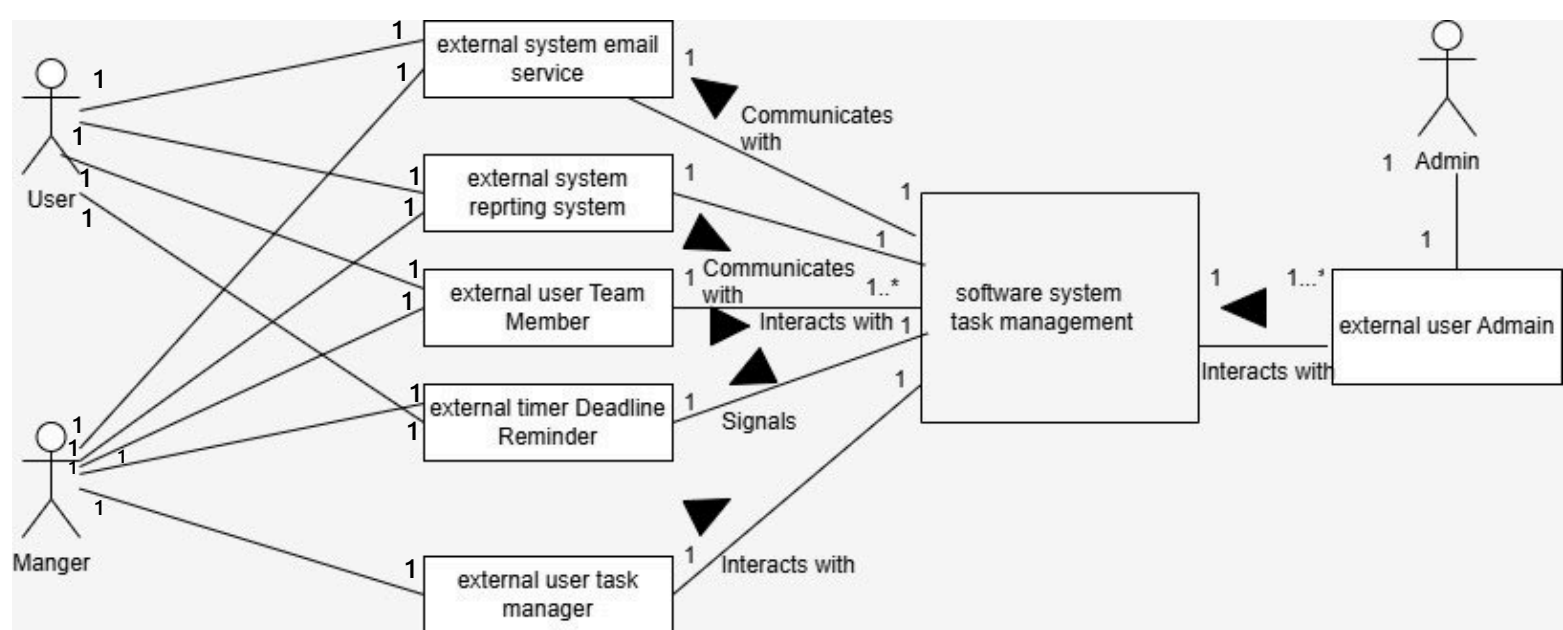
- Admin revokes roles or restricts access.

**Postcondition:** User roles are updated in the system.

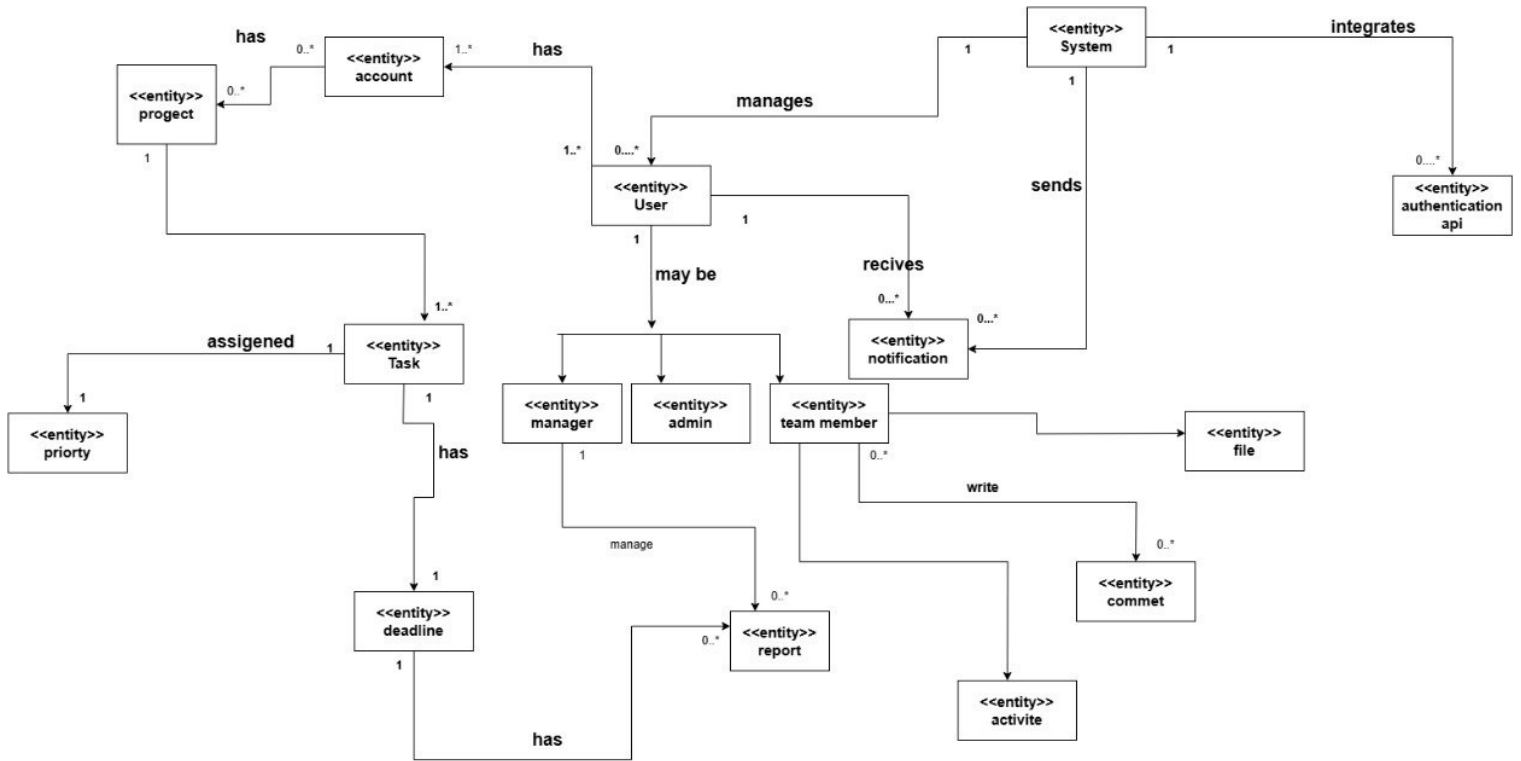
## Conceptual stat model of task management system



