FYP Management System - Complete Functional Specifications (All Roles: Student, Supervisor, Co-Supervisor, Head of Department)

December 28, 2025

Contents

1 Student Functions

1.1 Student Login to the System

1.1.1 Introduction

The purpose of this function is to allow the student to log in to the FYP Management System using the credentials provided by the university. This login functionality ensures that only authorized students can access the system and perform activities related to Final Year Project. Login is required before accessing any feature of the system.

Input

- Student Registration Number

- Password provided by the university

Processing

Input Validity Checks System checks whether the entered registration number exists in the database and whether the password matches the stored record.

Sequence of Operations Student enters login credentials → system verifies the information → system grants access and opens the student dashboard.

Abnormal Situations If the registration number or password is incorrect, system displays an error message.

Parameters Affected User authentication status and login session records are affected.

Degrade Operation System performance may reduce during high traffic, low internet connectivity, or system maintenance.

Methods Used System uses role-based authentication and relational database for verification.

Output Validity Check System must confirm successful login and ensure correct dashboard visibility.

Outputs

- Student dashboard after successful login

- Error message in case of invalid credentials

1.1.2 Performance Requirements

Static Requirement System shall support login functionality for all registered students.

Dynamic Requirement 95% of login requests shall be processed within 3 seconds.

1.1.3 Design Constraints

Standard Compliance Login process must follow university security policies.

Hardware Limitation Login operation shall work on existing web server and database.

1.1.4 Attributes

Availability Login service shall be available 99% of time except maintenance.

Security Only authorized students can log in.

Maintainability Login rules and credentials can be updated without system failure.

1.2 Reset or Change Password

1.2.1 Introduction

The purpose of this function is to allow the student to reset or change their password in case they forget it or want to improve account security. This functionality helps students maintain secure access to the FYP Management System.

Input

- Current Password

- New Password

- Confirm New Password

Processing

Input Validity Checks System verifies the current password and checks whether the new password meets security requirements.

Sequence of Operations Student requests password change → system validates inputs → system updates password in database.

Abnormal Situations If current password is incorrect or new password is weak, system shows validation error.

Parameters Affected Student authentication credentials in database.

Degrade Operation Password change may delay due to server load or network issues.

Methods Used System uses encrypted password storage and authentication mechanisms.

Output Validity Check System confirms that password has been updated successfully.

Outputs

- Password update confirmation message

- Error message for invalid input

1.2.2 Performance Requirements

Static Requirement System shall support password reset for all students.

Dynamic Requirement Password update process shall complete within 5 seconds.

1.2.3 Design Constraints

Standard Compliance Password handling should follow standard security rules.

Hardware Limitation Function shall operate on current infrastructure.

1.2.4 Attributes

Availability Password reset feature shall be available during working hours.

Security Only authenticated students can change their passwords.

Maintainability Password policies can be modified easily.

1.3 View and Update Personal Profile

1.3.1 Introduction

The purpose of this function is to allow the student to view and update their personal profile information. This includes contact details and academic-related information which helps in communication between students, supervisors, and coordinators.

Input

- Student Name

- Email Address

- Contact Number

- Profile Picture (optional)

Processing

Input Validity Checks System validates email format and contact number.

Sequence of Operations Student opens profile section → updates information → system saves updated data.

Abnormal Situations Invalid data format or missing required fields.

Parameters Affected Student profile records stored in database.

Degrade Operation System may slow down during database maintenance.

Methods Used Role-based access control and relational database.

Output Validity Check Updated profile must correctly appear on student dashboard.

Outputs

- Updated student profile information

- Error message for invalid input

1.3.2 Performance Requirements

Static Requirement System shall support profile viewing and updating for all students.

Dynamic Requirement Profile updates shall reflect within 5 seconds.

1.3.3 Design Constraints

Standard Compliance Profile information shall follow university record standards.

Hardware Limitation Existing database servers shall be used.

1.3.4 Attributes

Availability Profile functionality shall be available 99% of time.

Security Student can update only their own profile.

Maintainability Profile fields can be managed without system downtime.

1.4 Form a New Project Group or Join an Existing Group

1.4.1 Introduction

The purpose of this function is to allow students to form a new Final Year Project group or join an existing group. This ensures that students can organize themselves according to university rules for project group formation.

Input

- Group Title (for creating new group)

- Group ID (for joining existing group)

- Group Member Details

Processing

Input Validity Checks System checks whether group size is within allowed limits and student is not already assigned to another group.

Sequence of Operations Student selects create or join option → system validates rules → group is created or student is added.

Abnormal Situations Group size exceeded or duplicate group membership.

Parameters Affected Group records and student-project association.

Degrade Operation System may slow during peak registration periods.

Methods Used Rule-based validation and database transactions.

Output Validity Check Group details must appear correctly on student dashboard.

Outputs

- Group creation confirmation

- Successful group joining message

- Error messages for invalid actions

1.4.2 Performance Requirements

Static Requirement System shall support project group formation for all students.

Dynamic Requirement Group creation or joining shall process within 5 seconds.

1.4.3 Design Constraints

Standard Compliance Group formation must follow FYP policies.

Hardware Limitation Function shall operate on existing web servers.

1.4.4 Attributes

Availability Group formation shall be available during FYP registration phase.

Security Only authorized students can create or join groups.

Maintainability Group rules can be updated easily.

1.5 Send, Accept or Reject Group Invitations

1.5.1 Introduction

The purpose of this function is to allow students to manage group invitations during the formation of Final Year Project groups. This functionality enables students to send invitations to other students and also respond to invitations received from others. The system ensures that group formation follows university rules, where a project group can have a maximum of two members only.

Input

- Student Registration Number

- Invitation Action (Send / Accept / Reject)

- Group ID

Processing

Input Validity Checks System verifies that the student is not already part of another group and checks that the group size does not exceed the allowed limit.

Sequence of Operations Student sends invitation → system validates eligibility → invitation is delivered to invited student. Invited student accepts or rejects → system updates group membership accordingly.

Abnormal Situations System shows an error if group size limit is exceeded or student is already assigned.

Parameters Affected Group membership records and invitation status.

Degrade Operation Network issues or server maintenance may delay the invitation process.

Methods Used Rule-based access control and relational database.

Output Validity Check System confirms updated group status on student dashboards.

Outputs

- Invitation sent confirmation

- Invitation accepted or rejected notification

- Error messages for invalid actions

1.5.2 Performance Requirements

Static Requirement System shall support invitation management for all students.

Dynamic Requirement Invitation actions shall be processed within 5 seconds.

1.5.3 Design Constraints

Standard Compliance Group formation shall follow university FYP policies.

Hardware Limitation Function shall operate on existing web servers.

1.5.4 Attributes

Availability Invitation feature shall be available during group formation phase.

Security Only authorized students can manage invitations.

Maintainability Group size rules can be updated easily.

1.6 Browse and Search Available Projects

1.6.1 Introduction

The purpose of this function is to allow students to browse and search available Final Year Project ideas provided by supervisors. This helps students explore different project options and select a project that matches their interests and skills.

Input

- Project Title (optional)

- Project Domain or Category

- Supervisor Name

Processing

Input Validity Checks System checks search keywords and applied filters.

Sequence of Operations Student enters search criteria → system retrieves matching projects → results are displayed.

Abnormal Situations No matching project found or invalid input.

Parameters Affected Project viewing logs.

Degrade Operation Heavy system usage may slow down response time.

Methods Used Database queries and filtering techniques.

Output Validity Check System ensures correct project list is displayed.

Outputs

- List of available projects

- Filtered project results

- Notification if no project is found

1.6.2 Performance Requirements

Static Requirement System shall allow all students to browse projects.

Dynamic Requirement Search results shall be displayed within 4 seconds.

1.6.3 Design Constraints

Standard Compliance Projects shall follow approved FYP guidelines.

Hardware Limitation Uses existing system infrastructure.

1.6.4 Attributes

Availability Project browsing shall be available throughout project selection period.

Security Only logged-in students can access projects.

Maintainability Project filters and categories can be updated.

1.7 View Project Description

1.7.1 Introduction

The purpose of this function is to allow students to view detailed descriptions of Final Year Projects. This helps students understand project objectives, scope, tools, and expected outcomes before selecting or proposing a project.

