Capstone Project Document

Bookaholic Social Network

日本語辞書・チーム

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Last but not least, we are thankful to our families, our teachers and our friends in FPT University for their constant encouragement and support throughout this project.

1 INTRODUCTION

1.1 Purpose

This document is created as the introduction for project Bookaholic Social Network – our Capstone Project at FPT University. In this document, we will descript the overview of some existing systems, the initial idea for our project, a brief description about our expected system and some potential risks, critical assumptions, constrains. Moreover, this document also shows opportunities what it offers for users.

1.2 Acronyms and Definitions

Acronym & Abbreviation	Definition
BSN	Bookaholic Social Network
FU	FPT University
Q&A	Question and Answer

Table 1-1: Definitions and Acronyms

1.3 Abstract

Nowadays, social network plays an essential role in our lives. Vietnam is the country that has the big Internet user growth and the trend of communication through social network is expanding rapidly, people shares and discuses about everything through social network. However, there is not any social network that is for only Vietnamese people who love reading books. To solve this problem, we create a website where people who loves book can share and discus with others about their favorite books or authors. We believe this project will strengthen Vietnam's reading culture.

1.4 Literature Review

There are some social networks about book. For example: Goodreads, Shelrafi, Wattpad, etc. However, there is not any social network about books for Vietnamese only.

1.4.1 Goodreads

Figure 1-1-1: Website Goodreads

Goodreads is a platform that allows members to recommend books, create connection with other members or follow a club to keep track of what they've read and would like to read.

- **Advantages:**
  Goodreads launched in January 2007. It is the world's largest site for readers and book recommendations with 50 million members, 1.5 billion books and 50 million reviews. Therefore, if you use Goodreads to its full potential, you'll find a robust community of book lovers and a nearly endless list of recommendations. Goodreads also allows users to join conversations about their favorite books or authors. Moreover, it lets you organize your personal collection of books and keep track of what you look for gaps within you collection.
- **Disadvantages:**
  It has no real filter between kid and adult content. While 13 is the recommended age for signing up, there's nothing stopping a teen from joining groups which is about adult content. Teens should be cautious about what they share and use privacy settings to minimize contact with strangers.

1.4.2 Wattpad

Figure 1-1-2: Website Wattpad

Wattpad is a platform that authors and publishers use for online engagement and to create purposeful relationships with readers.

- **<u>Advantages:</u>**
  Wattpad is user friendly, so it has a huge number of audiences. Therefore, when you publish something on Wattpad, you can build a fan base as well as a timestamp through which you can prove your original copyright. Wattpad allows authors to share their work with the world and easily interact with their fan.
- **<u>Disadvantages:</u>**
  However, Wattpad usually recommends to users about things they do not really need. It's annoying when the main page is all reading lists, recommendations that users do not really care about, especially with authors. Moreover, the writing feature is not well supported such as all the tools are hidden until you highlight something and then they pop up over the text.

1.5 Proposal

1.5.1 The idea

Nowadays, as the negative side of social media, teens are not often reading books, especially traditional books. In Vietnam, almost people prefer to spend time for web surfing than read a paper books. Our idea is creating a website that allows people to share and talk about books they would like to read or authors they are interested in. This project aims to make more fun in reading to encourage people especially teens to read more.

1.5.2 The objective

This project is the Capstone Project in FPT University studying program. Firstly, this project is responsibility for all team members. Therefore, we must complete all requirements from teacher and FU. During the time doing project, we can learn how to develop a project, how to manage project, how to communicate better between team members, how to control time and how to perform teamwork effectively. Moreover, we will also have experience in .NET technology, website designing and software testing. Therefore, we think this project is very

necessary for us to improve skills, knowledge which we studied in FU. Moreover, this project also makes our CV more attractive after graduating from FU. This is also an opportunity for us to prove capacity with recruiters.

Secondly, we all know that it is worth reading books. We believe this project will strengthen Vietnam's reading culture. Specially, our website displays completely in Vietnamese, so users can use functions easily, even though they do not know English.

1.5.3 Brief description about system

This project is the Capstone Project in FPT University studying program. Firstly, this project is responsibility for all team members. Therefore, we must complete all requirements from teacher and FU. During the time doing project, we can learn how to develop a project, how to manage project, how to communicate better between team members, how to control time and how to perform teamwork effectively. Moreover, we will also have experience in .NET technology, website designing and software testing. Therefore, we think this project is very necessary for us to improve skills, knowledge which we studied in FU. Moreover, this project also makes our CV more attractive after graduating from FU. This is also an opportunity for us to prove capacity with recruiters.

Secondly, we all know that it is worth reading books. We believe this project will strengthen Vietnam's reading culture. Specially, our website displays completely in Vietnamese, so users can use functions easily, even though they do not know English.

Table 1-1: Brief description diagram of BNS

1.5.4 System features

About the features of BSN, we focus to provide for users main features as searching, recommend, discus about books, etc. Admin can manage members, database and manage the development of website through our statistic.

The detailed features are below.

1.5.4.1 Guest features

- Guests can register for an account to use features of our system.

1.5.4.2 Reader/Author features

- Manage account: Our website allows users to register for an account. Then they can login and use lots of features. Users can edit their profile such as name, date of birth, avatar and cover photo. In case users forget their password, they can send request and system will send them an auto mail to confirm new password.
- Manage recommendation: One of our website's main features is posting recommendation about books or authors. Users will tag name of book(s) in their post

and they can also edit or delete all these content latter. Our site aims to support users interact with others, so they can comment on a post and edit or delete that comment in need.

