

# Software Requirements Specification (SRS)

## Task Management and Team Collaboration Tool

### Functional Requirements

#### 1. User Authentication & Authorization

- FR1:** The system shall allow users to register with an email and password.
- FR2:** The system shall validate email addresses before completing the registration process.
- FR3:** The system shall allow registered users to log in using their credentials.
- FR4:** The system shall encrypt user passwords before storing them in the database.
- FR5:** The system shall provide a password recovery mechanism via email.
- FR6:** The system shall enforce strong password policies (minimum 8 characters, including special characters).
- FR7:** The system shall allow administrators to manage user roles and permissions.

#### 2. Task Management

- FR8:** The system shall allow users to create tasks with a title, description, priority, and deadline.
- FR9:** The system shall allow users to assign tasks to specific team members.
- FR10:** The system shall allow users to edit task details.
- FR11:** The system shall allow users to delete tasks.
- FR12:** The system shall provide a task status update feature (e.g., To Do, In Progress, Completed).
- FR13:** The system shall provide a due date reminder for upcoming tasks.
- FR14:** The system shall allow users to attach files and links to tasks.

#### 3. Team Collaboration

- FR15:** The system shall provide a commenting feature for users to discuss tasks.
- FR16:** The system shall notify users when they are assigned a task.
- FR17:** The system shall provide real-time updates on task progress and status changes.
- FR18:** The system shall allow users to mention other team members in comments.
- FR19:** The system shall allow users to tag tasks with labels for better organization.

#### 4. Project & Sprint Management

- FR20:** The system shall allow project managers to create and manage multiple projects.
- FR21:** The system shall allow users to organize tasks into milestones and sprints.
- FR22:** The system shall provide a visual representation of sprints using a Scrum/Kanban board.
- FR23:** The system shall support backlog management for pending and upcoming tasks.
- FR24:** The system shall allow users to track sprint progress via burndown charts.

## 5. Reporting & Analytics

**FR25:** The system shall generate reports on task completion rates and productivity trends.

**FR26:** The system shall provide a dashboard with an overview of ongoing projects and tasks.

**FR27:** The system shall generate time-based reports to track resource allocation.

**FR28:** The system shall allow managers to export reports in CSV/PDF format.

## 6. Notifications & Alerts

**FR29:** The system shall send email notifications for task assignments and updates.

**FR30:** The system shall provide push notifications for urgent updates.

**FR31:** The system shall allow users to configure notification preferences.

## 7. Integration & External Tools

**FR32:** The system shall integrate with third-party calendar applications.

**FR33:** The system shall support integration with version control tools like Git.

**FR34:** The system shall allow API access for third-party software integrations.

## 8. Security & Compliance

**FR35:** The system shall enforce role-based access control (RBAC) for different user levels.

**FR36:** The system shall log all critical user activities for auditing purposes.

**FR37:** The system shall encrypt all sensitive data transmitted over the network using TLS 1.3.

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# Non-Functional Requirements