Input

- Project ID

Processing

Input Validity Checks System verifies that the project exists.

Sequence of Operations Student selects project → system retrieves project details → displays information.

Abnormal Situations Project details unavailable or removed.

Parameters Affected Project access records.

Degrade Operation Delay due to database or server load.

Methods Used Relational database retrieval.

Output Validity Check System confirms accuracy of displayed data.

Outputs

- Complete project description
- Supervisor information
- Project availability status

1.7.2 Performance Requirements

Static Requirement System shall allow students to view project details.

Dynamic Requirement Project details shall load within 3 seconds.

1.7.3 Design Constraints

Standard Compliance Project descriptions shall follow documentation standards.

Hardware Limitation Runs on existing web infrastructure.

1.7.4 Attributes

Availability Project details shall be accessible during academic sessions.

Security Only authorized users can view project information.

Maintainability Project details can be updated easily.

1.8 Propose New Project Ideas to Supervisors

1.8.1 Introduction

The purpose of this function is to allow students to propose new Final Year Project ideas to supervisors when suitable projects are not available. This feature supports innovation and allows students to work on unique ideas under proper supervision.

Input

- Project Title

- Project Description

- Project Objectives

- Technology Stack

Processing

Input Validity Checks System checks completeness and validity of proposal details.

Sequence of Operations Student submits proposal → system forwards proposal to supervisor → supervisor reviews proposal.

Abnormal Situations Duplicate proposal or incomplete submission.

Parameters Affected Proposal records and supervisor notifications.

Degrade Operation Notification delays due to system load.

Methods Used Workflow-based approval and relational database.

Output Validity Check System confirms successful submission.

Outputs

- Proposal submission confirmation

- Supervisor response notification

- Error message for invalid proposal

1.8.2 Performance Requirements

Static Requirement System shall support project proposal submission.

Dynamic Requirement Proposal shall be submitted within 5 seconds.

1.8.3 Design Constraints

Standard Compliance Proposals shall align with academic policies.

Hardware Limitation Uses existing servers and databases.

1.8.4 Attributes

Availability Proposal feature shall be available during project selection phase.

Security Only students can submit project proposals.

Maintainability Proposal workflow can be updated easily.

1.9 Submit Project Proposals and Revisions to Supervisors

1.9.1 Introduction

The purpose of this function is to allow students to submit their project proposals to the assigned supervisors through the system. This feature also enables students to upload revised versions of the proposal if changes are requested by the supervisor. The system provides a structured and formal way of proposal submission, ensuring transparency and proper documentation throughout the approval process.

Input

- Student Registration Number

- Project Group ID

- Project Proposal Document

- Revision Notes (if applicable)

Processing

Input Validity Checks The system verifies that the student belongs to an approved project group and that the supervisor is officially assigned. It also checks whether the uploaded file format and size comply with university guidelines.

Sequence of Operations Student uploads proposal → system validates file and group details → proposal is submitted to supervisor → system records submission → confirmation is sent to the student.

Abnormal Situations The system displays an error message if the file format is invalid, submission deadline is missed, or the student is not authorized to submit.

Parameters Affected Project proposal records, submission timestamps, and revision history.

Degrade Operation In case of network failure or server downtime, the submission may be delayed and queued for processing once the system is restored.

Methods Used File upload mechanism, database storage, and access control validation.

Output Validity Check The system confirms that the proposal has been successfully submitted and stored.

Outputs

- Proposal submission confirmation

- Revision submission acknowledgment

- Error notifications for failed submissions

1.9.2 Performance Requirements

Static Requirement The system shall support proposal submissions for all registered students.

Dynamic Requirement Proposal uploads shall be processed and stored within 10 seconds.

1.9.3 Design Constraints

Standard Compliance Proposal submission shall follow university FYP documentation standards.

Hardware Limitation Function shall operate within existing storage and server infrastructure.

1.9.4 Attributes

Availability Proposal submission shall be available during the official proposal submission period.

Security Only authorized students and supervisors can access proposal documents.

Maintainability Submission rules and formats can be updated without affecting system stability.

1.10 Check Proposal Approval Status

1.10.1 Introduction

The purpose of this function is to allow students to check the current approval status of their submitted project proposals. This feature ensures that students are informed about whether their proposal is pending, approved, or requires revision, along with any feedback provided by the supervisor.

Input

- Student Registration Number

- Project Group ID

Processing

Input Validity Checks The system verifies the student's identity and confirms that a proposal has been submitted for the selected project group.

Sequence of Operations Student requests status → system retrieves proposal status → supervisor remarks (if any) are displayed to the student.

Abnormal Situations The system displays an error if no proposal exists or access rights are invalid.

Parameters Affected Proposal status records and feedback logs.

Degrade Operation Temporary delays may occur during high server load or maintenance periods.

Methods Used Database querying and role-based access control.

Output Validity Check The system ensures that the displayed status is the latest updated by the supervisor.

Outputs

- Proposal status (Pending / Approved / Revision Required)

- Supervisor feedback or remarks

- Error messages for unavailable records

1.10.2 Performance Requirements

Static Requirement The system shall maintain proposal status records for all student groups.

Dynamic Requirement Proposal status shall be displayed within 5 seconds of request.

1.10.3 Design Constraints

Standard Compliance Status labels shall align with university evaluation procedures.

Hardware Limitation Function shall work efficiently on existing database servers.

1.10.4   Attributes

Availability Status checking shall be accessible throughout the project lifecycle.

Security Only concerned students and supervisors can view proposal status.

Maintainability Status categories can be modified if academic policies change.

1.11   Upload Project Documents

1.11.1   Introduction

The purpose of this function is to allow students to upload various project-related documents such as SRS, design documents, progress reports, and final project submissions. This ensures centralized storage and easy access for supervisors and evaluators.

Input

- Student Registration Number

- Project Group ID

- Project Document File

- Document Type

Processing

Input Validity Checks The system checks file format, size, and verifies that the student belongs to the respective project group.

Sequence of Operations Student selects document → uploads file → system validates and stores document → confirmation is provided.

Abnormal Situations The system generates an error if file size exceeds limits or upload fails.

Parameters Affected Project document repository and submission logs.

Degrade Operation Uploads may be temporarily unavailable during server downtime.

Methods Used Secure file storage system and database indexing.

Output Validity Check The system confirms successful upload and correct document association.

Outputs

- Document upload confirmation

- Updated document list

- Error messages for failed uploads

1.11.2   Performance Requirements

Static Requirement The system shall support document uploads for all project phases.

Dynamic Requirement Documents shall be uploaded and stored within 10 seconds.

1.11.3   Design Constraints

Standard Compliance Document formats shall comply with university FYP submission standards.

Hardware Limitation Storage capacity shall be managed within existing infrastructure.

1.11.4 Attributes

Availability Document upload feature shall be available throughout the academic session.

Security Uploaded documents shall be accessible only to authorized users.

Maintainability New document types can be added without major system changes.

1.12 Replace Documents Within Submission Deadlines

1.12.1 Introduction

The purpose of this function is to allow students to replace previously submitted project documents within the allowed submission deadlines. This feature ensures that students can correct mistakes, update content based on supervisor feedback, or submit improved versions of documents while maintaining proper version control and academic integrity.

Input

- Student Registration Number

- Project Group ID

- Updated Project Document

- Document Type

Processing

Input Validity Checks The system verifies that the replacement request is made before the submission deadline and that the student belongs to the respective project group. It also checks file format and size compliance.

Sequence of Operations Student selects document to replace → uploads updated file → system validates deadline and file → old document is archived → new document is saved.

Abnormal Situations The system displays an error if the deadline has passed or the file does not meet submission requirements.

Parameters Affected Document version records, submission timestamps, and document repository.

Degrade Operation Temporary delays may occur during peak submission periods or system maintenance.

Methods Used Version control mechanism and secure file storage.

Output Validity Check The system confirms that the document has been successfully replaced and updated.

Outputs

- Document replacement confirmation

- Updated document version display

- Error messages for late or invalid replacements

1.12.2 Performance Requirements

Static Requirement The system shall allow document replacement for all eligible submissions.