- Manage interactions: Users of BSN can interact with others by following them.

  Moreover, there are several groups about books or authors and users can request to admin of a group to be its members. If users see a group is not appropriate with them or they do not want to join a group anymore, they can remove themselves from that group

  Another feature is reporting. Users can report other accounts or groups if those accounts and groups have invalid content or copyright infringement.

- Manage groups: We allow users to create their own group. All groups have to be tagged a book or author as its topic. Admins of a group can add new members to their group by entering their name or accept join-group request.

  To manage group members, admins can set other members admin or remove members out of their group

  Moreover, admin of a group can edit group information as name, cover photo, etc. and they can also delete a group by removing all its members.

  All members can create posts in a group.

- Search and Rate: User can search for books, authors or other accounts. They can also rate for books. Through users' vote about books and their following authors, our system will calculate and suggest books or authors they may also like.

1.5.4.3 Admin features

- Manage user account: To manage user accounts, system admin can search for users and view their profile, posts, etc. After that, they can de-active, active or delete accounts within reporting about those accounts. Moreover, request about creating author accounts will be approved or declined by admins.

- Manage slides: Slides are pictures showed off to help guests preview about our website. Admins will add new slides if need. Depend on situations, admins can de-active, active or delete unnecessary slides.

- Manage publishers: Admins are allowed to add new, update information or delete a publisher.

- View statistic: Manage the development of website if necessary. Therefore, we support admins to view statistic about users, authors or group such as number of accounts, books or authors which is hot trend in that time, etc.

1.6 Benefits from Project

1.6.1 For our group

After developing and implementing this project, our group will get some benefits. Firstly, all members will have more experiences of software project management how to manage plan, time, member and risk. Moreover, we will get more knowledge and skill about .NET MVC5, Bootstrap and other skills about real-time programming. The most important benefit is members can improve their skill about communicating with team members and doing teamwork more effective.

1.6.2 For Community

Just need to have a device that can connect to the internet and any web browser, user can easily join a community about books. They can share, discus with others about their favorite books or authors and update information about new books and trend of reading quickly. They can also find friends who have the same reading hobbit like them. All these things will make reading become more fun and attractive.

1.7 Critical Assumption and Constraints

- **Critical assumption:**

  There are some critical assumptions about training that must be true in real. It is almost members of our team just have basic knowledge about C# asp.Net. We do not have experience in C# asp.Net MVC5, html, CSS, etc. About human resources, we assume that all members in team have a good healthy to do their tasks.

- **Constraints:**

  To have good working result, all members must follow some constraints. At first, about time and deadline: We must complete task on time. Our project runs for 14 weeks. Each member works 5 hours/day and 5 days/week. We do not have much time to complete developing and deliver application. Besides, we have to submit report documents before deadline to review. Secondly, about quality of product, it must be run well when users perform main functions in Google Chrome 4.0 or higher. About human resources, our team has 5 members, each member have to study 2 subjects (JPS and JIT) at school. The schedule will base on this and members have responsibility to join meeting and finish tasks on time.

1.8 Potential Risks

After studying about this project, we find out some problem that we may be encountered. Firstly, project may be under-estimate scope and time or miss deadline because lack of experience in group working, managing and controlling work. Secondly, it may loss data, source code before uploading data to server because of careless. Moreover, about human resources, team member cannot complete their works because of health reasons, key member leave team or un-cooperating on team. Another risk is changing requirements, requirement changed when some functions cannot be completed or some technologies are not suitable.

2 PROJECT MANAGEMENT

2.1 Introduction

2.1.1 Purpose

This is the Project Management Plan of Bookaholic Social Network Project – our Capstone Project in FPT University. It includes the project overview, project organization, tools, infrastructures and schedule of this project.

2.1.2 Definitions and Acronyms

Acronym	Definition	Note
BA	Business Analyst	
BU	Business Unit	
CC	Infrastructure Configuration Controller	
CM	Configuration Management	
BSN	Bookaholic Social Network	
DEV	Developer	
PIC	Person in charge	
PM	Project Manager	
PTL	Project Technical Leader	
QA	Quality Assurance Officer	
SRS	Software Requirement Specification	
TC	Test Case	
PCB	Process Capability Baseline	
HuyenPT	Pham Thi Huyen	Team member
VanTTC	Thai Thi Cam Van	Team member
DangVH	Vu Hai Dang	Team member
YenNTH	Nguyen Thi Hai Yen	Team member
HaiCM	Chu Minh Hai	Team member
FPTU	FPT University	

Table 2-1: Definitions and acronyms

2.2 Project Overview

2.2.1 Project Description

Project Code	BSN	Contract Type	None
Customer	FPT University	2nd Customer	None
Project Level	Group	Project Rank	None
Application Type	Website	Project Manager	Pham Thi Huyen
Project Category	Development	Business Domain	E-commerce

Table 2-2: Project Description

2.2.2 Scope and Purpose

2.2.2.1 Purpose

Nowadays, as the negative side of social media, teens are not often reading books, especially traditional books. In Vietnam, almost people prefer to spend time for web surfing than read a paper books. Our idea is creating a website that allows people to share and talk about books they would like to read or authors they are interested in. This project aims to make more fun in reading to encourage people especially teens to read more.

2.2.2.2 Scope

Our project scope included:

- Developing user requirement and software requirement specification.
- Developing architecture and detailed design documents.
- Coding and unit test.
- Developing test case and execute system test.

