Use Case Specification - Library Project

UC-ACC-01-Login

Use Case ID: UC-ACC-01  
Use Case Name: Login  
Relevant Requirements: 3(Accounts), 4(Security)   
Primary Actor: Member/Admin   
Pre-conditions: User is registered; system available   
post-conditions: Session created, or error shown  
Basic Flow or Main Scenario:  
 1) Enter email + password

2) System validates and starts session   
Extensions or Alternate Flows:

A1) “Remember me” off -> session ends on timeout/logout   
Exceptions:  
 E1) Wrong/locked account   
Related Use Cases: UC-ACC-02 Register, UC-ACC-02 Reset Password

UC-ACC-02- Register

Use Case ID: UC-ACC-02  
Use Case Name: Register   
Relevant Requirements: 3(Accounts)  
Primary Actor: Member  
Pre-conditions: User not already registered   
post-conditions: Account record created   
Basic Flow or Main Scenario:

1) Enter profile info

2) System validates and stores account

Extensions or Alternate Flows:

A1) Email verification   
Exceptions:

E1) Duplicate email; invalid fields   
Related Use Cases: UC-ACC-01 Login

UC-ACC-03- Update Profile

Use Case ID: UC-ACC-03  
Use Case Name: Update Profile   
Relevant Requirements: 3(Account), 4(Privacy)   
Primary Actor: Member/Admin   
Pre-conditions: Logged in  
post-conditions: Profile file updated  
Basic Flow or Main Scenario:

1) Edit fields

2) System validates and writes update

Extensions or Alternate Flows:

A1) Partial updates

Exceptions:

E1) Write failure

Related Use Cases: UC-ACC-01 Login

UC-ACC-04 – Reset Password

Use Case ID: UC-ACC-04   
Use Case Name: Reset Password   
Relevant Requirements: 3(Account), 4(Privacy)   
Primary Actor: Member/ Admin(self-service)  
Pre-conditions: Account exists  
post-conditions: New password set   
Basic Flow or Main Scenario:

1) Request reset

2) Verify identity

3) Set new password   
Extensions or Alternate Flows:

A1) Admin triggered reset   
Exceptions:

E1) Failed verification   
Related Use Cases: UC-ACC-01 Login

UC-CAT-01 – Search Catalog

Use Case ID: UC-S-01  
Use Case Name: Search   
Relevant Requirements: 3(Catalog), 2.4(File I/O)  
Primary Actor: Member   
Pre-conditions: Catalog file readable   
post-conditions: Results or “no results” displayed   
Basic Flow or Main Scenario:

1) Enter keywords

2) System scans CSV and shows results   
Extensions or Alternate Flows:

A1) Sort by availability   
Exceptions:

E1) Catalog missing  
Related Use Cases: UC-CAT-02 View item details, UC-LOAN-01 Checkout

UC-CAT-02 – View Item Details

Use Case ID: UC-CAT-02   
Use Case Name: View Item Details   
Relevant Requirements: 3(Catalog)  
Primary Actor: Member   
Pre-conditions: item exists in catalog   
post-conditions: Details shown (status, ISBN, call number)   
Basic Flow or Main Scenario:

1) Select item

2) System loads and displays record  
Exceptions:

E1) Record not found   
Related Use Cases: UC-HOLD-01 Place Hold, UC-LOAN-01 checkout

UC-LOAN-01 – Checkout Item

Use Case ID: UC-LOAN-01  
Use Case Name: Checkout Item   
Relevant Requirements: 3(Loans), 4(Security)   
Primary Actor: Member   
Pre-conditions: Logged in; item available; under loan limit   
post-conditions: Loan record written, due date set; item marked out   
Basic Flow or Main Scenario:

1)Click Checkout

2) System validates and writes loan + updates inventory.   
Extensions or Alternate Flows:

A1) If holds exist -> cannot checkout   
Exceptions:

E1) Not available

E2) Write failure   
Related Use Cases: UC-LOAN-03 Renew, UC-LOAN-02 Return

UC-LOAN-02 – Return item

Use Case ID: UC-LOAN-02  
Use Case Name: Return item   
Relevant Requirements: 3(Return), 4(Security)  
Primary Actor: Member   
Pre-conditions: Logged in; active loan exists   
post-conditions: Loan closed; inventory updated; potential fine calculated  
Basic Flow or Main Scenario:

1)Select return

2)System closes loan, updates item, evaluates fine  
Extensions or Alternate Flows:

A1) Auto-notify next user in hold queue   
Exceptions:

E1) No matching loan

E2) Write failure   
Related Use Cases: US-FEE-02 Assess fine, UC-FEE-01 Pay Fine

UC-HOLD-01 – Place hold

Use Case ID: UC-HOLD-01   
Use Case Name: Place hold   
Relevant Requirements: 3(Holds)  
Primary Actor: Member   
Pre-conditions: logged in; item not currently available   
post-conditions: Hold entry created: user queued   
Basic Flow or Main Scenario:

1) Click Place Hold

2) System appends to hold CSV; shows position   
Extensions or Alternate Flows:

A1) Auto-cancel if not checked out within window when hold available  
Exceptions:

E1) Duplicate hold

E2) Write failure   
Related Use Cases: UC-HOLD-02 Cancel Hold

UC-HOLD-02 – Cancel Hold

Use Case ID: UC-HOLD-02   
Use Case Name: Cancel Hold  
Relevant Requirements: 3(Holds)  
Primary Actor: Member   
Pre-conditions: logged in; active hold exists   
post-conditions: Hold removed; queue updated   
Basic Flow or Main Scenario:

1)Select “Cancel Active Hold”

2) System deletes entry and shifts queue   
Extensions or Alternate Flows:

A1) Notify next user if needed   
Exceptions:

E1) Hold not found   
Related Use Cases: UC-HOLD-01 Place Hold

UC-HIST-01 – View Loan History

Use Case ID: UC-HIST-01   
Use Case Name: View Loan History   
Relevant Requirements: 3(History), 4(Privacy)   
Primary Actor: Member   
Pre-conditions: logged in   
post-conditions: Past Loans displayed   
Basic Flow or Main Scenario:

1) Open history

2) System loads entries from history CSV  
Extensions or Alternate Flows:

A1) Filter by date/title   
Exceptions:

E1) History unavailable   
Related Use Cases: UC-ACC-04 Update Profile

UC-FEE-01 – Pay fine

Use Case ID: UC-FEE-01   
Use Case Name: Pay Fine   
Relevant Requirements: 3(Fees), 4(Security)   
Primary Actor: Member   
Pre-conditions: logged in; outstanding fine exists   
post-conditions: Payment recorded; balance updated   
Basic Flow or Main Scenario:

1)Choose fine -> pay

2)System records payment and updates balance   
Extensions or Alternate Flows:

A1) Partial payments permitted   
Exceptions:

E1) Payment failure

E2) Write Failure   
Related Use Cases: UC-FEE-02 Assess Fine

UC-FEE-02 – Assess Fine (extends return item)

Use Case ID: UC-FEE-02   
Use Case Name: Assess Fine (extends return item)   
Relevant Requirements: 3(Fees)  
Primary Actor: System (triggered by Member’s return)   
Pre-conditions: Return in progress; overdue detected   
post-conditions: Fine Calculated and posted to account   
Basic Flow or Main Scenario:

1)On return, compute overdue amount

2)Update paid fine  
Extensions or Alternate Flows:

A1) Cap per policy; grace period   
Exceptions:

E1) Calculation error

E2) Write failure   
Related Use Cases: UC-LOAN-02 Return item, UC-FEE-01 Pay Fine

UC-USER-01 – Manage Users (Admin)

Use Case ID: UC-USER-01   
Use Case Name: Manage Users (Admin)  
Relevant Requirements: 3(Admin), 4(Security)  
Primary Actor: Admin   
Pre-conditions: Admin logged in  
post-conditions: User records added/updated/disabled  
Basic Flow or Main Scenario:

1)Create/edit/disable

2)System validates and write changes   
Extensions or Alternate Flows:

A1) Export Users (CSV)  
Exceptions:

E1) Duplicate email

E2) Write failure   
Related Use Cases: UC-ACC-02 Register, UC-ACC-03 Reset Password

UC-INV-01 – Manage Inventory (Admin)

Use Case ID: UC-INV-01   
Use Case Name: Manage Inventory (Admin)   
Relevant Requirements: 3(Inventory), 2.4(File I/O)  
Primary Actor: Admin   
Pre-conditions: Admin logged in   
Post-conditions: Catalog records added/edited/removed   
Basic Flow or Main Scenario:

1)Add/Edit/Delete item

2) System validates and updates catalog CSV  
Extensions or Alternate Flows:

A1) Bulk import/export  
Exceptions:

E1) Invalid record

E2) Write failure   
Related Use Cases: UC-CAT-01 Search Catalog