Dynamic Requirement Document replacement shall be processed within 10 seconds.

1.12.3 Design Constraints

Standard Compliance Document replacement shall comply with university FYP submission policies.

Hardware Limitation Function shall operate within existing storage limits.

1.12.4 Attributes

Availability Document replacement shall be available only before deadlines.

Security Only authorized group members can replace documents.

Maintainability Deadline rules can be updated easily without system redesign.

1.13 View Project Milestone Deadlines

1.13.1 Introduction

The purpose of this function is to allow students to view all project milestone deadlines defined by the university or project coordinators. This feature helps students manage time effectively by providing clear visibility of important submission dates throughout the Final Year Project lifecycle.

Input

- Student Registration Number

- Project Group ID

Processing

Input Validity Checks The system verifies student credentials and confirms project group association.

Sequence of Operations Student requests milestone schedule → system retrieves deadline data → deadlines are displayed in chronological order.

Abnormal Situations The system shows an error if milestone data is unavailable.

Parameters Affected No system parameters are modified during this operation.

Degrade Operation Minor delays may occur during server maintenance.

Methods Used Database retrieval and timeline display.

Output Validity Check The system ensures that displayed deadlines are current and approved.

Outputs

- List of project milestones

- Associated submission deadlines

- Notifications for upcoming deadlines

1.13.2 Performance Requirements

Static Requirement The system shall store milestone deadlines for all FYP sessions.

Dynamic Requirement Milestone information shall be displayed within 3 seconds.

1.13.3 Design Constraints

Standard Compliance Milestone deadlines shall follow academic calendar guidelines.

Hardware Limitation Function shall run on existing web infrastructure.

1.13.4 Attributes

Availability Milestone deadlines shall be accessible throughout the project duration.

Security Only registered students can view milestone schedules.

Maintainability Milestones can be updated without affecting other modules.

1.14 View Comments from Supervisors, Co-Supervisors, and Industrial Mentors

1.14.1 Introduction

The purpose of this function is to allow students to view comments and feedback provided by supervisors, co-supervisors, and industrial mentors on submitted project work. This feature ensures effective communication and helps students improve project quality based on expert guidance.

Input

- Student Registration Number

- Project Group ID

- Document or Submission Reference

Processing

Input Validity Checks The system verifies that the student belongs to the project group and that comments exist for the selected submission.

Sequence of Operations Student selects submission → system retrieves comments → feedback is displayed with author and timestamp.

Abnormal Situations The system displays an error if no comments are available or access is unauthorized.

Parameters Affected Comment view logs and read status.

Degrade Operation Temporary unavailability may occur during database updates.

Methods Used Role-based access control and database retrieval.

Output Validity Check The system ensures comments are correctly linked to the selected submission.

Outputs

- Supervisor comments

- Co-supervisor feedback

- Industrial mentor remarks

- Error messages for unavailable feedback

1.14.2 Performance Requirements

Static Requirement The system shall store feedback for all project submissions.

Dynamic Requirement Comments shall be displayed within 5 seconds.

1.14.3 Design Constraints

Standard Compliance Feedback visibility shall follow university communication policies.

Hardware Limitation Function shall work efficiently within existing database systems.

1.14.4 Attributes

Availability Comment viewing shall be available after feedback is submitted.

Security Only authorized students can view project-related comments.

Maintainability Feedback structure can be extended to include additional roles.

1.15 View Evaluation Marks

1.15.1 Introduction

The purpose of this function is to allow students to view their evaluation marks awarded during different stages of the Final Year Project. This functionality ensures transparency in assessment and helps students understand their performance in proposal evaluation, mid-term evaluation, and final defense.

Input

- Student Registration Number

- Project Group ID

- Evaluation Type (Proposal, Mid, Final)

Processing

Input Validity Checks The system verifies that the student belongs to the project group and that the evaluation marks have been officially published by authorized evaluators.

Sequence of Operations Student accesses evaluation section → selects evaluation type → system retrieves marks → marks are displayed on dashboard.

Abnormal Situations System displays an error if marks are not yet published or access is unauthorized.

Parameters Affected Assessment records and evaluation status.

Degrade Operation System may respond slowly during peak result publishing time or maintenance.

Methods Used Role-based access control and relational database.

Output Validity Check System confirms that displayed marks are accurate and approved.

Outputs

- Displayed evaluation marks

- Evaluation remarks (if provided)

- Error message for unavailable results

1.15.2 Performance Requirements

Static Requirement The system shall support evaluation marks viewing for all students.

Dynamic Requirement Marks shall be displayed within 5 seconds.

1.15.3 Design Constraints

Standard Compliance Evaluation marks shall follow university assessment policies.

Hardware Limitation Function shall operate on existing servers.

1.15.4 Attributes

Availability Marks shall be available after official publication.

Security Only authorized students can view their evaluation results.

Maintainability Evaluation formats can be updated without system disruption.

1.16 Receive System Notifications and Announcements

1.16.1 Introduction

The purpose of this function is to allow students to receive important system notifications and announcements related to the Final Year Project. These notifications include milestone deadlines, evaluation schedules, meeting updates, and general announcements from coordinators.

Input

- Student Registration Number

- Notification Type

- Message Content

Processing

Input Validity Checks The system verifies the relevance of notifications based on student role and project group.

Sequence of Operations System generates notification → notification is stored → displayed on student dashboard and notification panel.

Abnormal Situations Delayed notification delivery due to network or server issues.

Parameters Affected Notification logs and read status.

Degrade Operation Low network access may delay notification delivery.

Methods Used Event-based notification system and database storage.

Output Validity Check System ensures notification content is correctly delivered to intended students.

Outputs

- System notifications

- Announcements alerts

- Unread notification indicators

1.16.2 Performance Requirements

Static Requirement The system shall support notifications for all students.

Dynamic Requirement Notifications shall be delivered within 5 seconds of creation.

1.16.3 Design Constraints

Standard Compliance Notifications shall follow university communication guidelines.

Hardware Limitation Notification service shall operate on existing infrastructure.

1.16.4 Attributes

Availability Notification service shall be available throughout FYP duration.

Security Only authorized announcements shall be visible to students.

Maintainability Notification categories can be extended easily.

1.17 Schedule Meetings with Supervisors, Co-Supervisors, and Industrial Mentors

1.17.1 Introduction

The purpose of this function is to allow students to schedule meetings with supervisors, co-supervisors, and industrial mentors for project discussion and guidance. This functionality supports effective communication and coordination during the Final Year Project.

Input

- Student Registration Number

- Project Group ID

- Meeting Date and Time

- Meeting Purpose

- Meeting Participants

Processing

Input Validity Checks The system checks participant availability and ensures that meeting time does not conflict with existing schedules.

Sequence of Operations Student requests meeting → system validates schedule → meeting request is sent → confirmation or rejection is received.

Abnormal Situations System shows error if selected time slot is unavailable.

Parameters Affected Meeting schedules and availability records.

Degrade Operation Scheduling delays may occur during server maintenance.

Methods Used Calendar management system and role-based access.

Output Validity Check System confirms meeting schedule visibility to all participants.

Outputs

- Meeting schedule confirmation

- Meeting request notifications

- Error messages for conflicts

1.17.2 Performance Requirements

Static Requirement The system shall support meeting scheduling for all student groups.

Dynamic Requirement Meeting scheduling shall be processed within 5 seconds.

1.17.3   Design Constraints

Standard Compliance Meeting scheduling shall comply with academic working hours.

Hardware Limitation Function shall operate on existing scheduling services.

1.17.4   Attributes

Availability Meeting scheduling shall be available during active sessions.

Security Only authorized users can schedule meetings.

Maintainability Scheduling rules can be updated without affecting system flow.

2 Supervisor Functions

2.1 Log in to the System by Credentials Provided by University

2.1.1 Introduction

The purpose of this function is to allow supervisors to securely access the Final Year Project Management System using login credentials officially provided by the university administration. This functionality ensures that only authenticated and authorized supervisors can enter the system and access sensitive academic information such as student projects, proposals, evaluations, and supervision records. Secure login is essential to maintain confidentiality, integrity, and accountability within the FYP process.