# Context class diagram



# Entity classes





# Class Attributes

User
userID: int name: string email: string password: string

Task
taskID: int title: string description: string status: string

Project
projectID: int projectName: string description: string

Comment
commentID: int content: string timestamp: datetime

Notification
notificationID: int message: string isRead: boolean

Deadline
deadlineID: int dueDate: date reminderTime: datetime

Report
Report ID: int Report Percentage: float note: string timestamp: datetime

Priority
priorityID: int level: string

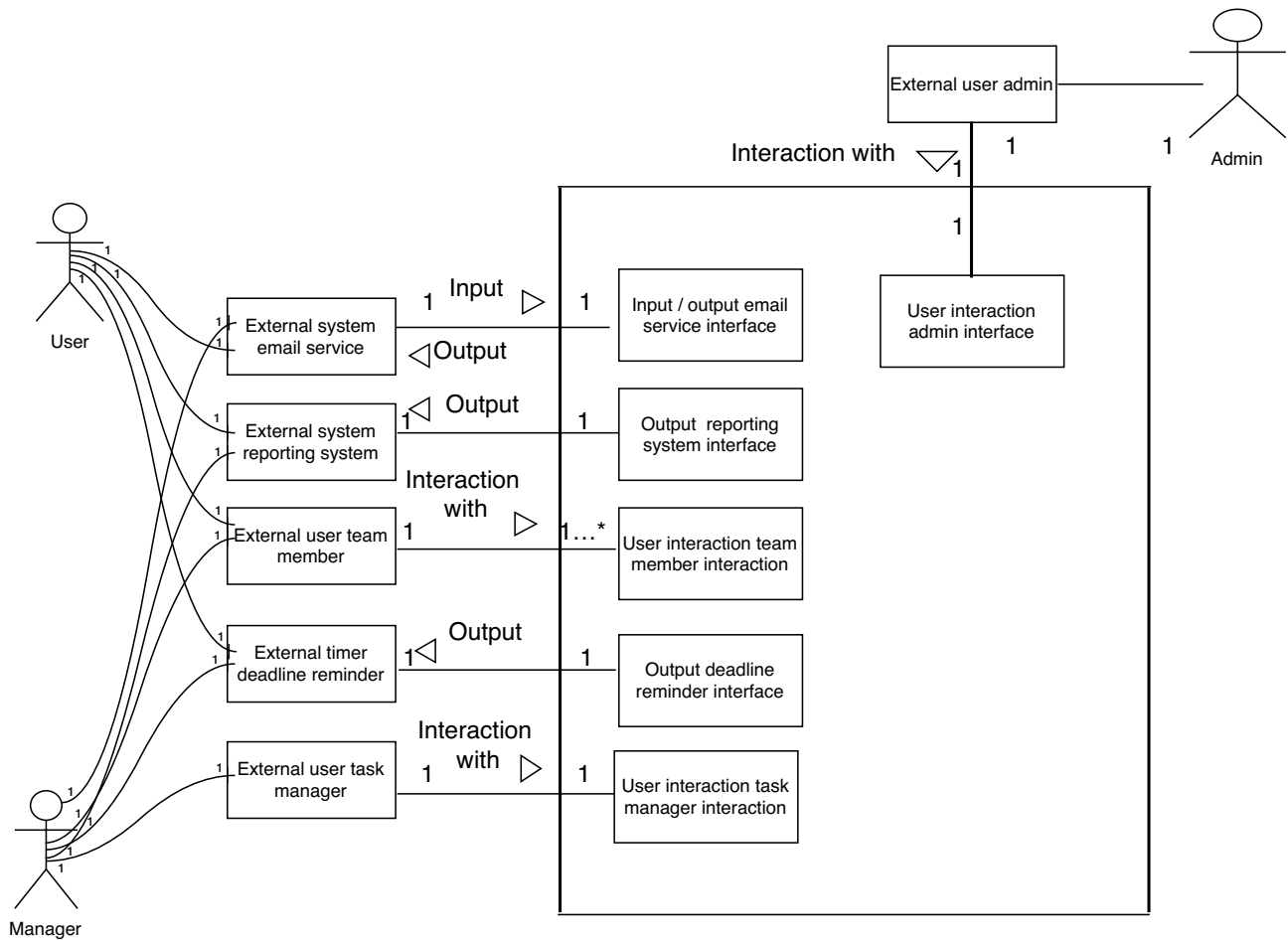
System
systemID: int systemName: string

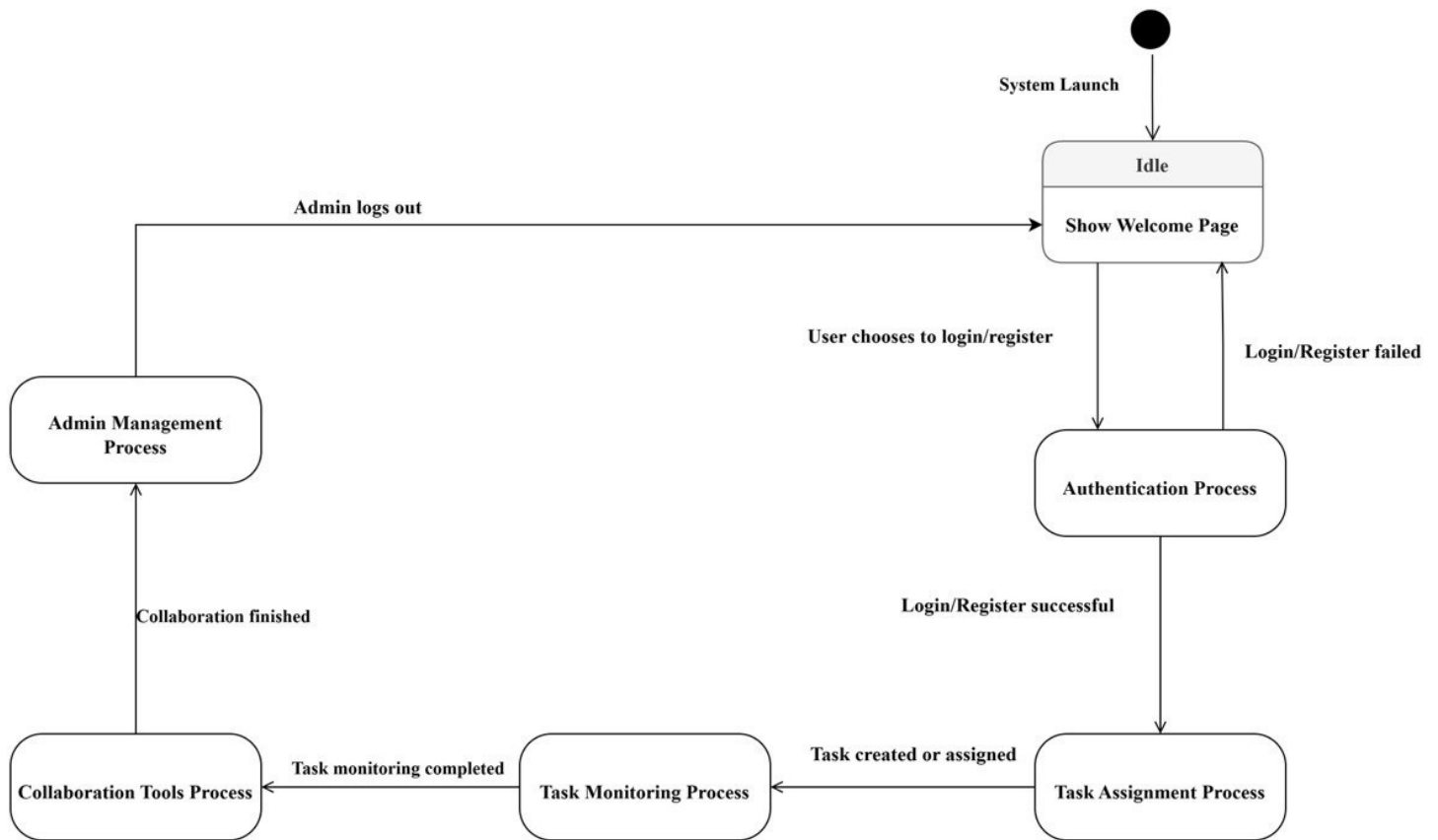
AuthenticationAPI
apiID: int providerName: string authURL: string

