COMSATS University, Islamabad
Department of Computer Science

Assignment No.2

Identifying User Requirements (Mapped with CLO-3)

FACE RECOGNITION ATTENDANCE SYSTEM

Submitted by:

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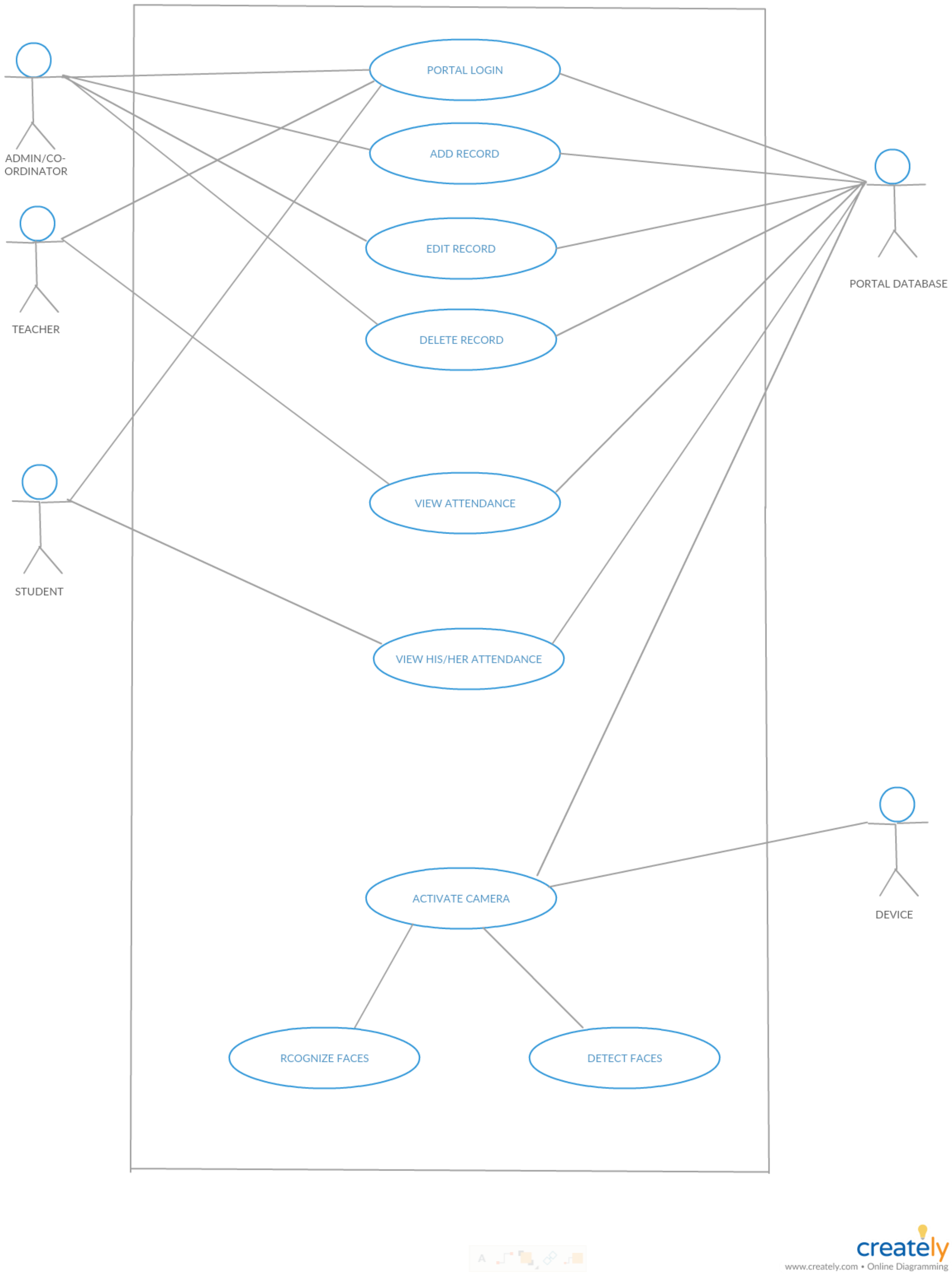
Requirement identifying technique

Use case diagram is one of Unified Modeling Language (UML) that describes the system functionality, what actors that interact with the system and any associations between use cases.



1 Detail Use Case

(1) Portal Login

Use Case ID:	FRAS 0.1
Use Case Name:	PORTAL LOGIN
Created By:	ZEESHAN
Actors:	Admin, Lecturer, student
Description:	This use case describes how Admin, Lecturer and student log into the system.
Trigger:	Lecturer, admin and student enter his username and password.
Preconditions:	1. System installed on pc. 2. Admin, Lecturer and student must be authorized. 3. User must be a human being.
Postconditions:	1. Log in is successfully.
Normal Flow:	1-System requires users to enter username/password. 2-Users enter username/password. 3-System validates entered username/password. 4-The use case ends successfully.
Alternative Flows: [Alternative Flow 1 – Not in Network]	If user is not authorized: 1. System does not allow the person to enter. 2. Log in fails. 3. Use case back to start.
Exceptions:	If admin, teacher or student does not has an internet connection: 1. Use case asks for internet connection 2. Log in fails 3. Use case goes back to start
Includes:	N/A
Business Rules:	Use case increases the security and accuracy of system. Makes it irretrievable by unauthorized actors.
Special Requirements/ Other Information:	Authorization by System owner.

Use Case ID:	FRAS 0.2
Use Case Name:	ADD RECORD
Created By:	ZEESHAN
Actors:	Admin
Description:	This use case describes that how admin add a new record of the student.
Trigger:	Admin add all the required data of a new student.
Preconditions:	**1.** Admin must have all the required data of a student whose record has to be added. **2.** Student must get admission in the university.
Postconditions:	**1.** Record has been added in the system. **2.** Attendance would be made according to the student's timetable
Normal Flow:	1. Admin open the face detection attendance system. 2. Admin presses the "Add Record" button. 3. Registration form will appear in the add record portion. 4. Admin get all the details of a new student. 5. Admin adds all the required information of a student and presses "Save" button. 6. New record has been added in the face detection attendance system
Alternative Flows: [Alternative Flow 1 – Not in Network]	5a. In step 5 that Admin add all the required detail of a new system. 1. The application will prompt Attendance system to update new record. 2. System accepts. 3. Use case resume on case 6 and record will be added. 5b.In step 5 that Admin add all the required detail of a new system. 1. The application will prompt Attendance system to update new record. 2. System declines. 3. Use case will not resume on case 6 and record will not be added.
Exceptions:	5. In step 5 that Admin add all the required detail of a new system. 1. If required record is not given. 2. System gives error. 3. Admin re-enter the new record. 4. System accepts. 5. Use case will resume to case 6.
Includes:	FRAS 0.1
Business Rules:	N/A
Special Requirements/ Other Information:	1. Registration form design and content should be simple. 2. The application must be fast enough to respond quickly to the updates.

Use Case ID:	FRAS 0.3
Use Case Name:	EDIT RECORD
Created By:	ZEESHAN
Actors:	Admin
Description:	Admin edit the registered record on the system.
Trigger:	Admin edit all the required record of a system.
Preconditions:	1. Student must be registered already. 2. Record that to be edited must be approved by admin.
Postconditions:	2. Record has been edited in the system. 3. Attendance would be made according to new record.
Normal Flow:	1. Admin open the face detection attendance system. 2. Admin presses the "Edit Record" button. 3. Registration form will appear in the edit record portion. 4. Admin get all the details of a new student. 5. Admin edits all the required information of a student and presses "Save" button. New record has been edited in the face detection attendance system
Alternative Flows: [Alternative Flow 1 – Not in Network]	5a. In step 5 that Admin edit all the required detail of a new system. 4. The application will prompt Attendance system to edit new record. 5. System accepts. 6. Use case resume on case 6 and record will be added. 5b. In step 5 that Admin edit all the required detail of a new system. 4. The application will prompt Attendance system to edit new record. 5. System declines. 6. Use case will not resume on case 6 and record will not added.
Exceptions:	5. In step 5 that Admin edit all the required detail of a new system. 1. If required record is not appropriate. 2. System gives error. 3. Admin reenter the record. 4. System accepts. 5. Use case will resume to case 6.
Includes:	FRAS 0.1, FRAS 0.2
Business Rules:	N/A
Special Requirements/ Other Information:	1. Registration form design and content should be simple. 2. The application must be fast enough to respond quickly to the updates.

Use Case ID:	FRAS 0.4
Use Case Name:	DELETE RECORD
Created By:	ZEESHAN

Actors:	Admin
Description:	Admin delete the registered record on the system.
Trigger:	Admin delete all the required record of a student.
Preconditions:	1. Student must be registered already. **2.** Record that to be deleted is approved from the admin.
Postconditions:	1. Record has been deleted in the system. 2. Attendance would not be made of a student whose record has been deleted.
Normal Flow:	1. Admin open the face detection attendance system. 2. Admin presses the “Deleted Record” button. 3. Registration form will appear in the delete record portion. 4. Admin get all the details of a new student. 5. Admin delete all the required information of a student and presses “Save” button. 6. Record has been deleted from the face detection attendance system
Alternative Flows: [Alternative Flow 1 – Not in Network]	5a. In step 5 that Admin delete all the required detail of a new system. 1. The application will prompt Attendance system to delete new record. 2. System accepts. 3. Use case resume on case 6 and record will be deleted. 5b. In step 5 that Admin delete all the required detail of a new system. 1. The application will prompt Attendance system to delete new record. 2. System declines. 3. Use case will not resume on case 6 and record will not be deleted.
Exceptions:	5. In step 5 that Admin delete all the required detail of a new system. 1. If required record is not found. 2. System gives error. 3. Admin reenter the record. 4. System accepts. 5. Use case will resume to case 6.
Includes:	FRAS 0.1, FRAS 0.2
Business Rules:	N/A
Special Requirements/ Other Information:	The application shall complete “delete profile functionality” within minimum of 1 second and maximum of 10 seconds with availability of internet or 3G’s connection.

Use Case ID:	FRAS 0.5
Use Case Name:	VIEW ATTENDANCE
Created By:	MUDDASIR
Actors:	Admin, Teacher
Description:	This use case describes how Admin, Lecturer can view the record of

	attendance in the system.
Trigger:	Admin, Teacher needs to see the attendance record of students.
Preconditions:	Admin or Teacher must log in.
Post conditions:	Attendance record shown on screen.
Normal Flow:	1. User requires seeing the attendance record. 2-Users enter view attendance folder by click. 3-System fetches data from data base. 4-Record is displayed on screen.
Alternative Flows: **[Alternative Flow 1 – Not in Network]**	User prolongs the view operation. 1. Operation fails. 2. System goes back to FRAS 0.1
Exceptions:	If admin, teacher or student does not has an internet connection: 1. Use case asks for internet connection 2. Log in fails 3. system goes back to use case FRAS 0.1
Includes:	FRAS 0.1
Business Rules:	N/A
Special Requirements/ Other Information:	Internet connection and access to system server.

Use Case ID:	FRAS 0.6
Use Case Name:	VIEW HIS/HER ATTENDANCE
Created By:	MUDDASIR
Actors:	Students
Description:	This use case describes how student can view his/her attendance in the system.
Trigger:	User requires seeing his/her attendance record.
Preconditions:	1. Student must be authorized. 2. Student must log in.
Postconditions:	4. Individual’s attendance record displayed on screen
Normal Flow:	1-User requires seeing his/her attendance record. 2-User clicks view to enter the record.

	3-System retrieves data from database. 4-Data is displayed on the screen.
Alternative Flows: [Alternative Flow 1 – Not in Network]	User prolongs the view operation. 3. Operation fails. 4. System goes back to FRAS 0.1
Exceptions:	If student does not has an internet connection: 1. Use case asks for internet connection 2. Operation fails 3. System goes back to FRAS 0.1
Includes:	FRAS 0.1
Business Rules:	Increases the feasibility and functionality of system that makes the system more demanding and unique.
Special Requirements/ Other Information:	Internet connection and access to system server.

Use Case ID:	FRAS 0.7
Use Case Name:	ACTIVATE CAMERA
Created By:	ZEESHAN
Actors:	Embedded device, Portal database
Description:	This use case describes how Embedded device activates camera for face detection.
Trigger:	Time has been set. Device identifies time and requires activating camera.
Preconditions:	4. Embedded system is installed properly. 5. Device and camera are working properly. 6. Presence of electricity.
Postconditions:	5. Camera is activated and detecting faces.
Normal Flow:	1-System has set a time for taking attendance. 2-On time, device gets instruction for activation of camera. 3-Device activates camera. 4-Camera is detecting the faces.
Alternative Flows: [Alternative Flow 1 – Not in Network]	If the device is not connected to system: 1. System sends instruction to unconnected destination 2. System gets exceptional error.

	3. System shows an error message on screen. 4. Camera is not activated.
Exceptions:	1. Device or camera has technical problem: System shows an error message on screen. 2. Electricity is not available: System show “technical problem” message on screen.
Includes:	N/A
Business Rules:	Embedded device and better camera recognition is unique in market and extends the standard of functionalities in a particular institute.
Special Requirements/ Other Information:	Installation of device. Working camera with no technical problem. Device properly linked with the online system.

Use Case ID:	FRAS 0.8
Use Case Name:	DETECT FACE
Created By:	ZEESHAN
Actors:	Embedded Device
Description:	This use case describes how Camera detects faces of targets.
Trigger:	Once camera is activated, it starts detecting.
Preconditions:	Camera must be activated.
Postconditions:	6. All targets are detected and recognition process starting.
Normal Flow:	1-System requires camera to detect faces. 2-Once camera Is activated, it starts detecting faces of the targets. 3- It takes pictures of all objects and stores them temporarily. 4-Sends the temporary data for recognition.
Alternative Flows: [Alternative Flow 1 – Not in Network]	If Camera is not activated or unable to detect faces: Show a message on screen of “technical problem” Go to FRAS 0.7
Exceptions:	1. If camera is not activated: System gets error and show error message on screen. 2. If camera is not detecting the faces: System shows “technical problem” on screen.
Includes:	FRAS 0.7
Business Rules:	Embedded device and better camera recognition is unique in market and extends the standard of functionalities in a particular institute.

Special Requirements/ Other Information:	Installation of device. Working camera with no technical problem. Device properly linked with the online system.

Use Case ID:	FRAS 0.9
Use Case Name:	RECOGNIZE FACES
Created By:	ZEESHAN
Actors:	Embedded device
Description:	This use case describes how device recognizes the detected faces in the system.
Trigger:	Once camera detects all faces and stores the picture in temporary storage.
Preconditions:	1. Camera has detected faces. 2. Target pictures are in temporary storage.
Postconditions:	7. Recognized data is stored in database.
Normal Flow:	1. Camera detects targets and stores their pictures in temporary storage. 2-Device fetches data from temporary storage. 3-Device recognizes the target photo by comparing to its added pictures. 4-Device stores the recognized photos in the data base of system.
Alternative Flows: [Alternative Flow 1 – Not in Network]	If admin, teacher or student does not has an internet connection: 4. Use case asks for internet connection 5. Log in fails 6. Use case goes back to start
Exceptions:	Device recognition not working properly: Show “technical problem” message. Data is not saved temporarily in storage: Show “exception error”, go to FRAS 0.8
Includes:	FRAS 0.7, FRAS 0.8
Business Rules:	Embedded device and better camera recognition is unique in market and extends the standard of functionalities in a particular institute.
Special Requirements/ Other Information:	Installation of device. Working camera with no technical problem. Device properly linked with the online system.