Input

- Supervisor University ID

- Registered University Email Address

- Password provided or set by the supervisor

Processing

Input Validity Checks The system validates the supervisor's entered credentials by matching them with stored university records. It ensures that the supervisor account exists, is active, and has not been blocked or suspended.

Sequence of Operations Supervisor opens login page → enters credentials → system authenticates details → upon successful validation, supervisor is redirected to the supervisor dashboard where all assigned projects and functionalities are accessible.

Abnormal Situations If the entered credentials are incorrect, expired, or the account is inactive, the system displays an authentication failure message and denies access.

Parameters Affected Login session details, authentication logs, and access control records are updated.

Degrade Operation In case of slow internet connection, server load, or system maintenance, the login response time may increase.

Methods Used Secure authentication mechanism, encrypted password verification, and role-based access control.

Output Validity Check System verifies that the supervisor is redirected only to authorized dashboard sections.

Outputs

- Successful login confirmation

- Supervisor dashboard access

- Error message for invalid credentials

2.1.2 Performance Requirements

Static Requirement The system shall support secure login functionality for all supervisors across departments.

Dynamic Requirement User authentication shall be completed within 5 seconds under normal conditions.

2.1.3 Design Constraints

Standard Compliance Login process shall comply with university IT security policies.

Hardware Limitation Login services shall operate on existing university servers.

2.1.4 Attributes

Availability Login functionality shall be available during official system working hours.

Security Only authorized supervisors can access the system.

Maintainability Authentication rules can be modified without affecting other system modules.

2.2 Reset or Change Password

2.2.1 Introduction

The purpose of this function is to allow supervisors to reset or change their system password in case of forgotten credentials or to improve account security. This functionality ensures uninterrupted access to the system while maintaining strong password security standards defined by the university.

Input

- Supervisor ID

- Registered Email Address

- Old Password (for change request)

- New Password

Processing

Input Validity Checks The system verifies supervisor identity through registered email and checks whether the new password meets predefined security requirements such as length and complexity.

Sequence of Operations Supervisor requests password reset or change → system verifies identity → new password is validated → password is updated → confirmation is provided.

Abnormal Situations System shows an error if the old password is incorrect, email verification fails, or the new password does not meet security standards.

Parameters Affected Supervisor authentication credentials and password records.

Degrade Operation Email service delays or server maintenance may temporarily delay password reset confirmation.

Methods Used Encrypted password storage, email-based verification, and secure password update mechanism.

Output Validity Check System confirms password update and allows supervisor to log in with new credentials.

Outputs

- Password reset confirmation

- Password change success message

- Error notifications for invalid input

2.2.2 Performance Requirements

Static Requirement The system shall support password reset and change functionality for all supervisors.

Dynamic Requirement Password update process shall complete within 5 seconds.

2.2.3 Design Constraints

Standard Compliance Password handling shall follow international security standards.

Hardware Limitation Password services shall operate on existing authentication servers.

2.2.4 Attributes

Availability Password management feature shall be available at all times.

Security Passwords shall be encrypted and protected from unauthorized access.

Maintainability Password policies can be updated easily without system downtime.

2.3 View and Update Profile

2.3.1 Introduction

The purpose of this function is to allow supervisors to view and update their personal and academic profile information within the system. This includes information such as name, designation, department, contact details, and areas of research expertise. Accurate supervisor profiles help students select supervisors and support efficient project supervision.

Input

- Supervisor ID

- Personal Information (Name, Contact Details)

- Academic Information (Department, Designation, Expertise)

Processing

Input Validity Checks The system checks that all entered information is complete, valid, and does not contain incorrect or restricted data.

Sequence of Operations Supervisor accesses profile section → views existing profile data → updates required fields → system validates input → updated information is saved to the database.

Abnormal Situations System displays error messages if mandatory fields are missing or invalid data is entered.

Parameters Affected Supervisor profile records stored in the system database.

Degrade Operation Temporary delays may occur during database maintenance.

Methods Used Profile management module and relational database system.

Output Validity Check System confirms that updated profile information is correctly saved and displayed.

Outputs

- Updated profile information

- Profile update confirmation message

- Error messages for invalid updates

2.3.2 Performance Requirements

Static Requirement The system shall support profile viewing and updating for all supervisors.

Dynamic Requirement Profile updates shall be reflected within 5 seconds.

2.3.3   Design Constraints

Standard Compliance Profile information shall comply with official university records.

Hardware Limitation Profile management shall operate on existing infrastructure.

2.3.4   Attributes

Availability Profile management functionality shall be available during system uptime.

Security Only supervisors can modify their own profile data.

Maintainability Profile fields can be extended or modified easily in future.

2.4   View Assigned Project Groups

2.4.1   Introduction

The purpose of this function is to allow supervisors to view all project groups that have been assigned to them for supervision. This functionality provides a clear overview of all students and groups under the supervisor's responsibility, including project titles, group members, and current progress. It ensures supervisors can track their assigned projects effectively and make informed decisions regarding guidance, feedback, and evaluation.

Input

- Supervisor ID

- Department information

- Academic session (optional)

Processing

Input Validity Checks The system validates the supervisor's ID and ensures the supervisor is authorized to access the list of assigned groups.

Sequence of Operations Supervisor logs into the system → navigates to "Assigned Project Groups" section → system retrieves and displays all assigned groups with relevant details including group members, project title, and assigned milestones.

Abnormal Situations System displays a notification if the supervisor has no assigned groups or if the data cannot be retrieved due to server or database issues.

Parameters Affected Supervisor's dashboard view and project tracking records.

Degrade Operation Database maintenance or network latency may delay loading the project group information.

Methods Used Relational database queries, role-based access control, and secure data retrieval.

Output Validity Check System ensures all assigned project groups are accurately displayed on the supervisor's dashboard.

Outputs

- List of all assigned project groups

- Project group details (members, title, milestones)

- Error messages if retrieval fails

2.4.2 Performance Requirements

Static Requirement The system shall support viewing of assigned groups for all supervisors.

Dynamic Requirement The assigned groups' data shall load within 5 seconds under normal operating conditions.

2.4.3 Design Constraints

Standard Compliance Project group information shall comply with university records and FYP guidelines.

Hardware Limitation Dashboard retrieval shall operate on existing servers.

2.4.4 Attributes

Availability Function shall be available during system working hours.

Security Only authorized supervisors can access their assigned groups.

Maintainability Additional fields for groups or projects can be added without affecting functionality.

2.5 Review and Approve, Reject, or Request Revisions for Project Documents

2.5.1 Introduction

The purpose of this function is to allow supervisors to review submitted project documents, provide approvals, reject submissions, or request revisions. This ensures that all project documentation meets the required quality standards and adheres to university guidelines before final evaluation.

Input

- Supervisor ID

- Project Group ID

- Uploaded document(s) for review

- Review action (Approve / Reject / Request Revision)

- Comments or feedback (optional)

Processing

Input Validity Checks System verifies that the document belongs to the assigned project group and is within the submission deadlines. The system also checks if the supervisor is authorized to perform review actions.

Sequence of Operations Supervisor selects a project document → reviews content → chooses action (approve, reject, request revision) → optionally adds feedback → system updates the document status and notifies the student group.

Abnormal Situations System alerts the supervisor if the document is missing, incorrectly uploaded, or submitted after the deadline.

Parameters Affected Project document status, submission records, and notification logs.

Degrade Operation Low network speed or server maintenance may delay document retrieval or update.

Methods Used Relational database for document storage, role-based access control, and notification services.

Output Validity Check System confirms that the document status is updated and visible to the relevant students and supervisors.

Outputs

- Approval confirmation or rejection notification

- Request revision message sent to students

- Error messages for invalid documents or unauthorized actions

2.5.2 Performance Requirements

Static Requirement System shall support document review for all assigned projects.

Dynamic Requirement Review actions and updates shall be processed within 5 seconds.

2.5.3 Design Constraints

Standard Compliance Document review shall follow university FYP policies.

Hardware Limitation Document processing shall operate on current servers and storage.

2.5.4 Attributes

Availability Review functionality shall be available during the submission period.

Security Only authorized supervisors can approve, reject, or request revisions.

Maintainability The system shall allow changes to approval workflows without affecting other modules.

2.6 Provide Comments on Submissions

2.6.1 Introduction

The purpose of this function is to allow supervisors to provide detailed comments and feedback on project submissions. Feedback helps students understand required improvements, learn from mistakes, and adhere to project standards. This functionality ensures proper communication between supervisors and students regarding FYP progress.

Input

- Supervisor ID

- Project Group ID

- Submission document ID

- Comment text (feedback on submission)

Processing

Input Validity Checks System verifies that the supervisor is assigned to the project group and that the comment is attached to a valid submission.

Sequence of Operations Supervisor opens a submitted document → writes comments → submits feedback → system stores the comments in the database → students can view comments on their dashboard.

Abnormal Situations System displays an error if the comment is submitted without valid project or document reference, or if the database fails.

Parameters Affected Submission feedback records, project progress logs, and student notification system.

Degrade Operation Temporary delays may occur due to server maintenance or network issues.

Methods Used Relational database for feedback storage and retrieval, role-based access control for supervisor authorization.

Output Validity Check System confirms that comments are correctly linked to the corresponding submission and visible to authorized students.

Outputs

- Comment successfully saved notification

- Comments visible on student dashboards

- Error messages for invalid comment submission

2.6.2 Performance Requirements

Static Requirement System shall support supervisor comments for all assigned projects.

Dynamic Requirement Comments shall appear in student dashboards within 5 seconds of submission.

2.6.3 Design Constraints

Standard Compliance Comments shall follow university FYP communication and feedback standards.

Hardware Limitation Function shall operate on existing web servers and database systems.

2.6.4 Attributes

Availability Comment functionality shall be available during submission and review periods.

Security Only supervisors can provide comments for their assigned groups.

Maintainability Feedback mechanisms can be enhanced in future without affecting other system functions.

2.7 Schedule Meetings with Students

2.7.1 Introduction

The purpose of this function is to allow supervisors to schedule meetings with students regarding project progress, clarifications, or guidance. This functionality ensures effective communication between supervisors and student groups and enables proper tracking of meeting schedules within the Final Year Project (FYP) system.

Input

- Supervisor ID

- Student Group ID

- Proposed meeting date and time

- Meeting venue or virtual platform link

- Agenda or topic for discussion (optional)

Processing

Input Validity Checks System validates the supervisor ID and confirms that the students belong to an assigned project group. It also checks for scheduling conflicts and ensures that the meeting falls within university working hours.

Sequence of Operations Supervisor navigates to the "Schedule Meeting" section → selects project group → enters meeting details → system validates inputs → schedules the meeting → sends notifications to the student group.

Abnormal Situations System displays an error if there is a scheduling conflict, invalid date/time, or if students are unavailable. Network delays may prevent timely notification delivery.

Parameters Affected Meeting schedules, notifications, and student dashboards.

Degrade Operation Network issues, server maintenance, or database downtime may delay scheduling or notifications.

Methods Used Relational database to store meeting information, rule-based scheduling checks, and notification system for alerts.

Output Validity Check System confirms scheduled meetings are accurately displayed on supervisor and student dashboards.

Outputs

- Meeting scheduled confirmation

- Notifications sent to students

- Error messages for invalid or conflicting meetings

2.7.2 Performance Requirements

Static Requirement System shall support scheduling of multiple meetings for all assigned project groups.

Dynamic Requirement Meeting scheduling and notifications shall be processed within 5 seconds.

2.7.3 Design Constraints

Standard Compliance Meetings shall comply with university working hours and FYP guidelines.

Hardware Limitation Function shall operate on existing web servers and scheduling database.

2.7.4 Attributes

Availability Scheduling feature shall be available during the project period.

Security Only authorized supervisors can schedule meetings for their assigned groups.

Maintainability System shall allow updates to meeting scheduling rules or notification formats without affecting other modules.

2.8 Communicate with Co-Supervisors, Industrial Mentors, and Coordinators

2.8.1 Introduction

The purpose of this function is to facilitate communication between supervisors and other project stakeholders, including co-supervisors, industrial mentors, and coordinators. This ensures effective collaboration, timely updates, and clear exchange of project-related information, enhancing the overall FYP management process.

Input

- Supervisor ID

- Recipient ID(s) (co-supervisor, industrial mentor, or coordinator)

- Message content or attachments

- Project Group ID (optional for context)

Processing

Input Validity Checks System verifies that the supervisor is authorized to communicate with the selected recipients and ensures the message format is valid.

Sequence of Operations Supervisor selects recipient(s) → composes message → optionally attaches files → system validates access permissions → message is sent and logged in the system → notifications delivered to recipients.

Abnormal Situations System shows an error if recipients are invalid, message exceeds size limits, or network/server issues prevent delivery.

Parameters Affected Communication logs, notification status, and project documentation records.

Degrade Operation Network latency or server downtime may delay message delivery.

Methods Used Relational database for message storage, access control for permissions, and notification services for recipients.

Output Validity Check System confirms messages are successfully delivered and logged in the database.

Outputs

- Message sent confirmation

- Notifications to recipients

- Error messages for invalid recipients or failed delivery

2.8.2 Performance Requirements

Static Requirement System shall support communication between all authorized stakeholders.

Dynamic Requirement Messages shall be delivered and visible to recipients within 5 seconds under normal conditions.

2.8.3 Design Constraints

Standard Compliance Communication shall follow university policies for FYP confidentiality and collaboration.

Hardware Limitation Message transmission relies on existing servers and database infrastructure.

2.8.4 Attributes

Availability Messaging function shall be available throughout the project lifecycle.

Security Only authorized users can send messages to intended recipients.

Maintainability The system shall allow integration with new communication tools or formats in the future.

2.9 Receive System Notifications and Announcements

2.9.1 Introduction

The purpose of this function is to allow supervisors to receive important system notifications and announcements related to FYP activities. This ensures that supervisors remain updated about deadlines, meeting schedules, document submissions, and any other critical project updates.

Input

- Supervisor ID

- Notification type (system alert, announcement, deadline update, meeting update)

Processing

Input Validity Checks System verifies that the supervisor is authorized to receive notifications and that the notification type is valid.

Sequence of Operations System generates notification → checks supervisor access rights → pushes notification to supervisor dashboard → optionally sends email or SMS alert.

Abnormal Situations System may fail to deliver notifications if the network or server is down. Delays may occur during maintenance periods.

Parameters Affected Notification logs, dashboard updates, and supervisor awareness.

Degrade Operation Server or network issues may delay notification delivery. System retries automatically when back online.

Methods Used Relational database for storing notifications, access control for filtering relevant notifications, and messaging services for delivery.

Output Validity Check System ensures that all notifications are visible on the supervisor's dashboard and marked as read/unread as appropriate.

Outputs

- Notification received on dashboard

- Optional email or SMS alert

- Error messages for failed or delayed notifications

2.9.2 Performance Requirements

Static Requirement System shall support all notifications for supervisors across departments.

Dynamic Requirement Notifications shall appear on dashboards within 5 seconds of being generated.

2.9.3 Design Constraints

Standard Compliance Notifications shall comply with university FYP policies and data confidentiality requirements.

Hardware Limitation Notification delivery relies on existing servers and database systems.

2.9.4 Attributes

Availability Notification system shall operate continuously during working hours.

Security Only authorized supervisors can receive notifications relevant to their assigned projects.

Maintainability System shall allow addition of new notification types without affecting existing functionality.

3 Co-Supervisor Functions

3.1 Log in to the System by Credentials Provided by University

3.1.1 Introduction

The purpose of this function is to allow co-supervisors to securely access the Final Year Project (FYP) management system using credentials provided by the university. This ensures that only authorized co-supervisors can access sensitive project information, communicate with students and supervisors, and manage assigned tasks.

Input

- Co-Supervisor ID

- Username

- Password

Processing

Input Validity Checks System verifies that the username exists in the database and that the password matches the stored encrypted password. It also checks for account lockout status in case of multiple failed login attempts.

Sequence of Operations Co-Supervisor enters credentials → system validates inputs → grants access if credentials are correct → loads personalized dashboard.

Abnormal Situations System displays errors for incorrect credentials, locked accounts, or expired passwords. Multiple failed login attempts may trigger security protocols, such as temporary account suspension.

Parameters Affected Login attempt logs, session tokens, and access permissions.

Degrade Operation Network latency, server maintenance, or database downtime may delay login or prevent immediate access.

Methods Used Relational database for credential storage, hashing/encryption for password security, session management for login persistence.

Output Validity Check System confirms that the co-supervisor is logged in and displays the correct personalized dashboard.

Outputs

- Successful login confirmation

- Error messages for incorrect credentials or locked accounts

- Access to co-supervisor dashboard

3.1.2 Performance Requirements

Static Requirement System shall support secure logins for all co-supervisors across departments.

Dynamic Requirement Login validation and dashboard loading shall occur within 5 seconds under normal operating conditions.

3.1.3 Design Constraints

Standard Compliance Login process shall follow university IT security policies and international password handling standards.

Hardware Limitation Function operates on existing servers and database infrastructure.

3.1.4 Attributes

Availability Login system shall be available during working hours and project periods.

Security Only authorized co-supervisors with valid credentials can access the system.

Maintainability System shall allow password policy updates, user deactivation, or credential recovery without affecting other modules.

3.2 Reset or Change Password

3.2.1 Introduction

The purpose of this function is to allow co-supervisors to reset or change their passwords to maintain account security. This function ensures that accounts remain secure and reduces the risk of unauthorized access.

Input

- Co-Supervisor ID

- Current Password (for change)

- New Password

- Confirm New Password

Processing

Input Validity Checks System verifies that the current password matches the stored password (if applicable) and that the new password meets security criteria, such as minimum length, character complexity, and not previously used passwords.

Sequence of Operations Co-supervisor selects "Reset/Change Password" → enters current (if applicable) and new passwords → system validates the new password → updates the password in the database → confirms success to the user.

Abnormal Situations System displays errors for mismatched confirmation, weak passwords, or expired password reset links. Network issues may prevent immediate password updates.

Parameters Affected User credentials, security logs, and login access tokens.

Degrade Operation Server downtime or network latency may delay password update and notification emails.

Methods Used Database password update, encryption/hashing methods, and rule-based password validation.

Output Validity Check System confirms that the password is successfully updated and can be used for future logins.

Outputs

- Password change confirmation

- Error messages for weak passwords or validation failures

3.2.2 Performance Requirements

Static Requirement System shall allow secure password changes for all co-supervisors.

Dynamic Requirement Password change process shall complete within 5 seconds under normal conditions.

3.2.3 Design Constraints

Standard Compliance Password handling shall follow university and international security standards.

Hardware Limitation Function shall operate on existing servers with encryption capabilities.

3.2.4 Attributes

Availability Password management shall be available 24/7 for co-supervisors.

Security Only the authenticated co-supervisor can reset or change their password.

Maintainability Password policy updates and resets can be performed without affecting system operations.

3.3 Update Profile Details

3.3.1 Introduction

The purpose of this function is to allow co-supervisors to view and update their personal profile details. This ensures that contact information, designation, and other relevant data remain accurate and up-to-date for effective communication with students, supervisors, and coordinators.

Input

- Co-Supervisor ID

- Name

- Contact information (email, phone)

- Department or specialization

- Designation and role

- Optional profile picture

Processing

Input Validity Checks System validates all inputs to ensure correct formats for email, phone numbers, and required fields. It checks that the co-supervisor is authorized to update their profile.

Sequence of Operations Co-supervisor accesses profile section → edits personal details → submits changes → system validates inputs → updates records in the database → confirms success to user.

Abnormal Situations System displays errors for invalid data formats, unauthorized updates, or database errors. Network delays may affect submission of updates.

Parameters Affected Profile information records, contact directories, and communication permissions.

Degrade Operation Server downtime or network issues may prevent updates from being saved immediately.

Methods Used Relational database for profile storage, validation rules for data integrity, and access control for authorization.

Output Validity Check System confirms that all updated information is correctly stored and visible on co-supervisor dashboards and shared directories if applicable.

Outputs

- Confirmation of updated profile

- Error messages for invalid inputs or failed updates

3.3.2 Performance Requirements

Static Requirement System shall allow profile updates for all co-supervisors.

Dynamic Requirement Profile changes shall be processed within 5 seconds.

3.3.3 Design Constraints

Standard Compliance Profile management shall comply with university data accuracy and privacy policies.

Hardware Limitation Function shall operate on existing database servers.

3.3.4 Attributes

Availability Profile update feature shall be available during working hours and accessible remotely.

Security Only the authorized co-supervisor can modify their profile.

Maintainability Profile management rules and formats can be updated without affecting system functionality.

3.4 View Assigned Projects and Student Groups

3.4.1 Introduction

The purpose of this function is to allow co-supervisors to access a list of projects and student groups assigned to them. This ensures co-supervisors have visibility of their responsibilities and can monitor student progress effectively. The system provides an organized view of each group's members, assigned project titles, and relevant deadlines.

Input

- Co-Supervisor ID
- Project or Group Filter (optional)

Processing

Input Validity Checks System validates the co-supervisor's authorization and confirms that the requested projects are assigned to them. Filters are checked for valid criteria such as group ID or project category.

Sequence of Operations Co-supervisor accesses the "Assigned Projects" section → system retrieves assigned projects from the database → displays student groups along with project details including group members, project title, and submission deadlines.

Abnormal Situations System displays an error if the co-supervisor has no assigned projects or if the database fails to fetch the relevant records. Network delays may cause slower loading times.

Parameters Affected Database retrieval logs, dashboard view sessions.

Degrade Operation If the system experiences high traffic or maintenance, loading of assigned projects may be delayed.

Methods Used Relational database queries, role-based access control, and session management.

Output Validity Check System confirms that all assigned projects and student group details are correctly displayed to the co-supervisor without omissions.

Outputs

- List of assigned projects with group members
- Project titles and submission deadlines
- Notifications if no projects are assigned

3.4.2 Performance Requirements

Static Requirement The system shall support retrieval and display of assigned projects for all co-supervisors.

Dynamic Requirement Assigned projects and student group lists shall be loaded within 5 seconds.

3.4.3 Design Constraints

Standard Compliance Project and group views shall comply with university FYP management policies.

Hardware Limitation Function shall operate on existing web and database servers.

3.4.4 Attributes

Availability Feature shall be available during working hours and accessible remotely.

Security Only authorized co-supervisors can view their assigned projects.

Maintainability System shall allow modifications to assignment rules without impacting the display functionality.

3.5 Access Student Submissions

3.5.1 Introduction

The purpose of this function is to enable co-supervisors to access and review project submissions made by their assigned student groups. This ensures that co-supervisors can monitor student progress, verify the quality of work, and provide timely feedback to maintain FYP standards.

Input

- Co-Supervisor ID

- Project ID or Student Group ID

- Submission Type (Proposal, Report, Milestone Documents)

Processing

Input Validity Checks System verifies that the co-supervisor is authorized for the selected project or group and that the requested submission type exists. File formats and size limitations are validated for proper access.

Sequence of Operations Co-supervisor selects a project or student group → system fetches submissions from the database → files are displayed or downloaded for review.

Abnormal Situations System displays errors if submissions are missing, file formats are unsupported, or access is attempted on unassigned projects. Network issues may delay file retrieval.

Parameters Affected Student submission logs, access records, and database file references.

Degrade Operation Server maintenance or network downtime may delay access to submissions.

Methods Used Database retrieval, file management, access control, and validation rules for file integrity.

Output Validity Check System ensures that all requested submissions are correctly retrieved and accessible to the co-supervisor.

Outputs

- Access to submitted project documents

- Error messages for missing or unauthorized files

- Downloadable files for offline review

3.5.2 Performance Requirements

Static Requirement The system shall support all co-supervisors in accessing submissions for their assigned groups.

Dynamic Requirement Submissions shall be retrieved within 5 seconds under normal operating conditions.

3.5.3 Design Constraints

Standard Compliance Submission access shall follow university FYP guidelines and file handling policies.

Hardware Limitation Function shall work on existing web servers and database infrastructure.

3.5.4 Attributes

Availability Submission access shall be available during working hours and project periods.

Security Only authorized co-supervisors can access submissions of assigned groups.