2.2.2.3 The functions of Project

These are the functions of BSN's project:

2.2.2.3.1 Guest Module

- **Register**: To use lots of function of our website, guests can register for an account. However, there are difference between reader account and author account. If users want to have an author account, they will have to wait for admin to validate their personal information

2.2.2.3.2 Reader/Author Module

- **Account:**
  - Login/Logout: Users login/logout an account to use or exit system BSN. All users have to register for an account to use our website.
  - Edit profile: User can edit their profile such as name, date of birth, avatar photo, etc.

- Reset password: If users forget their password, they can send request and system will send them an auto mail to confirm new password.

- **Post:**
  - Post a recommendation: User can recommend about books as a post. To recommend books, users are forced to tag those books on their post.
  - Edit post: Users can edit both caption and tags of post.
  - Like a post
  - Delete a post
  - Comment on a post: Users can comment on a post.
  - Delete comments: Users can delete their comment in need.
- **Interaction:**
  - Follow other accounts.
  - Report other accounts/groups: Users can report other accounts/groups if those accounts/groups have invalid content or copyright infringement.
  - Send join-group request: There are several groups about books or authors and users can request to admin of a group to be its members.
  - Out a group: If users see a group is not appropriate with them or they do not want to join a group anymore, they can remove themselves from that group.
- **Group:**
  - Create a group: To create a group, users have to tag a book or author as the topic of that group.
  - Add new member to a group: Admin can add new members to their group by entering their name or accept join-group request.
  - Manage group members:
    - Set other members admin: Only admins can set other member admin.
    - Remove members: Admin can remove members out of their group
  - Edit group profile: Admin can edit group information as name, cover photo, etc.
  - Delete a group: Admins can delete a group. To delete a group, they have to remove all of its members.
  - Manage group post:
    - Create a post in group: All members can create posts in a group and they do not need to tag a book/author.
    - Edit a post in group: The owner of a post can edit their post.
    - Delete a post: The owner of a post can delete if they want. Admins can also delete a post if they see it is inappropriate.

- **Search:** User can search for books, authors or other accounts
- **Rate a book:** User can rate books. We also suggest them books they may like.

2.2.2.3.3 Admin Module

- **Manage user account:**
  - Search user: System admin can search for users and view their profile, posts, etc.
  - Ban/Unban users: Admins can de-active user accounts.
  - Decline requests about reporting an account/group: If a report is not valid, admin can decline it instead of approving.
  - Accept/decline request about creating author account: Admins can approve or decline request about creating author account if it is valid or not.
- **Manage slides:**
  - Add new slides: Slides are pictures showed off to help guests preview about our website. Admins will add new slides if need.
  - Delete slides
  - Active/De-active slides: If a slide is not in use, but admins want to keep it for using in future, they can de-active it and active when they need.
- **Manage publishers:**
  - Add/Update/Delete publishers
- **View statistic:**
  - Admins have right to view statistic about number of users/authors/group/books and authors in trend.

2.2.3 Assumptions and Constraints

No	Description	Note
Assumptions		
1	Customer reviewers will get seven days to approve a milestone document. If no comments are received within this time period, it will be considered as approved.	External Interfaces
Constraints		
1	This project must be completed and delivered before 12/14/2016	Schedule
2	In doing project processing, PM must submit report (include 6 reports) on certain date	Schedule
3	Software Requirement Specification for each phase will be completed at the end of that phase:	Schedule

	+ SRS for phase 1: deadline is 09/23/2016 + SRS for phase 2: deadline is 10/26/2016 + SRS for phase 3: deadline is 11/22/2016	
4	Design Document (include Architecture Design, Screen Design, Database Design) of each phase must be completed at the end of each phase: + Screen Design for phase 1: deadline is 10/23/2016 + Screen Design for phase 2: deadline is 10/26/2016 + Screen Design for phase 3: deadline is 11/22/2016 + Database Design for whole project: deadline is 10/03/2016 + Architecture Design for whole project: deadline is 10/03/2016	Schedule
5	Execute Integration Test Plan (include test plan and test case)	Schedule
6	Completed coding activity and have unit test result	Schedule
8	Deliver report about User manual, software package and installation guide	Schedule
9	Complete all of document and application before finishing the project on	Schedule
10	Project contains 5 members	Resource

Table 2-1: Assumption and Constraints

2.2.4 Project Objectives

2.2.4.1 Standard Objectives

Metrics	Unit	Committed	Re-committed	Note
Start Date		09/05/2016		
End Date		12/14/2016		
Duration	Day	78		
Team Size	Person	5		
Billable Effort	Person-day	390		1 Person-day = 5 hours
Calendar effort	Person-day	390		1 Person-day = 5 hours
Effort Usage	%	100		1 Person-day = 5 hours

Table 2-3: Standard Objectives

Metrics	Unit	Basic for setting Goals
		Average
Customer Satisfaction	Point	9.5
Leakage	Wdef/mm	5
Effort Efficiency	%	95
Timeliness	%	100

Table 2-4: Standard Objectives 2

2.2.4.2 Specific Objectives

Metrics	Unit	Basic for setting Goals	
		Plan	Actual
Training technology: ASP .net MVC5 framework, SignalR libary, Cloudinary service, etc.	Person-day	12	12
Execute group review	Person-day	8	5
Training requirements, process before coding	Person-day	5	3

Table 2-5: Specific Objectives

2.2.5 Critical Dependencies

No	Dependency	Expected delivery date	Note
1	This project must be completed and delivered to FPT University.	12/14/2016	
2	Project Plan and SRS must be completed and delivered to Supervisor by the end of each phase	+ Phase 1: 09/23/2016 + Phase 2: 10/26/2016 + Phase 3: 11/22/2016	
3	User manual, Software Package and Installation Guide must be completed and delivered to Supervisor and FPT University.	12/14/2016	
4	Beside Capstone Project, Team members have to joining in Japanese class and Japanese Fundamental Exam class.	12/17/2016	

Table 2-6: Critical Dependencies

2.2.6 Project Risk

PM identifies risks in the Risk Management Plan. The document is updated to trigger each milestone, each event also. The document is updated weekly by PM. Risk Management Plan will be notified to all of the stakeholders affected. Status of risk is reported to supervisor at Project Milestones Report.

Reference to BSN_Risk Management Plan_v1.0_EN.xlsx

No	Risk	Root Cause	Triggers	Avoidance plan	Contingency plan	Fallback plan
1	Conflict among team members	Team member doesn't understand each others	Has issue inside team	Plan some team buildings to improve teammate	Have a meeting to resolve conflict problem	Switch member to other team.
2	Requirement is changed after project is started	SRS not good (not realistic, not feasibility, not meet customer needs)	Customer (user) make change request. Or project team cannot develop the system as description in SRS.	Requirement should be paid a lot of attention. SRS should be reviewed carefully by PM and the supervisor.	With each requirement changes, the project team should have a meeting to analysis the change requests and take actions.	Re-estimate and update plan.
3	Team member do not meet the deadline	Undisciplined and habit of team member, loose management	Have a deadline	Setting rule and minus of do not meet the deadline: punish money and named at meeting minute.	Punish the member do not meet the deadline. Working over time.	Ask for help from out of team, supervisors.
4	Delivery project doesn’t meet requirement	Team member not understand requirement	Can't delivery project	Team lead have to review source code and follow requirement	Fix in next version	Extend deadline

Table 2-7: Risk Management plan

2.3 Project Development Approach

2.3.1 Project Process

Process of this project is performed follow to Iterative and Incremental model.

2.3.2 Iterative and Incremental Model

Figure 2-1: Iterative and Incremental Model

2.3.2.1 Project Life Cycle

Basing on Iterative and Incremental model and real-world project, we decided to divide the project into 5 phases: Initiation, Implement 1, Implement 2, Implement 3 and Termination:

- **Initiation Phase:** This is the explanatory phase of the project. Project objective and description is described at this stage. The purpose of this phase is to collect and understand business requirements and detail the project plan. Our primary objectives are complete project identification and project plan. After these are completed, the project is checked against the following criteria:
  - Identify business functions of the system
  - Determining the scope, conditions and limitations of the project
  - List the main functions of the system
  - List one or more suitable architecture for the system
  - Identify project risks
  - Install tools and environment
- **Implement 1:** In this phase, the architecture of the 1st part of system is designed. The goal is to translate requirements and specification into a technical solution to produce Technical Design and coding.

- Our objectives are complete Requirement Specification of 1st part, Architecture Design of 1st part and Database Design.
- Complete designing screen for first phase
- Code first part of admin module and account management module includes unit testing.
- Complete report #1, report #2, 1st part of report #3, 1st part of report #4 and 1st part of report #5.

❖ **Implement 2:** In this phase, the architecture of the 2nd part of system is designed. The goal is to translate requirements and specification into a technical solution to produce Technical Design and coding.

- Our objectives are complete Requirement Specification of 2nd part and Architecture Design of 2nd part.
- Complete designing screen for second phase
- Code and execute unit test for second part includes: Recommendation Management Module, Group Management Module, Interaction Management Module and Common Module.
- Complete 2nd part of report #3, 2nd part of report #4 and 2nd part of report #5.

❖ **Implement 3:** In this phase, the architecture of the 3rd part of system is designed. The goal is to translate requirements and specification into a technical solution to produce Technical Design and coding.

- Our objectives are complete Requirement Specification of 3rd part and Architecture Design of 3rd part.
- Complete designing screen for 3rd phase
- Code and execute unit test for second part includes Admin Module 2nd part.
- Complete 3rd part of report #3, 3rd part of Report #4 and 3rd part of report #5.
- Execute intergration test.

❖ **Termination Phase**: This is the final phase in the life cycle of our project.

- Create installing guideline and user guideline
- Complete and submit final report.

2.3.3 Requirement Change Management

Who logs the change request?	Any team members
Who reviews the change request?	PM or members assigned by PM
Who approves the change request?	PM by default. PTL if: ▪ Changes to project scope ▪ Changes in delivery plan of project deliverables ▪ Changes to assignment for key roles (PM, PTL)

Table 2-8: Requirement Change Management

2.3.4 Quality Management

2.3.4.1 Defect Prevention Strategy

Item (Process/Product)	Strategy	Expected Benefits
Requirement missing	List up all of requirement into SRS document.	10–20% reduction in defect injection rate and about 2% improvement in productivity
Careless mistake in Design Document Format/Template wrong	After designing, QA will review Document Format base on checklist review design	Improvement in quality as overall defect removal efficiency will be improved; some benefits in productivity as defects will be detected early
Use wrong template	Have a meeting to disseminate all template that is used in this project for all member	All member will use right template writing document
Coding application does not match with User Requirement.	Development Team must study Requirement/Design within 1 week since project is assigned. PM and PTL has responsibility to review task results and explain User Requirement for Development Team	Coding Application match with User Requirement

Table 2-9: Defect Prevention Strategy

2.3.4.2 Review Strategy

Review Item	Reviewer	Review Type	Review Method	Completion Criteria
Project Plan Project Schedule CM Plan	Self-review PM QA Supervisor	Self-review Leader-review QA-Review	Use checklist and Self-review	
Business analysis and requirements Specification Document, Use Case catalog	Other members PM QA Supervisor	Peer-review Leader-review QA-Review	Use checklist	
Design document, object model	Self-review PM QA Supervisor	Self-review Leader-review QA-Review	Use checklist	
Stage plans	PM QA Supervisor	Leader-review QA-Review	Use checklist	
Complex/first time generated program specs, test cases, interactive diagrams	All team members	Group review		
Source code	Self-review Other members PM Supervisor	Self-review Peer-review Leader-review	Use checklist and Self-review	

Table 2-10: Review Strategy

2.3.4.3 Unit Testing Strategy

Item to be Unit Tested	Unit Test Type	Unit Test Technique	Tool Used	Unit Test Completion Criteria
Source Code	White-Box Test	Using unit test case, Checklist and test script	None	- Number of UTC/KLOC: 20 UTC/KLOC - Number defects/KLOC: 3-4 defects/KLOC - Statement coverage: 97% - Branch coverage: 100% - Path coverage: 100%

Table 2-11: Unit Testing Strategy

2.3.4.4 Integration Testing Strategy

Item to be Integration Tested	Integration Test Type	Integration Test Technique	Tool Used	Completion Criteria
Do test by flow of functions and items which concerns with each other	Black-Box Test	Using checklist	None	- Number of UTC/KLOC: 30 - Number of defects/KLOC: 2-3

Table 2-12: Integration Testing Strategy

2.3.4.5 System Testing Strategy

Item to be System Tested	System Test Type	System Test Technique	Tool Used	Completion Criteria
Test whole system	Black-Box Test		None	-Number of UTC/KLOC: 20 -Number of defects/KLOC: 4-6

Table 2-13: System Testing Strategy

2.3.4.6 Estimates of Defects to be detected

Review/Testing Stage	Targeted No. of Defects to be detected	% of Defects to be detected	Basic for Estimation
Requirements review	10	7%	Referenced to similar project estimations
Design review	15	11%	Referenced to similar project estimations
Code review	30	22%	Referenced to similar project estimations
Unit Test	50	38%	Referenced to similar project estimations
Integration Test	15	11%	Referenced to similar project estimations
System Test	10	7%	Referenced to similar project estimations
User Acceptance Test	5	4%	Referenced to similar project estimations
Total	135	100%	

Table 2-14: Estimates of Defects

2.3.4.7 Measurements Program

Data to be collected	Purpose	PIC	When
Size: No. of KLOC	Achieve target	PM	At the end of stages
Effort: No. person-day	Monitor and control team member to keep plan.	Team members	Daily
Quality: No. defects detected	Manage product's quality.	Reviewer Tester	Right after the review/test
Schedule	Monitor and control software developing processing keep plan.	PM	Weekly and at the end of stages

Table 2-15: Measurements Program

2.4 Estimation

2.4.1 Size

Size of our project is limited by requirements from teacher and FPT University. Our project must complete all of those requirements.

2.4.2 Effort

The Effort estimation is documented in the table below:

	Initiation	Implement 1	Implement 2	Implement 3	Termination	Total
Effort (person/day)	45	95	145	60	45	**390**
Total % budgeted effort usage (%)	100	100	100	100	100	

Table 2-16: Effort Estimation

2.4.3 Schedule

2.4.3.1 Project Milestone & Deliverables

No	Stage	Committed Delivery date	Description of Deliverable	Delivery media
Initiation				
1	Develop project idea	09/05/2016	Project goals and scope defined	Commit on Github
Implement 1				
1	Q&A Sheet	09/20/2016	Q&A Sheet of phase #1	Commit on Github
2	Project Plan	09/20/2016	Project Plan	Commit on Github
3	1st part of User Requirement Specification	09/23/2016	SRS of phase #1	Commit on Github
4	1st part of Report #1	09/27/2016	1st part of Report #1	Commit on Github
5	1st part of Progress Report	10/05/2016	1st part of Progress Report	Commit on Github
6	Coding checklist for 1st phase	09/21/2016	Coding checklist for 1st phase	Commit on Github
7	1st part of Report #2	10/06/2016	1st part of Report #2	Commit on Github
8	Unit Test Checklist for 1st phase	10/03/2016	Unit Test Checklist for 1st phase	Commit on Github
9	Source code for 1st part of Admin Module and Account Management Module	10/10/2016	Source code for 1st part of Admin Module and Account Management Module	Commit on Github
10	Screen Design for phase 1	10/03/2016	Screen Design for phase 1	Commit on Github
11	Test Plan for 1st phase	10/03/2016	Test Plan for 1st phase	Commit on Github
12	Test Case for 1st phase	10/04/2016	Test Case for 1st phase	Commit on Github
13	1st part of Report #3	10/05/2016	1st part of Report #3	Commit on

				Github
14	1st part of Report #4	10/05/2016	1st part of Report #4	Commit on Github
15	1st part of Report #5	10/11/2016	1st part of Report #5	Commit on Github
Implement 2				
1	2nd part of User Requirement	10/18/2016	2nd part of User Requirement	Commit on Github
2	2nd part of Report #1	10/18/2016	2nd part of Report #1	Commit on Github
3	2nd part of Progress Report	10/18/2016	2nd part of Progress Report	Commit on Github
4	2nd part of Report #2	10/18/2016	2nd part of Report #2	Commit on Github
5	Unit Test Checklist for phase 2	10/21/2016	Unit Test Checklist for phase 2	Commit on Github
6	Screen Design for phase 2	10/19/2016	Screen Design for phase 2	Commit on Github
7	Source code for phase 2	11/15/2016	Source code for phase 2	Commit on Github
8	Test Plan for source code phase 2	10/21/2016	Test Plan for source code phase 2	Commit on Github
9	Test Case for source code of phase 2	10/27/2016	Test Case for source code of phase 2	Commit on Github
10	3rd part of Report #3	10/27/2016	3rd part of Report #3	Commit on Github
11	3rd part of Report #4	10/27/2016	3rd part of Report #4	Commit on Github
12	2nd part of Quality Report	10/28/2016	2nd part of Quality Report	Commit on Github
13	3rd part of Report #5	11/21/2016	3rd part of Report #5	Commit on Github
Implement 3				
1	User Requirement completed	11/25/2016	User Requirement completed	Commit on Github

2	Coding Checklist for phase 3	11/28/2016	Coding Checklist for phase 3	Commit on Github
3	3rd of Progress Report	11/28/2016	3rd of Progress Report	Commit on Github
4	3rd of Report #1	11/28/2016	3rd of Report #1	Commit on Github
5	3rd of Report #2	11/28/2016	3rd of Report #2	Commit on Github
6	Unit Test Checklist for Implement 3	11/29/2016	Unit Test Checklist for Implement 3	Commit on Github
7	Source code for Implement 3	11/30/2016	Source code for Implement 3	Commit on Github
8	Test Plan for Implement 3	11/30/2016	Test Plan for Implement 3	Commit on Github
9	Test Case for Implement 3	12/02/2016	Test Case for Implement 3	Commit on Github
10	Test Report	11/30/2016	Test Report for testing all integration TC, round 1	Commit on Github
11	Test Report	12/06/2016	Test Report for testing all integration TC, round 2	Commit on Github
12	3rd part of Report #3	11/23/2016	3rd part of Report #3	Commit on Github
13	3rd part of Report #4	11/23/2016	3rd part of Report #4	Commit on Github
14	Quality Report for Implement #3	12/06/2016	Quality Report for Implement #3	Commit on Github
15	Progress Report for Implement #3	12/08/2016	Progress Report for Implement #3	Commit on Github
16	3rd part of Report #5	12/08/2016	3rd part of Report #5	Commit on Github
Termination				
1	Lesson learned	12/09/2016	Lesson learned after project	Commit on Github
2	Final Report	12/12/2016	Final Report	Commit on Github

3	Installing Guideline	12/12/2016	Installing Guideline	Commit on Github
4	User Guideline	12/13/2016	User Guideline	Commit on Github
5	Project Result Assessment	12/12/2016	Project Result Assessment	Commit on Github
6	Slides for Final Presentation	12/12/2016	Slides for Final Presentation	Commit on Github

Table 2-17: Project Milestone and Deliverables

2.4.3.2 Detail Schedule

The detail project schedule is available in file BSN_ProjectSchedule_v1.1_EN.mpp.

	Task Mode	Task Name	Duration	Start	Finish	Predecessc	Resource Names
1		**Bookaholic Social Network**	**80 days?**	**Mon 9/5/16**	**Fri 12/23/16**		
2		**Initial**	**9 days**	**Mon 9/5/16**	**Thu 9/15/16**		
3		Form up team roles	0.5 days	Mon 9/5/16	Mon 9/5/16		All team
4		Select project idea	0.5 days	Mon 9/5/16	Mon 9/5/16	3	All team
5		**Develop project idea**	**6 days**	**Tue 9/6/16**	**Tue 9/13/16**	**4**	
6		Define Project Scope	0.5 days	Tue 9/6/16	Tue 9/6/16		All team
7		Define Project Features	0.5 days	Tue 9/6/16	Tue 9/6/16	6SS	All team
8		Create Project Introduction	1 day	Wed 9/7/16	Wed 9/7/16	7	HuyenPT
9		Review Project Introduction	0.5 days	Thu 9/8/16	Thu 9/8/16	8	VanTTC
10		Update Project Introduction	0.5 days	Thu 9/8/16	Thu 9/8/16	9	HuyenPT
11		Create Mockup (Part 1)	5 days	Wed 9/7/16	Tue 9/13/16	7	HaiCM,VanTTC,YenNTH
12		**Environment**	**1 day**	**Tue 9/6/16**	**Tue 9/6/16**	**5SS**	
13		Install tools & environment	0.5 days	Tue 9/6/16	Tue 9/6/16		DangVH,HuyenPT,VanTT
14		Training using tools & environment	0.5 days	Tue 9/6/16	Tue 9/6/16	13	DangVH,HuyenPT,VanTT
15		**Technology Research (Part 1)**	**4 days**	**Fri 9/9/16**	**Wed 9/14/16**		
16		Study .net MVC5	4 days	Fri 9/9/16	Wed 9/14/16		DangVH,HuyenPT,VanTT
17		Study Bootstrap, HTML5, CSS3	4 days	Fri 9/9/16	Wed 9/14/16	16SS	HaiCM,YenNTH
18		Kick-off meeting	1 day	Thu 9/15/16	Thu 9/15/16	15	All team
19		*End of initiation phase*	0 days	Thu 9/15/16	Thu 9/15/16	18	
20		**Implement 1**	**18 days?**	**Fri 9/16/16**	**Tue 10/11/16**	**2**	
21		**Requirement**	**1 day**	**Fri 9/16/16**	**Fri 9/16/16**		
22		Define User Requirement (Part 1)	1 day	Fri 9/16/16	Fri 9/16/16		All team
23		**Analysis & design**	**13 days**	**Mon 9/19/16**	**Thu 10/6/16**	**21**	
24		**Q&A Sheet**	**2 days**	**Mon 9/19/16**	**Tue 9/20/16**		
25		Create Q&A Sheet	0.5 days	Mon 9/19/16	Mon 9/19/16		YenNTH
26		Review Q&A Sheet	0.3 days	Mon 9/19/16	Mon 9/19/16	25	HuyenPT
27		Update Q&A Sheet	0.2 days	Mon 9/19/16	Mon 9/19/16	26	YenNTH

28	Translate Q&A Sheet to Japanese	1 day	Tue 9/20/16	Tue 9/20/16	27	YenNTH
29	*Complete Q&A Sheet*	0 days	Tue 9/20/16	Tue 9/20/16	28	
30	**Create Project Plan**	**2 days**	**Mon 9/19/16**	**Tue 9/20/16**	**24SS**	
31	Create PP Review Checklist	0.5 days	Mon 9/19/16	Mon 9/19/16		YenNTH
32	Create Project Plan in MS Word	1 day	Mon 9/19/16	Mon 9/19/16	31SS	HuyenPT
33	Create Project Schedule in .mpp file	2 days	Mon 9/19/16	Tue 9/20/16	31SS	DangVH,VanTTC
34	Create CM Plan	1 day	Mon 9/19/16	Mon 9/19/16	31SS	HaiCM
35	Review Project Plan, CM Plan, Schedule	0.5 days	Tue 9/20/16	Tue 9/20/16	34	HuyenPT,VanTTC
36	Update Project Plan, CM Plan, Schedule	0.5 days	Tue 9/20/16	Tue 9/20/16	35	DangVH,HaiCM,HuyenPT VanTTC
37	*Complete Project Plan*	0 days	Tue 9/20/16	Tue 9/20/16	36	
38	**User Requirement Specification (Part 1)**	**2 days**	**Wed 9/21/16**	**Fri 9/23/16**	**30**	
39	Create SRS Review Checklist (Part 1)	1 day	Wed 9/21/16	Wed 9/21/16		YenNTH
40	Create Software Requirement Specification (Part 1)	1 day	Wed 9/21/16	Wed 9/21/16	39SS	HuyenPT,YenNTH
41	Review Software Requirement Specification (Part 1)	0.5 days	Thu 9/22/16	Thu 9/22/16	40	VanTTC
42	Update Software Requirement Specification (Part 1)	0.5 days	Thu 9/22/16	Thu 9/22/16	41	HuyenPT,YenNTH
43	*Complete User Requirement Specification (Part 1)*	0 days	Fri 9/23/16	Fri 9/23/16	42	
44	Create Report 1 (Part 1)	1 day	Fri 9/23/16	Fri 9/23/16	38	HuyenPT
45	*Submit Report 1 (Part 1)*	0 days	Tue 9/27/16	Tue 9/27/16	44	
46	**Design**	**5 days**	**Wed 9/28/16**	**Tue 10/4/16**	**30**	
47	Create Architecture Design	3 days	Wed 9/28/16	Fri 9/30/16		VanTTC
48	Create Mockup (Part 2)	5 days	Wed 9/28/16	Tue 10/4/16	47SS	HaiCM,VanTTC,YenNTH
49	Database Design	3 days	Wed 9/28/16	Fri 9/30/16	47SS	VanTTC

50	Class/Component Design (Part 1)	1 day	Mon 10/3/16	Mon 10/3/16	49	DangVH,HuyenPT,VanTT
51	Create Design Review Checklist	0.5 days	Tue 10/4/16	Tue 10/4/16	50	YenNTH
52	Create Report 2 (Part 1)	0.5 days	Tue 10/4/16	Tue 10/4/16	51	HuyenPT
53	Create Coding Checklist (Part 1)	0.5 days	Wed 9/21/16	Wed 9/21/16	24	DangVH
54	*Submit Report 2 (Part 1)*	0 days	Thu 10/6/16	Thu 10/6/16	52	
55	**Development**	**5 days?**	**Mon 10/3/16**	**Fri 10/7/16**	**49**	
56	Create Unit Test Checklist (Part 1)	0.5 days	Mon 10/3/16	Mon 10/3/16		VanTTC
57	**Code Screen Module**	**5 days?**	**Mon 10/3/16**	**Fri 10/7/16**		
58	"Admin Management" Screen	1 day	Mon 10/3/16	Mon 10/3/16		HaiCM,YenNTH
59	"Đăng Nhập"Screen	1 day?	Mon 10/3/16	Mon 10/3/16	58SS	HaiCM,YenNTH
60	"Trang Chủ"Screen	2 days	Tue 10/4/16	Wed 10/5/16	59	HaiCM,YenNTH
61	"Trang cá nhân"Screen	1 day?	Thu 10/6/16	Thu 10/6/16	60	HaiCM,YenNTH
62	"Tác giả"Screen	1 day	Fri 10/7/16	Fri 10/7/16	61	HaiCM,YenNTH
63	**Code & Unit Test**	**5 days?**	**Mon 10/3/16**	**Fri 10/7/16**		
64	**Admin Module (Part 1)**	**1 day**	**Mon 10/3/16**	**Mon 10/3/16**		
65	Book Management Feature	0.5 days	Mon 10/3/16	Mon 10/3/16		DangVH
66	Publisher Management Feature	0.5 days	Mon 10/3/16	Mon 10/3/16	65SS	HuyenPT
67	Slide Management Feature	1 day	Mon 10/3/16	Mon 10/3/16	65SS	HuyenPT
68	**Guest Module**	**2 days**	**Tue 10/4/16**	**Wed 10/5/16**	**64**	
69	Account Register Function	2 days	Tue 10/4/16	Wed 10/5/16		VanTTC
70	**Reader/Author Module (Part 1)**	**2 days?**	**Thu 10/6/16**	**Fri 10/7/16**		
71	LogIn/LogOut Feature	1 day	Thu 10/6/16	Thu 10/6/16	69	VanTTC
72	Reset Password Function	1 day	Fri 10/7/16	Fri 10/7/16	71	VanTTC
73	Send Mail Feature	1 day	Thu 10/6/16	Thu 10/6/16	71SS	VanTTC
74	Edit Profile Function	0.5 days?	Fri 10/7/16	Fri 10/7/16	73	VanTTC
75	Edit avatar and cover photo	0.5 days	Fri 10/7/16	Fri 10/7/16	73	DangVH