## 1. Product Requirements

**NFR1:** The system shall load the dashboard within 3 seconds under normal network conditions.

**NFR2:** The system shall support at least 100 concurrent users without performance degradation.

**NFR3:** Search functionality shall return results within 2 seconds.

**NFR4:** The user interface shall be intuitive and provide tooltips for complex features.

**NFR5:** The system shall be compatible with modern web browsers, including Chrome, Firefox, and Edge.

## 2. Organizational Requirements

**NFR6:** The system shall follow Agile development practices with iterative releases.

**NFR7:** The system shall maintain detailed documentation for developers and end-users.

**NFR8:** The development team shall adhere to coding standards and best security practices.

**NFR9:** The system shall be designed to allow future scalability for additional features.

### 3. External Requirements

**NFR10:** The system shall comply with data protection laws, such as GDPR and CCPA.

**NFR11:** All user data shall be encrypted in transit and at rest.

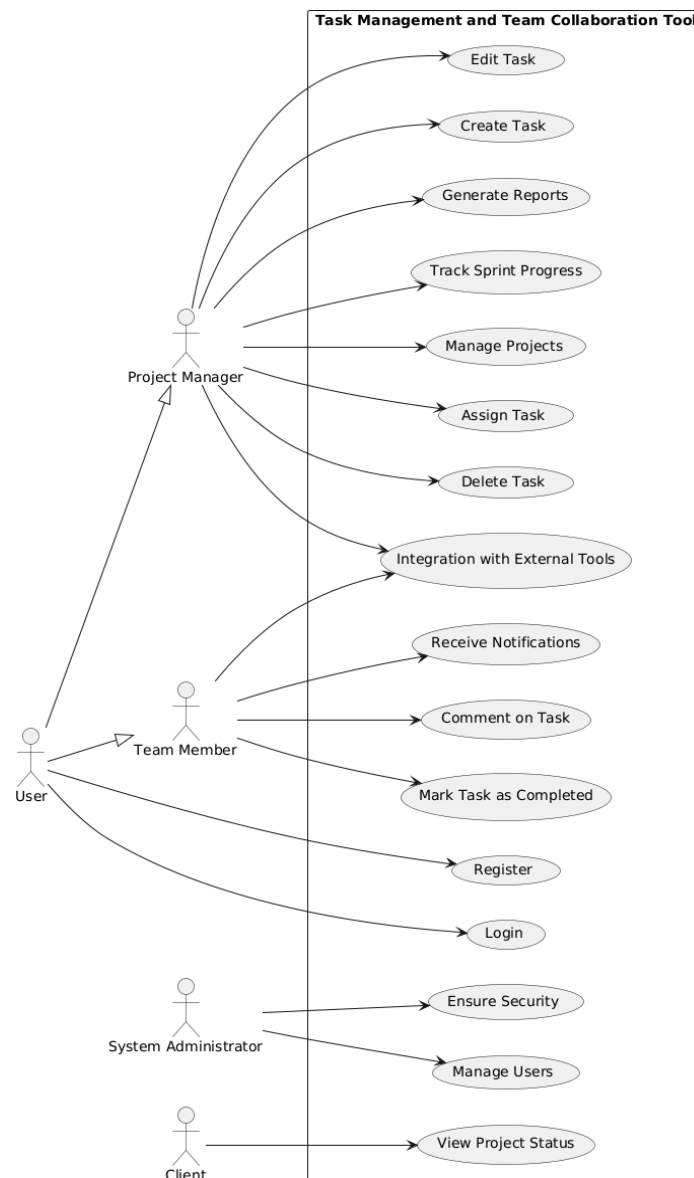
**NFR12:** The system shall support multi-factor authentication for enhanced security.

**NFR13:** The system shall provide APIs for third-party integrations while ensuring security best practices.

**NFR14:** The system shall support cloud deployment with automated backups every 24 hours.

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## Use Case Diagram



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# User Stories

## 1. User Authentication & Authorization

**US1:** As a user, I want to register an account so that I can access the system.

*Pre-condition:* User is on the registration page.

*Post-condition:* User account is created, and a confirmation email is sent.

**US2:** As a user, I want to log in so that I can access my dashboard.

*Pre-condition:* User has a registered account.

*Post-condition:* User is redirected to the dashboard after successful authentication.

## 2. Task Management

**US3:** As a user, I want to create a task so that I can manage my work efficiently.

*Pre-condition:* User is logged in.

*Post-condition:* Task is created and visible in the task list.

**US4:** As a user, I want to assign a task to a team member so that work is distributed efficiently.

*Pre-condition:* Task exists.

*Post-condition:* Assigned user receives a notification.

**US5:** As a user, I want to mark a task as completed so that progress is visible.

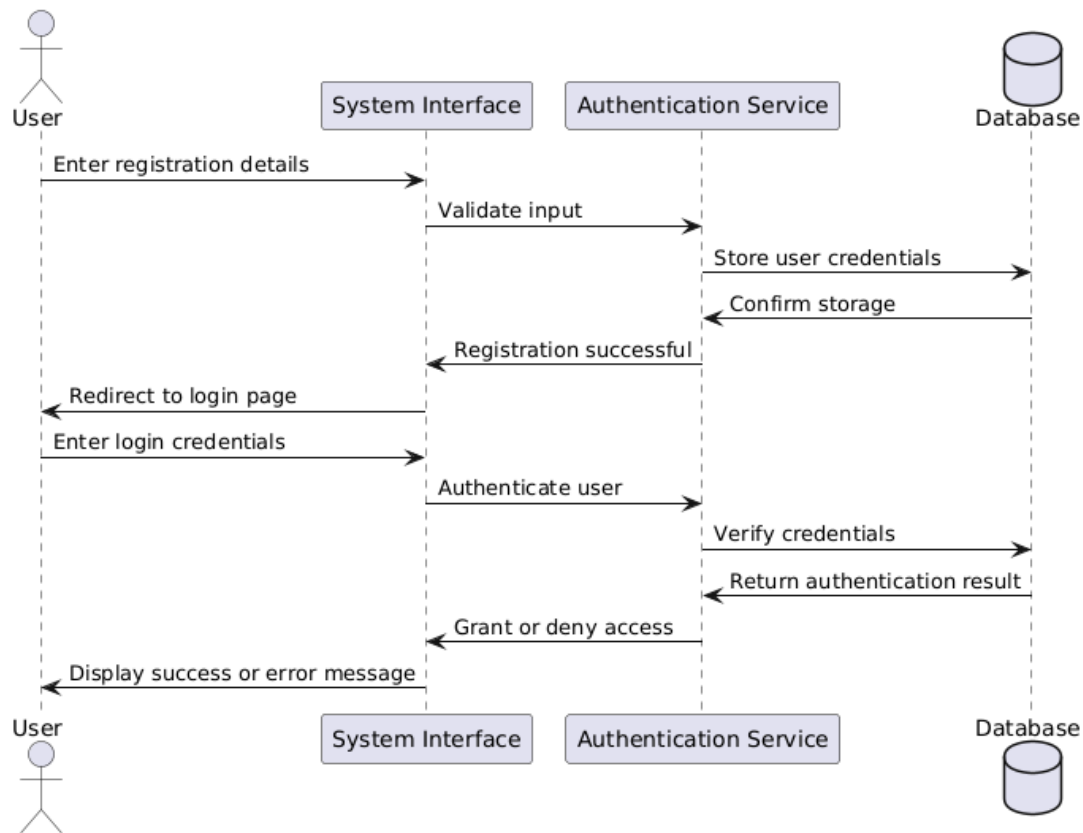
*Pre-condition:* Task exists and is assigned to the user.

*Post-condition:* Task is marked as completed in the system.

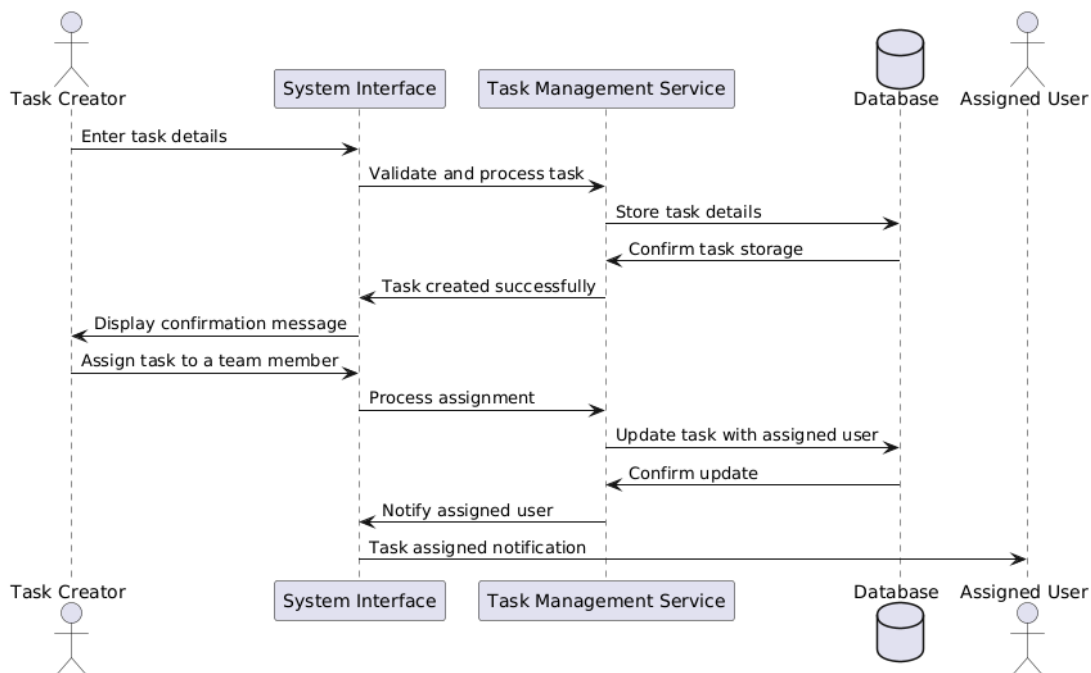
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# Sequence Diagrams

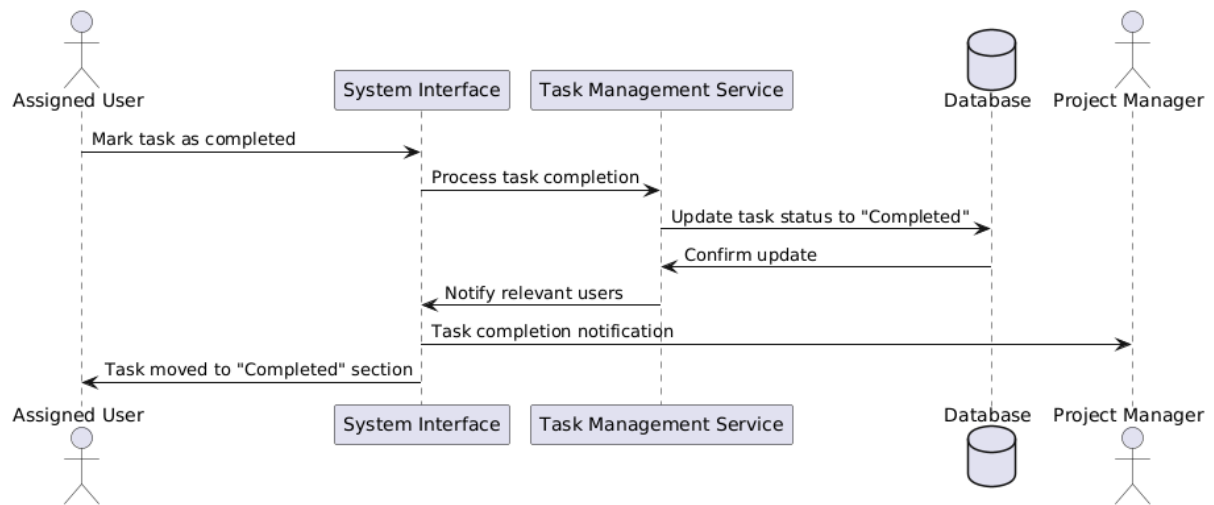
## 1. User Registration & Login



## 2. Task Creation & Assignment



### 3. Marking a Task as Complete



# Class Diagram