Maintainability System shall allow updates for new submission types or formats without affecting access.

3.6 Provide Feedback and Suggestions on Submissions

3.6.1 Introduction

The purpose of this function is to allow co-supervisors to provide detailed feedback and suggestions on student project submissions. This ensures students receive constructive guidance to improve their work and align with FYP quality standards.

Input

- Co-Supervisor ID
- Project ID or Student Group ID
- Submission File or Document
- Feedback Comments
- Suggested Changes or Recommendations

Processing

Input Validity Checks System verifies that the co-supervisor is authorized to provide feedback for the selected project/group. Feedback entries are checked for completeness and format.

Sequence of Operations Co-supervisor selects the submission → system displays the document → co-supervisor enters feedback and suggestions → system validates input → feedback is stored in the database and linked to the respective submission.

Abnormal Situations System shows an error if the co-supervisor attempts to give feedback on unassigned projects or if the database fails to save the comments. Network disruptions may delay feedback submission.

Parameters Affected Feedback records, submission status, and student notification logs.

Degrade Operation Server or network issues may temporarily prevent feedback submission.

Methods Used Relational database for storing feedback, role-based access, and validation of input formats.

Output Validity Check System confirms that feedback is stored correctly and visible to both students and supervisors as per access permissions.

Outputs

- Confirmation of feedback submission

- Display of comments on student dashboards

- Error messages for failed submissions

3.6.2 Performance Requirements

Static Requirement System shall allow feedback provision for all co-supervisors on assigned projects.

Dynamic Requirement Feedback entries shall be processed and visible within 5 seconds.

3.6.3 Design Constraints

Standard Compliance Feedback and suggestions shall follow university FYP evaluation guidelines.

Hardware Limitation Function operates on existing servers and relational database infrastructure.

3.6.4 Attributes

Availability Feedback feature shall be available during submission periods and working hours.

Security Only authorized co-supervisors can provide feedback for assigned projects.

Maintainability Feedback templates and formats can be updated without affecting system operation.

3.7 Schedule Meetings with Project Groups

3.7.1 Introduction

The purpose of this function is to allow co-supervisors to schedule meetings with their assigned student project groups. This ensures proper coordination, progress tracking, and guidance throughout the FYP process. The system provides an interface for setting meeting dates, times, and agendas, while sending automatic notifications to all participants.

Input

- Co-Supervisor ID

- Project Group ID

- Meeting Date and Time

- Meeting Venue or Online Link

- Agenda or Purpose of Meeting

Processing

Input Validity Checks System verifies that the co-supervisor is authorized for the selected group. The chosen date and time are checked against existing meetings to avoid conflicts. Agenda or meeting description is validated for completeness.

Sequence of Operations Co-supervisor selects a project group → system checks eligibility → co-supervisor enters meeting details → system validates input → meeting is saved in the database → notifications are sent to students and other stakeholders.

Abnormal Situations System shows an error if the selected date/time conflicts with another meeting, the co-supervisor is unauthorized, or mandatory meeting details are missing. Network delays may postpone notification delivery.

Parameters Affected Meeting schedules, student and co-supervisor notifications, and project progress logs.

Degrade Operation System maintenance or low network connectivity may temporarily delay meeting scheduling or notifications.

Methods Used Relational database for storing meetings, role-based access control, and automated notification service.

Output Validity Check System confirms that meeting details are correctly saved and notifications are delivered to authorized users.

Outputs

- Confirmation of scheduled meeting

- Notification sent to project group members

- Error messages in case of conflicts or invalid input

3.7.2 Performance Requirements

Static Requirement System shall allow all co-supervisors to schedule meetings for their assigned project groups.

Dynamic Requirement Meeting scheduling and notification delivery shall be completed within 5 seconds under normal operation.

3.7.3 Design Constraints

Standard Compliance Meeting scheduling shall follow university FYP coordination policies.

Hardware Limitation Function shall operate on the existing web and database servers.

3.7.4 Attributes

Availability Meeting scheduling shall be available during working hours and project periods.

Security Only authorized co-supervisors can schedule meetings for their assigned groups.

Maintainability Meeting templates and agenda formats can be updated without affecting system operation.

3.8 View System Notifications and Announcements

3.8.1 Introduction

The purpose of this function is to allow co-supervisors to view system notifications and announcements related to the FYP process. This ensures that co-supervisors stay informed about updates, deadlines, meeting schedules, and important announcements from the coordinator, supervisors, or university administration.

Input

- Co-Supervisor ID

- Notification or Announcement Type (optional filter)

Processing

Input Validity Checks System verifies that the co-supervisor is authorized to receive notifications. Filters are validated for proper criteria such as project group, type, or date.

Sequence of Operations Co-supervisor accesses the "Notifications" section → system retrieves all relevant announcements from the database → notifications are displayed in chronological order, including priority alerts and deadlines.

Abnormal Situations System displays an error if no notifications exist or if the database fails to retrieve data. Network delays may affect real-time display of urgent announcements.

Parameters Affected Notification records, dashboard view sessions, and alert status flags.

Degrade Operation System maintenance or server downtime may temporarily prevent retrieval of notifications.

Methods Used Relational database queries, role-based access control, timestamp sorting, and alert management.

Output Validity Check System ensures that all notifications and announcements are displayed accurately with correct timestamps and priority levels.

Outputs

- List of notifications and announcements relevant to co-supervisors

- Urgent alerts highlighted

- Error messages if no notifications are found

3.8.2 Performance Requirements

Static Requirement System shall support notification viewing for all co-supervisors.

Dynamic Requirement Notifications and announcements shall be displayed within 3-5 seconds.

3.8.3 Design Constraints

Standard Compliance Notifications shall follow FYP communication and university guidelines.

Hardware Limitation Function shall operate on existing servers and support multiple concurrent users.

3.8.4 Attributes

Availability Notifications shall be available during all working hours.

Security Only authorized co-supervisors can view notifications related to their assigned projects.

Maintainability Notification categories and priority levels can be updated without affecting system performance.

4 Head of Department (HoD) Functions

4.1 Log in to the System by Credentials Provided by University

4.1.1 Introduction

The purpose of this function is to allow the Head of Department (HoD) to securely log in to the FYP management system using credentials provided by the university. This ensures that only authorized personnel can access department-level information, student progress, and evaluation records.

Input

- HoD Username

- HoD Password

Processing

Input Validity Checks System verifies the credentials against the university database. The password is checked for accuracy and account status is validated to ensure the HoD has not been deactivated or blocked.

Sequence of Operations HoD enters username and password → system checks credentials → if valid, system grants access → if invalid, error messages are displayed and login attempts are logged.

Abnormal Situations Incorrect login credentials, locked account, or unauthorized access attempts trigger error messages. Multiple failed attempts may temporarily block access.

Parameters Affected User login records, session tokens, and audit logs.

Degrade Operation Network issues or database maintenance may prevent login temporarily.

Methods Used Role-based access control, secure authentication protocols, and encrypted password verification.

Output Validity Check System confirms successful login by granting access to HoD dashboard and relevant functionalities.

Outputs

- Successful login confirmation

- Error messages for invalid credentials

- Account lock notifications in case of repeated failed attempts

4.1.2 Performance Requirements

Static Requirement System shall support login functionality for all department heads.

Dynamic Requirement Login process shall complete within 3-5 seconds under normal conditions.

4.1.3 Design Constraints

Standard Compliance Authentication shall follow university IT security policies and best practices.

Hardware Limitation Login shall function on existing web and database servers without additional hardware.

4.1.4 Attributes

Availability Login service shall be available during working hours and maintenance windows will be communicated.

Security Only authorized HoDs can access the system using unique credentials.

Maintainability Password policies and account configurations can be updated without disrupting the login system.

4.2 Reset or Change Password

4.2.1 Introduction

The purpose of this function is to allow HoDs to reset or change their passwords in the system. This ensures secure access and allows recovery in case of forgotten credentials.

Input

- HoD Username
- Old Password (for change)
- New Password
- Password Confirmation

Processing

Input Validity Checks System verifies the old password before allowing a change. The new password is checked against password policies for length, complexity, and uniqueness.

Sequence of Operations HoD enters old password and new password → system validates old password → system applies password rules → updates password in database → confirmation sent to HoD.

Abnormal Situations Incorrect old password or violation of password rules triggers error messages. Temporary lockouts occur after multiple failed attempts.

Parameters Affected Authentication credentials stored in the system.

Degrade Operation System downtime or network issues may delay password updates.

Methods Used Encrypted password storage, hashing algorithms, and role-based access control.

Output Validity Check System confirms password update and allows login with new password.

Outputs

- Password change confirmation
- Error messages for invalid input or policy violation
- Account lock or alert notifications if necessary

4.2.2 Performance Requirements

Static Requirement System shall allow all HoDs to change passwords securely.

Dynamic Requirement Password changes shall be processed within 5 seconds.

4.2.3 Design Constraints

Standard Compliance Password handling shall comply with university IT security policies.

Hardware Limitation Function shall work on existing web and database servers.

4.2.4 Attributes

Availability Password change function shall be available at all times except scheduled maintenance.

Security Only authenticated HoDs can perform password updates.

Maintainability Password policies can be updated without disrupting system access.

4.3 Update Profile Details

4.3.1 Introduction

The purpose of this function is to allow the HoD to view and update their profile details, including contact information, department affiliation, and other personal or professional information. Keeping the profile up-to-date ensures accurate communication and departmental management.

Input

- HoD Name

- Department Name

- Contact Information (Email, Phone)

- Office Location

- Other Optional Details

Processing

Input Validity Checks System verifies that all mandatory fields are filled and ensures that the input format (e.g., email, phone number) is correct.

Sequence of Operations HoD opens profile section → system retrieves current details → HoD updates necessary fields → system validates input → updates details in database → confirms changes.

Abnormal Situations Incomplete or invalid input triggers validation errors. Network issues may temporarily prevent saving.

Parameters Affected HoD profile records, departmental directory, and contact information repository.

Degrade Operation System maintenance or network downtime may delay updates.

Methods Used Relational database operations, input validation, and role-based access control.

Output Validity Check System confirms updated profile details are stored correctly and reflected in department dashboards.

Outputs

- Confirmation of profile update

- Error messages for invalid or incomplete input

- Notifications if changes affect departmental communication

4.3.2 Performance Requirements

Static Requirement System shall allow all HoDs to update profile details.

Dynamic Requirement Profile updates shall be completed and reflected in the system within 5 seconds.

4.3.3 Design Constraints

Standard Compliance Profile updates shall comply with university administrative policies.

Hardware Limitation Function shall work on existing servers without additional resources.

4.3.4 Attributes

Availability Profile update function shall be available during working hours and outside scheduled maintenance.

Security Only authorized HoDs can update their profile details.

Maintainability Profile fields and formats can be updated as university policies change.

4.4 View All FYP Projects of the Department

4.4.1 Introduction

The purpose of this function is to allow the Head of Department (HoD) to view all Final Year Project (FYP) projects within the department. This enables the HoD to monitor the status of projects, track progress, and ensure that departmental policies and academic standards are being followed.

 Input

- HoD Username (automatically verified via session)
- Filters (Optional: Project Title, Supervisor, Status, Group Members)

 Processing

Input Validity Checks System ensures that only the authenticated HoD can access departmental project information. Filters are validated for correctness (e.g., dates in correct format, supervisor IDs exist).

Sequence of Operations HoD accesses FYP projects section → system retrieves all project records from the department → applies any filters provided → displays project details on the HoD dashboard.

Abnormal Situations Invalid filter inputs or database connectivity issues may prevent full retrieval of project records. System displays error messages if no records match the filter criteria.

Parameters Affected Departmental project records, project status logs, and reporting metrics.

Degrade Operation Database maintenance, server downtime, or network delays may slow retrieval of project information.

Methods Used Relational database queries, role-based access control, and filtering algorithms.

Output Validity Check System ensures all retrieved project records match the department and any applied filters.

 Outputs

- Display of all departmental FYP projects
- Filtered project lists based on user-selected criteria
- Error messages for invalid filters or system issues

4.4.2 Performance Requirements

Static Requirement System shall support retrieval of all FYP projects for the department at any time.

Dynamic Requirement Project lists shall load and display within 5 seconds for up to 500 active projects.

4.4.3 Design Constraints

Standard Compliance Project information retrieval shall comply with university privacy and data protection policies.

Hardware Limitation Function shall operate on existing web servers and database infrastructure.

4.4.4 Attributes

Availability Project viewing shall be available 24/7, except during scheduled maintenance.

Security Only the HoD can access departmental project information.

Maintainability Filters and project display format can be updated without affecting system operations.

4.5 View and Approve Supervisor and Co-Supervisor Assignments

4.5.1 Introduction

The purpose of this function is to allow the HoD to review, approve, or request modifications for supervisor and co-supervisor assignments to student groups. This ensures that assignments align with departmental policies, faculty workload distribution, and project requirements.

Input

- Student Group ID

- Assigned Supervisor ID

- Assigned Co-Supervisor ID

- HoD Decision (Approve / Request Modification)

Processing

Input Validity Checks System validates that group IDs exist, supervisors are valid and available, and that workload rules are followed.

Sequence of Operations HoD views assigned supervisors and co-supervisors → reviews assignment against workload policies and project requirements → approves or requests modification → system updates assignment records and notifies relevant parties.

Abnormal Situations Invalid supervisor or co-supervisor IDs, duplicate assignments, or conflicts with faculty availability trigger error messages.

Parameters Affected Supervisor and co-supervisor assignment records, student group records, and notification logs.

Degrade Operation Network issues, server downtime, or database maintenance may delay updates or notifications.

Methods Used Relational database operations, role-based access control, and notification services.

Output Validity Check System confirms that assignment updates are saved accurately and reflected in dashboards for students and faculty.

Outputs

- Confirmation of assignment approval

- Notification for modification requests

- Error messages for invalid assignments or conflicts

4.5.2 Performance Requirements

Static Requirement System shall allow the HoD to approve or modify assignments for all supervisors and co-supervisors in the department.

Dynamic Requirement Assignments shall be processed and notifications sent within 5 seconds.

4.5.3 Design Constraints

Standard Compliance Assignments shall follow departmental workload and university regulations.

Hardware Limitation Function shall work on existing web servers and database infrastructure.

4.5.4 Attributes

Availability Approval functionality shall be available during working hours and scheduled maintenance windows.

Security Only the HoD can approve or modify assignments.

Maintainability Assignment rules and faculty availability can be updated without downtime.

4.6 Approve or Reject Projects

4.6.1 Introduction

The purpose of this function is to allow the HoD to approve or reject FYP projects proposed by students. This ensures that projects meet departmental standards, academic policies, and FYP guidelines before students proceed with implementation.

Input

- Project ID

- Project Title

- Student Group Members

- Supervisor and Co-Supervisor IDs

- HoD Decision (Approve / Reject)

- Comments or Feedback

Processing

Input Validity Checks System verifies project existence, assigned supervisors and co-supervisors, and ensures the project adheres to departmental policies.

Sequence of Operations HoD views project details → reviews supervisor assignments and project proposal → approves or rejects project → system updates project status → sends notifications to students and supervisors.

Abnormal Situations Invalid project ID, missing documentation, or policy violation triggers error messages.

Parameters Affected Project approval status, student records, and supervisor dashboards.

Degrade Operation Server downtime or network issues may delay approval or notification.

Methods Used Role-based access control, relational database operations, and automated notifications.

Output Validity Check System confirms project approval or rejection is correctly reflected in all relevant dashboards.

Outputs

- Project approval confirmation

- Project rejection notification with feedback

- Error messages for invalid project information

4.6.2 Performance Requirements

Static Requirement System shall allow the HoD to approve or reject all projects within the department.

Dynamic Requirement Project approval or rejection updates shall be processed within 5 seconds.

4.6.3 Design Constraints

Standard Compliance Project approvals shall comply with university FYP policies and departmental standards.

Hardware Limitation Function shall operate on existing web and database servers without additional resources.

4.6.4 Attributes

Availability Project approval function shall be available during working hours and maintenance windows.

Security Only the HoD can approve or reject projects.

Maintainability Approval rules and feedback templates can be updated without system downtime.