3.3 Class Specifications

3.3.1 Class User

Inherits from: None (Abstract Base Class)

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique identifier for the user.
2	username	Private	String	Unique login username.
3	fullName	Private	String	User's legal or display name.
4	email	Private	String	Contact email address.
5	status	Private	String	Account status (Active, Locked, etc.).
6	createdAt	Private	Date	Account creation timestamp.
7	lastLogin	Private	Date	Timestamp of last successful login.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	updateProfile(data: User)	Public	void	Updates user profile information.
2	changePassword(oldPwd, newPwd)	Public	void	Validates old and sets new password.
3	resetPassword(email: String)	Public	void	Triggers email password recovery.
4	signOut()	Public	void	Terminates the current session.
5	signIn(userName, password)	Public	String	Authenticates and returns session token.
6	subscribe(planName: PlanType)	Public	void	Initiates a new subscription plan.
7	cancelSubscription()	Public	void	Cancels the recurring subscription.

3.3.2 Class Admin

Inherits from: User

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	(Inherited Attributes)	Private	See User	id, username, fullName, email, status...

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	getAllUsers(page: int)	Public	List	Retrieves paginated list of users.
2	createUser(data: RegisterDTO)	Public	void	Manually registers a new user.
3	lockUser(userId: String)	Public	void	Suspends user access.
4	unlockUser(userId: String)	Public	void	Restores user access.
5	changeUserRole(userId, newRole)	Public	void	Promotes or demotes a user.
6	deleteUser(userId: String)	Public	void	Permanently deletes a user.

7	manageSystemSettings()	Public	void	Configures global system variables.
8	generateSystemReport()	Public	Report	Generates system usage analytics.

3.3.3 Class ProjectManeger

Inherits from: User

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	(Inherited Attributes)	Private	See User	id, username, fullName, email, status...

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	createProject(data: Project)	Public	void	Initializes a new project.
2	deleteProject(projectId)	Public	void	Removes a project and its data.
3	assignMember(userId, projectId)	Public	void	Adds a user to a project team.

| 4 | startSprint(sprintId) | Public | void | Activates a planned sprint. |
| 5 | manageBacklog() | Public | void | Prioritizes backlog items. |

3.3.4 Class TeamMember

Inherits from: User

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	(Inherited Attributes)	Private	See User	id, username, fullName, email, status...

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	createIssue(data: Issue)	Public	void	Creates a bug, task, or story.
2	logWork(issueId, hours)	Public	void	Records time spent on an issue.
3	uploadAttachment(file)	Public	void	Uploads documents to an issue.
4	refineBacklog()	Public	void	Updates details

				on backlog items.

3.3.5 Class Viewer

Inherits from: User

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	(Inherited Attributes)	Private	See User	id, username, fullName, email, status...

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	viewProjectDashboard()	Public	void	View read-only project analytics.
2	exportReports()	Public	File	Download project reports (PDF/CSV).

3.3.6 Class Project

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique project ID.
2	name	Private	String	Project display name.
3	description	Private	String	Scope and details.
4	startDate	Private	Date	Project start date.
5	endDate	Private	Date	Project deadline.
6	status	Private	String	Current state (Planned, Active, etc.).

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	getProjectInfo()	Public	Project	Returns full project object.
2	updateProject(data: Project)	Public	void	Updates project metadata.

3.3.7 Class Issue

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique issue ID.
2	title	Private	String	Short summary.
3	description	Private	String	Detailed requirements.
4	type	Private	IssueType	Enum: STORY, TASK, BUG.
5	status	Private	IssueStatus	Enum: TODO, IN_PROGRESS, DONE.
6	priority	Private	Priority	Enum: LOW, MEDIUM, HIGH.
7	storyPoints	Private	int	Complexity estimation.
8	createdAt	Private	Date	Creation timestamp.
9	updatedAt	Private	Date	Last update timestamp.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	editIssue(data: Issue)	Public	void	Updates issue details.
2	deleteIssue()	Public	void	Removes the issue.
3	updateStatus(status)	Public	void	Transitions workflow state.

3.3.8 Class Sprint

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique sprint ID.
2	name	Private	String	Sprint name (e.g., Sprint 1).
3	startDate	Private	Date	Sprint start.
4	endDate	Private	Date	Sprint finish.
5	goal	Private	String	Sprint objective.
6	status	Private	SprintStatus	Enum: PLANNED, ACTIVE, COMPLETED.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	addIssue(issueId)	Public	void	Assigns issue to sprint.
2	removeIssue(issueId)	Public	void	Removes issue from sprint.
3	completeSprint()	Public	void	Closes sprint and calculates stats.

3.3.9 Class ProjectMember

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique membership ID.
2	userId	Private	String (FK)	Reference to User.
3	projectId	Private	String (FK)	Reference to Project.
4	role	Private	ProjectRole	Enum: MANAGER, MEMBER, VIEWER.

5	joinedAt	Private	Date	Date added to project.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	changeRole(role: ProjectRole)	Public	void	Updates member permissions.

3.3.10 Class Subscription

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique subscription ID.
2	userId	Private	String (FK)	Reference to User.
3	planName	Private	PlanType	Enum: FREE, STANDARD, PREMIUM.
4	price	Private	double	Cost of plan.
5	status	Private	SubStatus	Enum: ACTIVE, EXPIRED, TRIAL.
6	startDate	Private	Date	Start date.
7	endDate	Private	Date	Renewal/Expiry

				date.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	upgradePlan(newPlan)	Public	void	Changes subscription tier.
2	renew()	Public	void	Extends subscription.
3	cancel()	Public	void	Cancels auto-renewal.

3.3.11 Class Risk

Inherits from: None

List of attributes:

Seq	Property	Modifier	Constraint	Description
1	id	Private	String (PK)	Unique risk ID.
2	projectId	Private	String (FK)	Reference to Project.
3	title	Private	String	Risk name.
4	description	Private	String	Impact details.
5	level	Private	String	Severity level.
6	mitigationPlan	Private	String	Action plan.

List of main methods/operations:

Seq	Operation	Modifier	Constraint	Description
1	addRisk(data: Risk)	Public	void	Logs a new risk.
2	updateRisk(data: Risk)	Public	void	Updates risk status.