Assignment Lab2:

Proposed Actors:

Actor	Description
Faculty/Student (Borrower)	Searches for equipment, checks availability, sends borrowing requests, tracks status, and returns items.
IT Staff	Personnel managing equipment issuance, returns, and maintenance.
Administrator (System Admin)	Manages the system configuration and user roles.
Email/Notification Service (External System)	Automated communication component integrated with EBMS (Equipment Borrowing Management System).

List of Use case:

ID	Use Case	Main Actor	Description
UC01	Log In/ Log out	All user	Authenticate to access the system.
UC02	View Available Equipment	Faculty / Student	Browse the list of equipment currently available for borrowing.
UC03	Submit Borrowing Request	Faculty / Student	Send a request to borrow through the system.
UC04	Approve / Reject Request	IT Staff, Admin	Review and approval, reject, or reschedule equipment requests.
UC05	Track Equipment Status	IT Staff, Admin	Monitor the status of equipment: available, borrowed, under maintenance, etc.
UC06	Send Notifications	System	Complete the process of returning borrowed equipment.
UC07	Return Equipment	Faculty, Students	Approve, reject, or reschedule borrowing requests based on equipment availability and department policies.
UC08	Generate Reports	Admin	Create reports on borrowing activity,

			overdue items, and equipment usage.
UC09	Manage Users and Roles	Admin	Administer user accounts and assign access levels.
UC10	Update Equipment Inventory	IT Staff	Add, edit, or remove equipment records in the system.

Relationship

- UC03 → include UC01 (must log in first)

- UC02 → include UC01 (must log in to view equipment)

- UC04 → include UC01 (staff must log in to approve requests)

- UC05 → include UC01 (staff/admin must log in to track status)

- UC06 → extend UC03 (notifications sent after request is submitted)

- UC07 → include UC01 (must log in to return equipment)

- UC08 → include UC01 (admin must log in to generate reports)

- UC09 → include UC01 (admin must log in to manage users)

 - UC10 → include UC01 (staff must log in to update inventory)

- UC03 → extend UC06 (notifications/reminders triggered by borrowing)

Fully Dressed Use Case Specifications

UCO1:

Field	Description / Instruction
Use Case ID / Name	UC01 – Log In / Log Out
Scope / System	Equipment Borrowing Management System
Level	User-goal
Primary Actor	All users (Faculty, Students, IT Staff, Admin
Supporting Actors	Authentication Service
Stakeholders & Interests	Users – want secure access; System – ensures role-based access control
Goal in Context	Access the system securely

Preconditions	User has a registered account
Trigger	User opens the system and chooses to log in or log out
Main Success Scenario (Basic Flow)	1. User opens login page 2. Enters credentials 3. System verifies 4. Access granted 5. User logs out when done
Extensions (Alternate Flows / Exceptions)	Invalid credentials → error message Account locked → contact admin
Postconditions / Guarantees	User is authenticated and session is active or terminated
Special Requirements (NFR)	Secure authentication, session timeout, encryption
Technology / Data Variations	Web vs mobile login interface
Assumptions	Internet connection is stable
Notes / Issues	Consider multi-factor authentication

UC02:

Field	Description / Instruction
Use Case ID / Name	UC02 – View Available Equipment
Scope / System	Equipment Borrowing Management System
Level	User-goal
Primary Actor	Faculty, Students
Supporting Actors	Inventory Database
Stakeholders & Interests	Borrowers – want to see available items; IT Staff – want accurate inventory
Goal in Context	Find equipment to borrow
Preconditions	User is logged in
Trigger	User navigates to "Available Equipment" section

Main Success Scenario (Basic Flow)	1. User logs in 2. Opens equipment list 3. System displays available items 4. User filters or searches 5. User selects items to view details
Extensions (Alternate Flows / Exceptions)	No items available → display message System error → retry or contact support
Postconditions / Guarantees	User sees real-time list of available equipment
Special Requirements (NFR)	Fast response time, intuitive UI
Technology / Data Variations	Display layout may vary across devices
Assumptions	Inventory data is up to date
Notes / Issues	Consider adding sorting/filtering options

UC07:

Field	Description / Instruction
Use Case ID / Name	UC07 – Return Equipment
Scope / System	Equipment Borrowing Management System
Level	User-goal
Primary Actor	Faculty, Students
Supporting Actors	IT Staff, Inventory Database
Stakeholders & Interests	Borrowers – want confirmation of return; IT Staff – need to update inventory
Goal in Context	Complete the return process and update records
Preconditions	User has borrowed equipment and is logged in
Trigger	User selects "Return Equipment" option
Main Success Scenario (Basic Flow)	1. User logs in 2. Navigates to borrowed items 3. Selects item to return

	4. Confirms return 5. System updates status
Extensions (Alternate Flows / Exceptions)	Item damaged → flag for maintenance Return overdue → system logs violation
Postconditions / Guarantees	Equipment marked as returned; inventory updated
Special Requirements (NFR)	Accurate timestamp logging, confirmation receipt
Technology / Data Variations	Barcode scan vs manual return entry
Assumptions	User returns item physically to IT department
Notes / Issues	Consider automated damage reporting during return

Use case Diagram: