Tên :

Lê Thị Thảo – 2457

Võ Đức Minh – 6188

Bùi Lê Huy

Lê Đức Huy

Hồ Minh Khánh

Bài làm :

1. Chọn tên đề tài : Book Management

2. Xác định Architecture drivers

a) Function requirement

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Id | Heading | As a | I want to | So that | Acceptance Criteria | Priority |
| 1 | Register | User | Register | I can register a new account to log into the system. | Account must be >8 characters, <16 alphanumeric characters, no special characters | 5 |
| 2 | Login | User | Login | I can log in to my account to access the main home page when I have previously registered | Account has been successfully registered | 5 |
| 3 | Forgot password | User | Password retrieval | I can regenerate a new password after forgetting the previously registered password | - Use valid Email  - Use a valid phone number | 5 |
| 4 | Search and view information of book | User | Search and view information of book | I can search and find information about books to know the place of publication, author, category , …. | Enter the correct or approximate book title | 5 |
| 5 | Borrowing and Returning Books | User | Borrowing and Returning Books | You can borrow books from the library as well as return them when you have finished reading them | Get the right library books | 5 |
| 6 | Personal Account Management | User | Personal Account Management | I can view personal information and edit information if necessary as well as view book borrowing history and related notifications. | Must have an account after registering and logging into the system successfully | 4 |
| 7 | Making Penalty Payments | User | Making Penalty Payments | I can pay penalty fees if I borrow a book past its due date and don't return it | There must be money in the card or bank wallet | 3 |
| 8 | Receive Notifications and Reminders | User | Receive Notifications and Reminders | I can receive notifications when I have successfully borrowed a book or when it is almost time to return the book | Must have an account after registering and logging into the system successfully | 4 |
| 9 | Book Information Management | Admin | Book Information Management | Add, edit, delete and update books from the database. | Permission granted | 5 |
| 10 | User management | Admin | User management | View a list of users and their details, and activate or delete user accounts | Permission granted | 4 |
| 11 | Managing Borrowing and Returning Books | Admin | Managing Borrowing and Returning Books | I can view the list of borrowed and returned books and make notes about late or lost books. | Permission granted | 4 |
| 12 | System Integration and Maintenance | Admin | System Integration and Maintenance | Perform system maintenance and upgrades. |  | 4 |

b) Quality Attribute

c) Constrains

## Business constraints

* Sources: 4 people.
* Project was started on: 22/02/2021.
* Project will be ended on: 30/05/2021.
* Project will be finished in 96 days (1120 hours).
* Cost: $3360.

## Technical constraints

Technical to develop:

* Programming Language: JavaScript, Solidity.
* Frameworks / Libraries: ReactNative, ReactJS, NodeJS, Bootstrap 4.
* Database Management System: Postgresql.

Environment:

* Web browsers: Google Chrome, FireFox, Opera.
* App environment: IOS and Android
* Operation systems: Microsoft Windows 10, Ubuntu.

1. Lựa chọn các kịch bản thuộc tính chất lượng đặc trưng và phân ra thành bảng 6 phần.

#### Security

|  |  |
| --- | --- |
| Scenario: Login authentication | |
| Type | Security |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | System |
| Response measure | Login authentication request |

|  |  |
| --- | --- |
| Scenario: Account information encryption | |
| Type | Security |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | System |
| Response | System |
| Response measure | Account information encryption |

#### Performance

|  |  |
| --- | --- |
| Scenario: Search for books | |
| Type | Performance |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | Application |
| Response measure | Display search results |

|  |  |
| --- | --- |
| Scenario: Add new book | |
| Type | Performance |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | Application |
| Response measure | Add book to the system |

|  |  |
| --- | --- |
| Scenario: Borrow book | |
| Type | Performance |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | Application |
| Response measure | Confirm book borrowing |

#### Usability

|  |  |
| --- | --- |
| Scenario: Login and access the system | |
| Type | Usability |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | Application |
| Response measure | Allow login and access the system |

|  |  |
| --- | --- |
| Scenario: View book information and borrow book | |
| Type | Usability |
| Stimulus | User |
| Source of stimulus | Customer |
| Environment | In runtime |
| Artifact stimulated | Application |
| Response | Application |
| Response measure | View book information and borrow book |

#### Correctness

|  |  |
| --- | --- |
| Scenario: Add book to the system | |
| Type | Correctness |
| Stimulus | Users |
| Source of stimulus | Customers |
| Environment | In runtime |
| Artifact stimulated | The System |
| Response | The System |
| Response measure | Add book to the database |

|  |  |
| --- | --- |
| Quality attributes: Confirm book borrowing | |
| Type | Correctness |
| Stimulus | User |
| Source of stimulus | Customers |
| Environment | Runtime |
| Artifact stimulated | The System |
| Response | System |
| Response measure | Confirm book borrowing information |

#### Modifiability

|  |  |
| --- | --- |
| Scenario: Add new feature | |
| Type | Modifiability |
| Stimulus | Product manager |
| Source of stimulus | A product manager |
| Environment | The next version |
| Artifact stimulated | The system |
| Response | system |
| Response measure | Allow extension |

1. Hãy liệt kê các chức năng (function) có liên quan đến mỗi thuộc tinh chất lượng đã trình bày ở trên.

**Usability:**

User registration: Chức năng đăng ký người dùng để họ có thể truy cập vào hệ thống quản lý sách.

Product browse/search: Chức năng tìm kiếm và duyệt thông tin về sách trong hệ thống.

Checkout: Chức năng thanh toán và hoàn tất quá trình mua sách.

**Performance:**

Product browse/search: Chức năng tìm kiếm và duyệt thông tin về sách trong hệ thống.

Add to cart: Chức năng thêm sách vào giỏ hàng để chuẩn bị cho quá trình thanh toán.

Checkout: Chức năng thanh toán và hoàn tất quá trình mua sách.

**Security:**

User login: Chức năng đăng nhập để bảo vệ thông tin người dùng và quản trị hệ thống.

Payment processing: Chức năng xử lý thanh toán để đảm bảo an toàn cho giao dịch mua sách.

**Availability:**

All functions: Tất cả các chức năng trong hệ thống quản lý sách đều cần phải sẵn sàng và hoạt động một cách ổn định để đáp ứng nhu cầu của người dùng.