Account
accountID: int username: string createdAt: datetime status: string

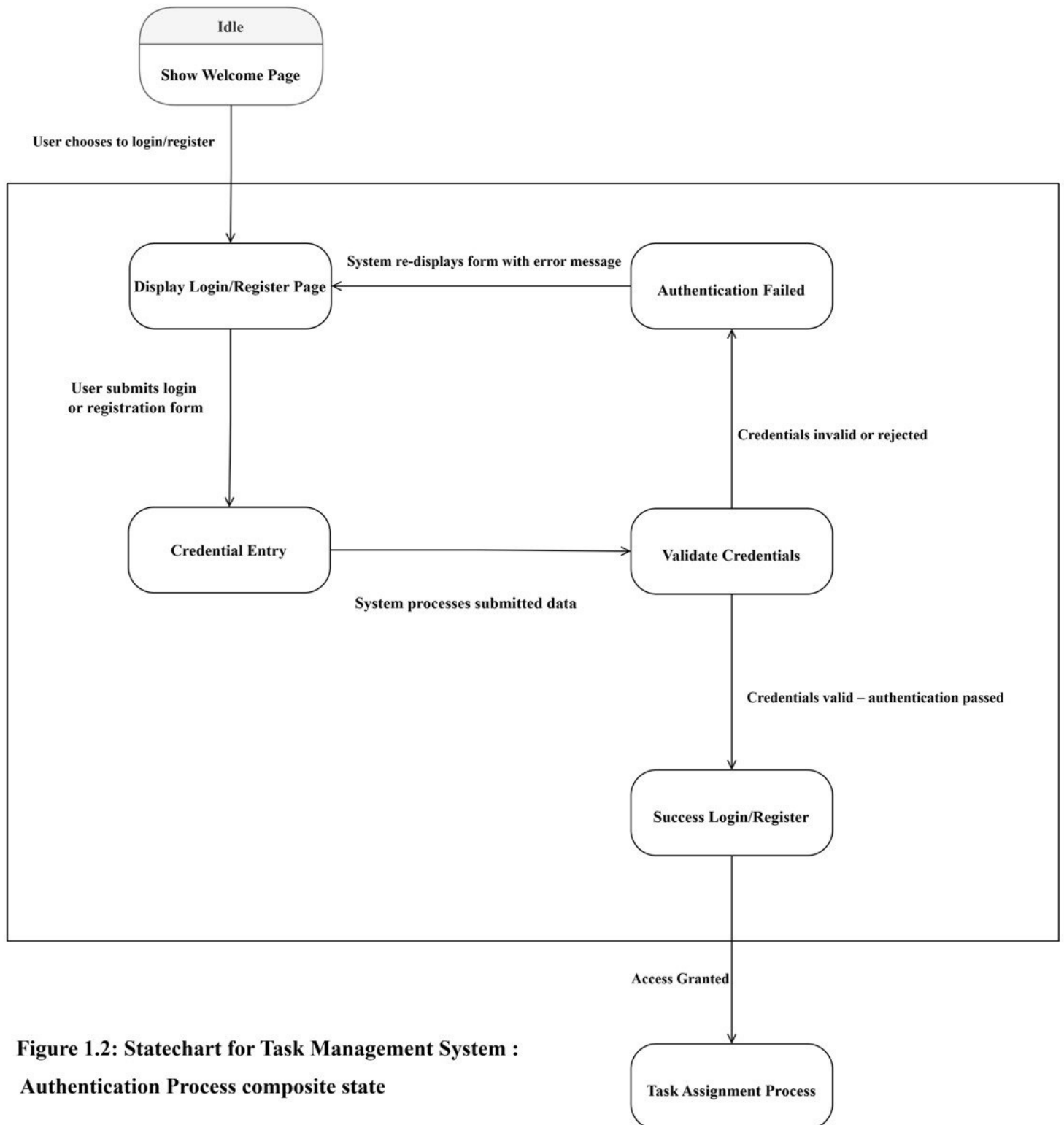
---

## Task management system, external classes and software boundary classes

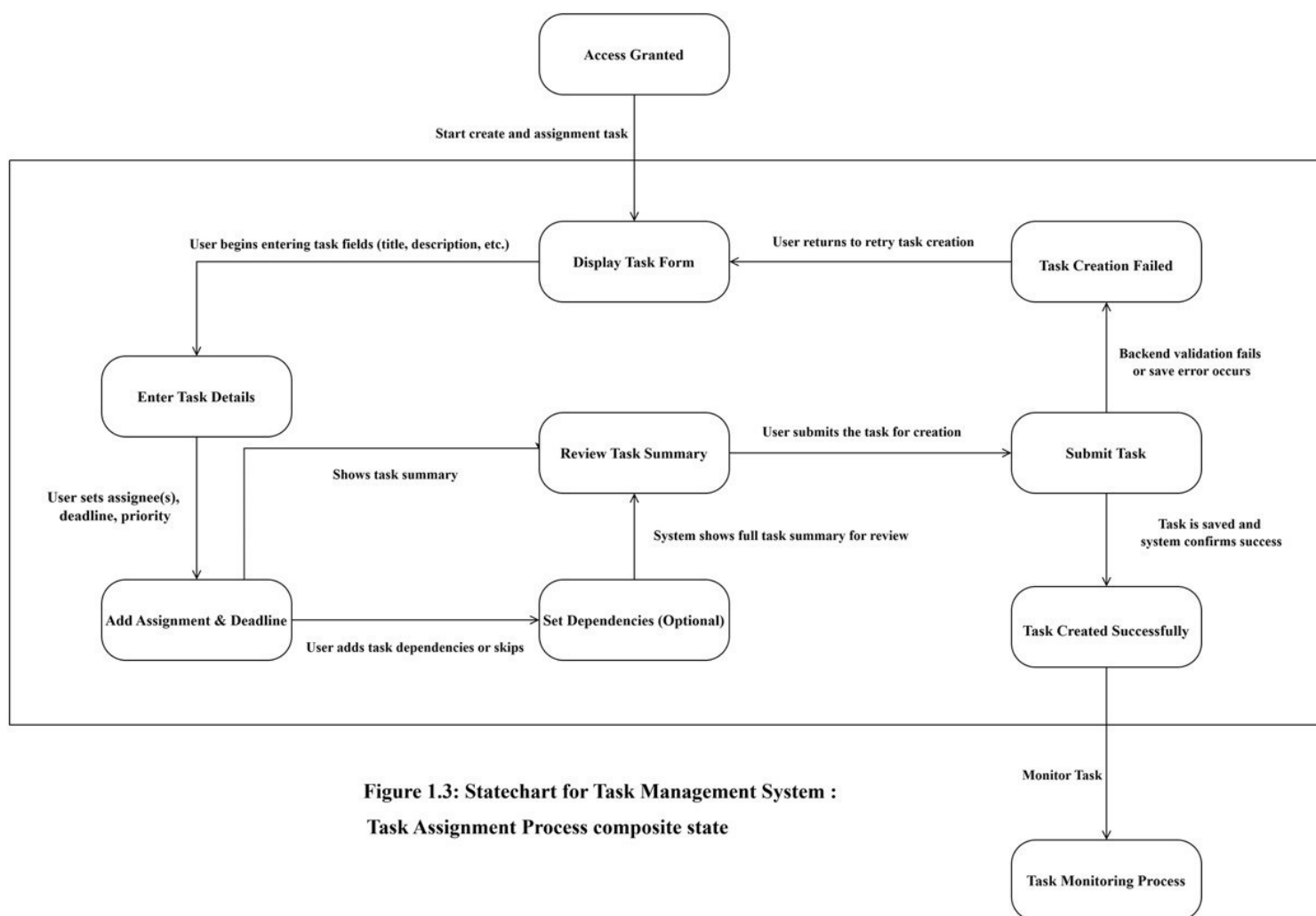




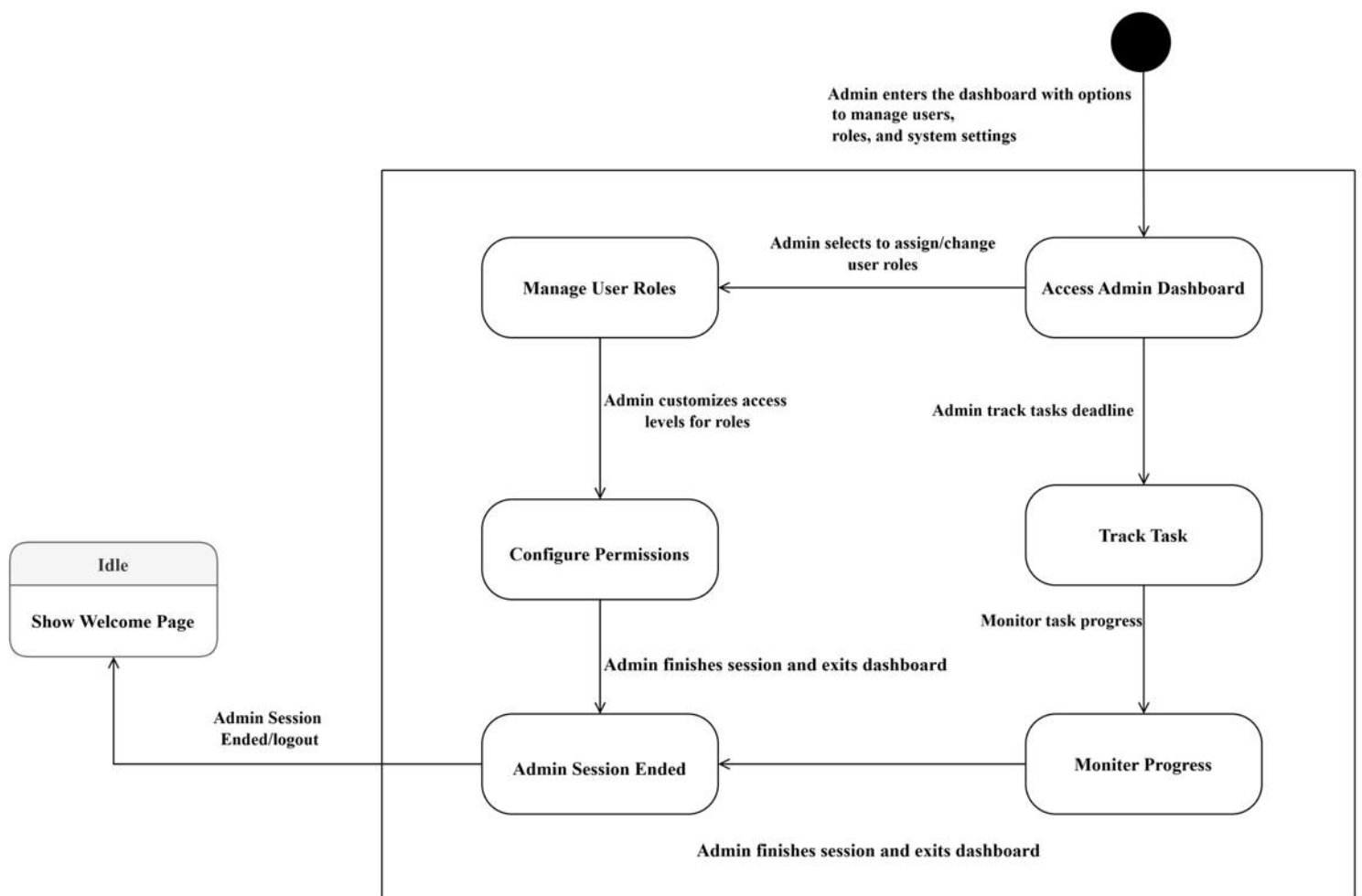
**Figure 1.1: Top Level State Chart for Task Management System**



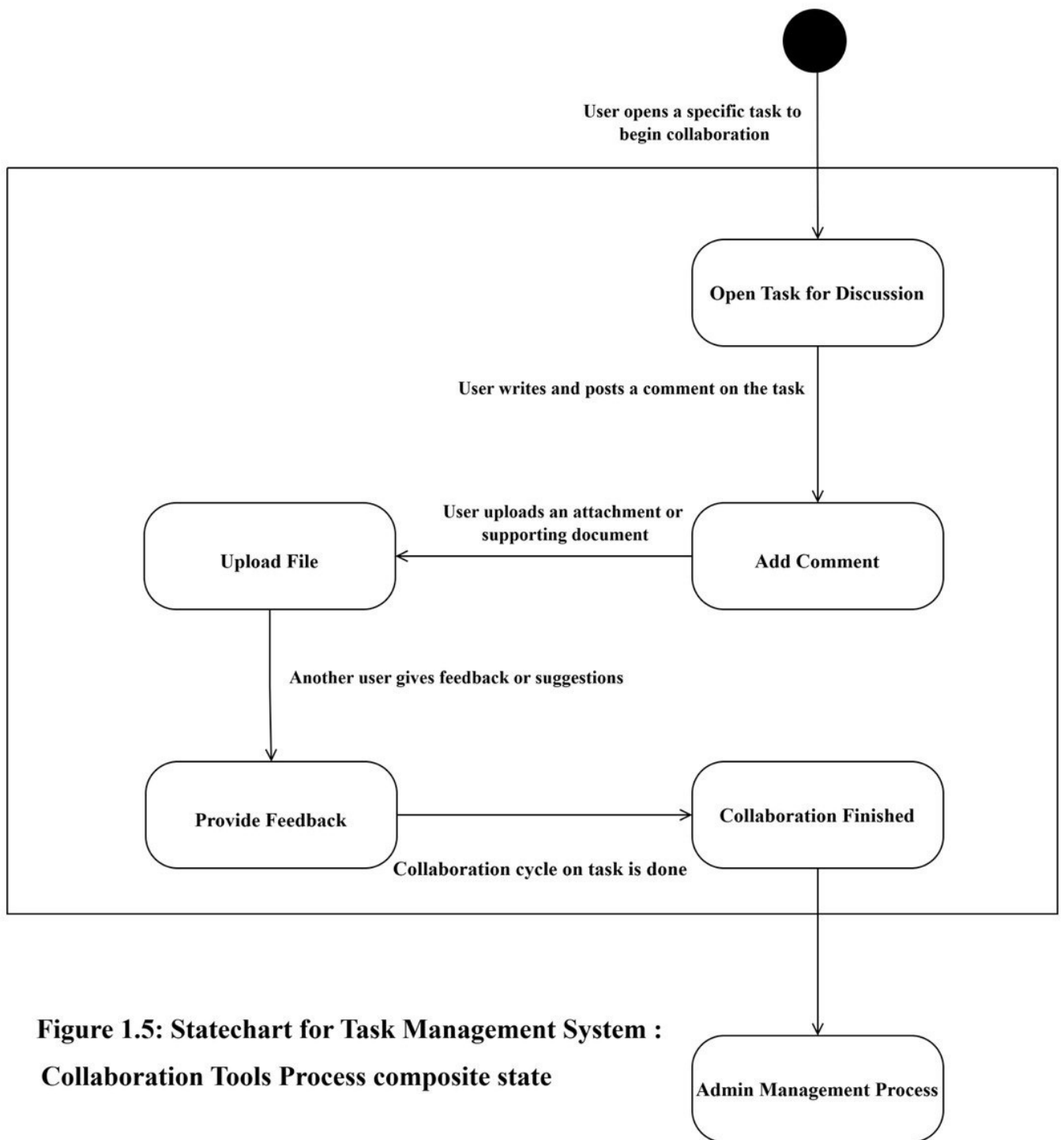
**Figure 1.2: Statechart for Task Management System :  
Authentication Process composite state**



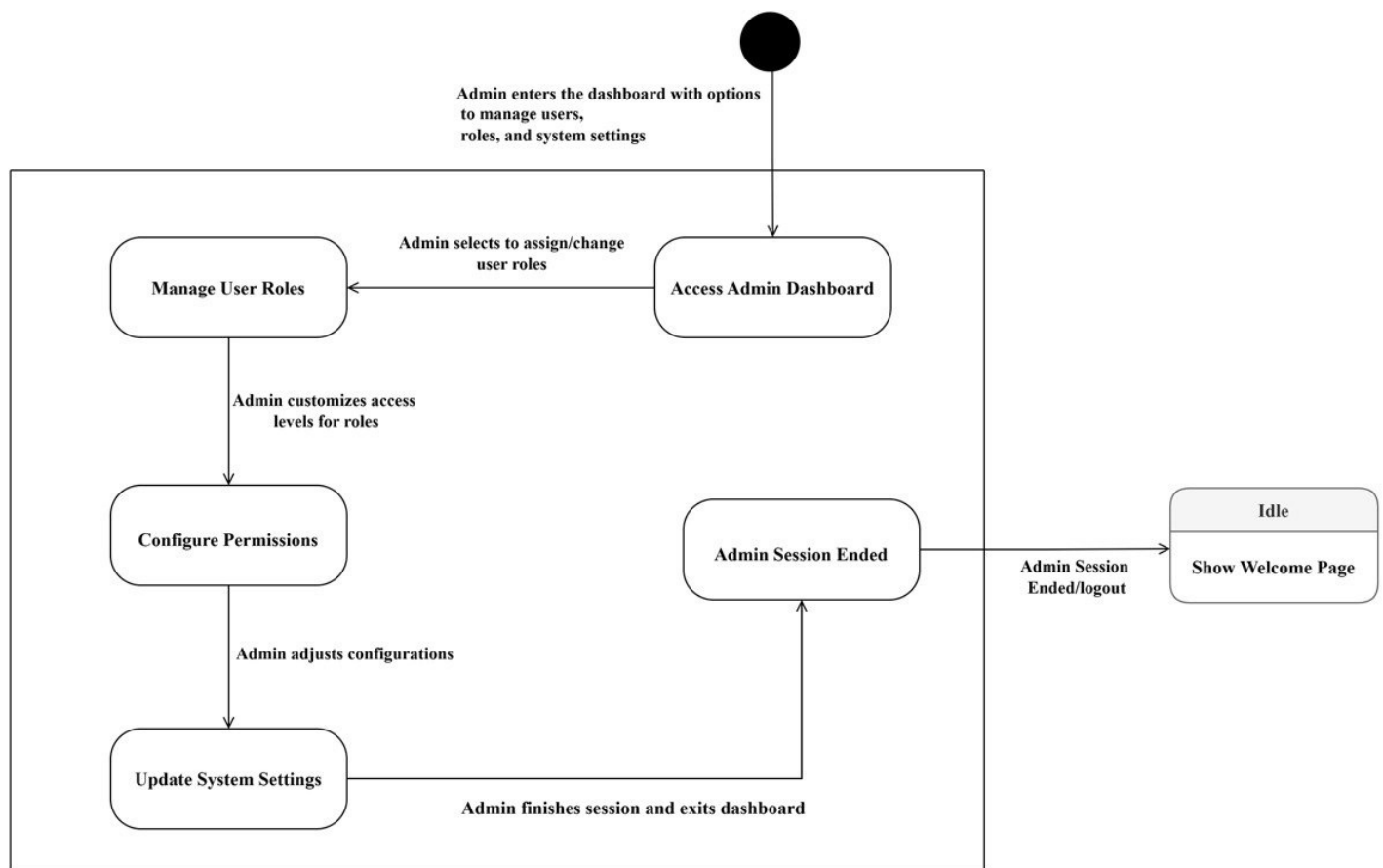
**Figure 1.3: Statechart for Task Management System :  
Task Assignment Process composite state**



**Figure 1.6: Statechart for Task Management System :  
Admin Management Process composite state**



**Figure 1.5: Statechart for Task Management System :  
Collaboration Tools Process composite state**



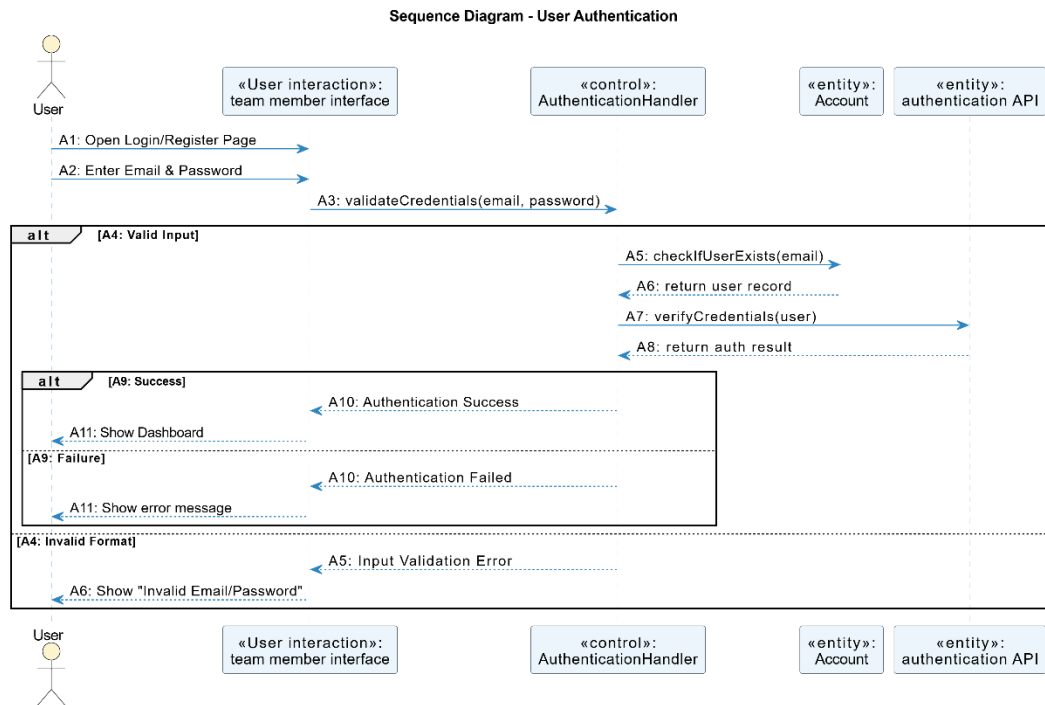
**Figure 1.6: Statechart for Task Management System :  
Admin Management Process composite state**



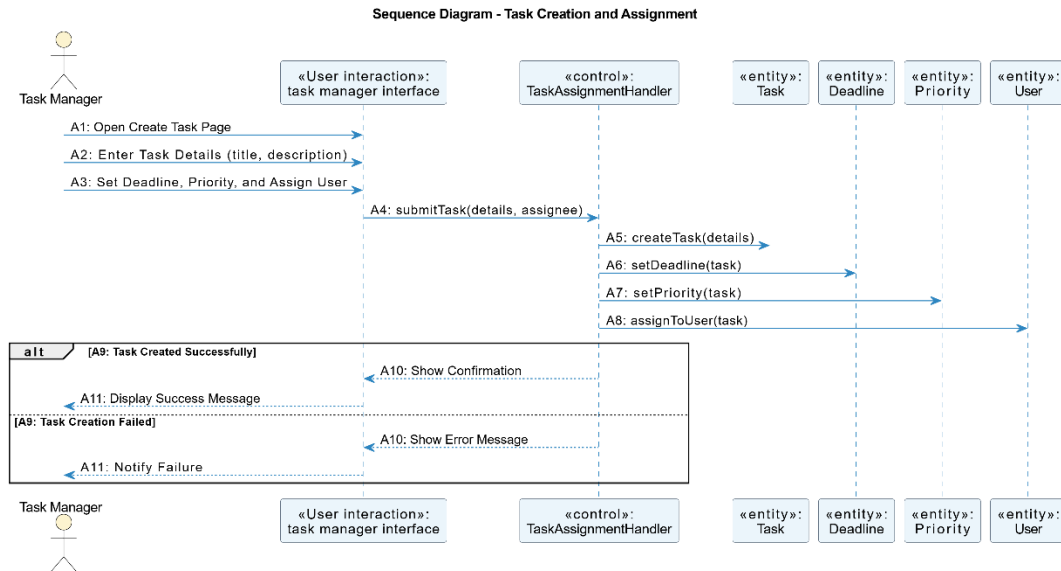
# Task Management System

## Stage 5 - Sequence Diagrams

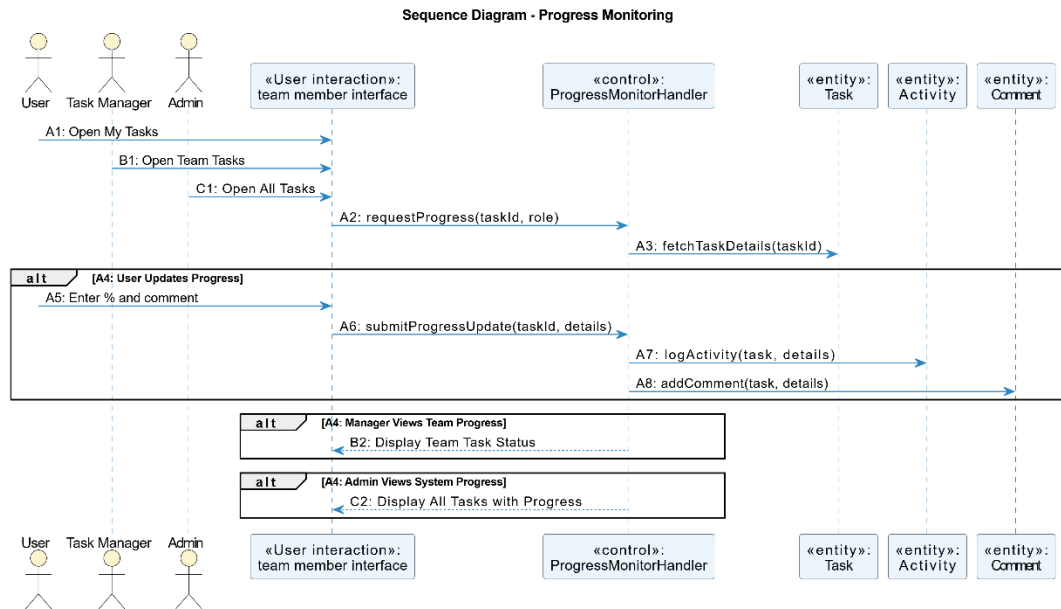
### 1 User Authentication



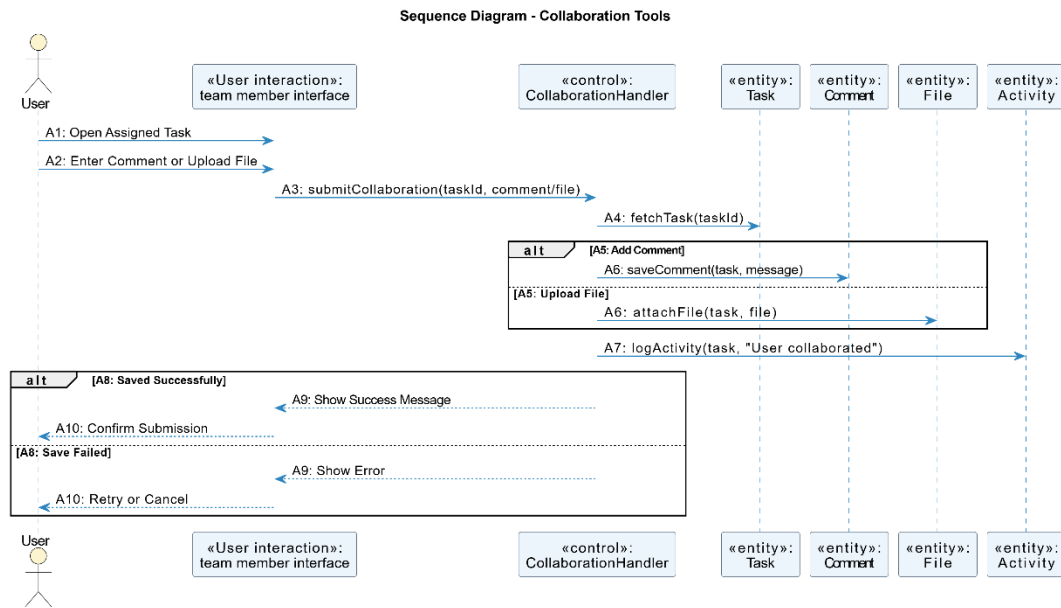
## 2 Task Creation and Assignment



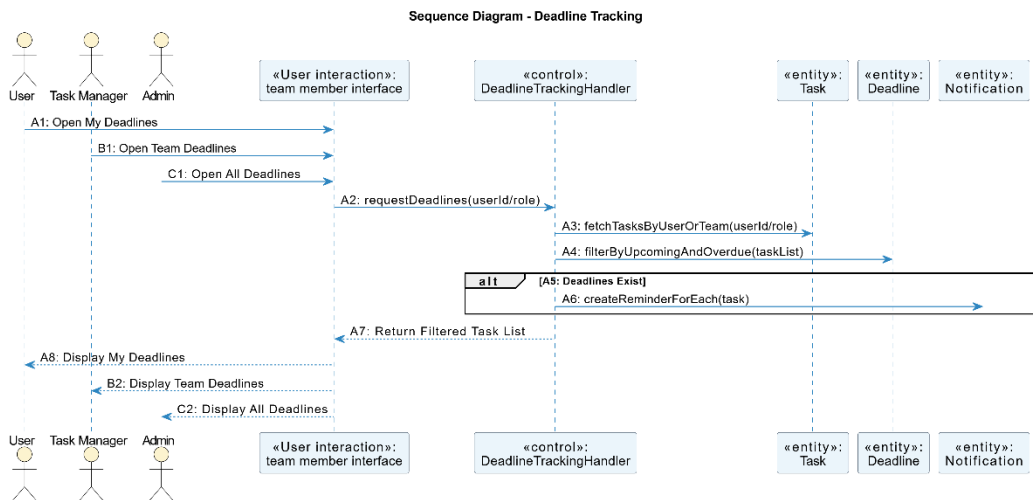
## 3 Progress Monitoring



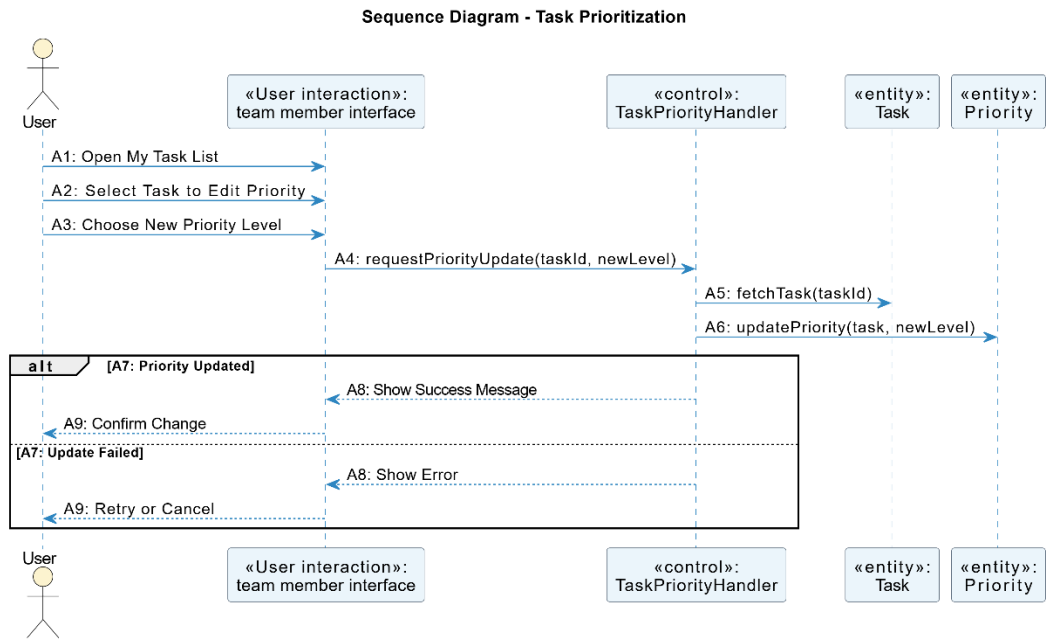
## 4 Collaboration Tools



## 5 Deadline Tracking



## 6 Task Prioritization



## 7 Role Management