76			**Testing**	**4 days**	**Mon 10/3/16**	**Fri 10/7/16**	**63SS**	
77			Create Test Plan (Part 1)	0.5 days	Mon 10/3/16	Mon 10/3/16		YenNTH
78			Create Test Plan Checklist (Part 1)	0.5 days	Mon 10/3/16	Mon 10/3/16	77	HaiCM
79			**Writing Test Case (Part 1)**	**1 day**	**Tue 10/4/16**	**Tue 10/4/16**	**78**	
80			Create Admin Module Test Case (Part 1)	0.5 days	Tue 10/4/16	Tue 10/4/16		HaiCM,YenNTH
81			Create Guest Module Test Case	0.5 days	Tue 10/4/16	Tue 10/4/16	80	HaiCM,YenNTH
82			Create Reader/Author Module Test Case (Part 1)	0.5 days	Tue 10/4/16	Tue 10/4/16	81SS	VanTTC,YenNTH
83			Create Test Case Checklist (Part 1)	0.5 days	Tue 10/4/16	Tue 10/4/16	79SS	YenNTH
84			*Testing Part 1 Complete*	0 days	Fri 10/7/16	Fri 10/7/16	83	
85			Create Report 3-4 (Part 1)	0.5 days	Wed 10/5/16	Wed 10/5/16	77,79	HuyenPT
86			*Submit Report 3 (Part 1)*	0 days	Wed 10/5/16	Wed 10/5/16	85	
87			*Submit Report 4 (Part 1)*	0 days	Wed 10/5/16	Wed 10/5/16	86	
88			Create Quality Report (Part 1)	1 day?	Fri 10/7/16	Fri 10/7/16	76	HaiCM
89			Create Report 5 (Part 1)	1 day?	Mon 10/10/16	Mon 10/10/16	63	HuyenPT
90			*Submit Report 5 (Part 1)*	0 days	Mon 10/10/16	Mon 10/10/16	89	
91			Evaluation	1 day?	Tue 10/11/16	Tue 10/11/16	90	SangNV
92			*End Implement 1*	0 days	Tue 10/11/16	Tue 10/11/16	91	
93			**Implement 2**	**31 days?**	**Wed 10/12/16**	**Wed 11/23/16**	**20**	
94			**Requirement**	**1 day?**	**Wed 10/12/16**	**Wed 10/12/16**		
95			Define User Requirement (Part 2)	1 day?	Wed 10/12/16	Wed 10/12/16		VanTTC
96			**Analysis & design**	**4 days?**	**Thu 10/13/16**	**Tue 10/18/16**	**94**	
97			**User Requirement Specification (Part 2)**	**3 days?**	**Thu 10/13/16**	**Tue 10/18/16**		
98			Create SRS Review Checklist (Part 2)	1 day?	Thu 10/13/16	Thu 10/13/16		YenNTH
99			Create Software Requirement Sepecification (Part 2)	1 day?	Thu 10/13/16	Thu 10/13/16	98SS	HuyenPT
100			Review Software Requirement	0.5 days	Fri 10/14/16	Fri 10/14/16	99	VanTTC

101	Update Software Requirement Specification (Part 2)	0.5 days?	Fri 10/14/16	Fri 10/14/16	100	HuyenPT
102	*Complete Software Requirement Specification (Part 2)*	0 days	Tue 10/18/16	Tue 10/18/16	101	
103	Create Coding Checklist (Part 2)	0.5 days	Tue 10/18/16	Tue 10/18/16	97	DangVH
104	Create Report 1 (Part 2)	0.5 days	Tue 10/18/16	Tue 10/18/16	97	HuyenPT
105	*Submit Report 1 (Part 2)*	0 days	Tue 10/18/16	Tue 10/18/16	104	
106	**Design**	**0.5 days**	**Tue 10/18/16**	**Tue 10/18/16**		
107	Class/Component Design (Part 2)	0.5 days	Tue 10/18/16	Tue 10/18/16	105	DangVH,HuyenPT,VanTT
108	Create Progress Report 2 (Part 2)	0.5 days	Tue 10/18/16	Tue 10/18/16	104	HuyenPT
109	*Submit Report 2 (Part 2)*	0 days	Tue 10/18/16	Tue 10/18/16	108	
110	**Development**	**24.5 days**	**Wed 10/19/16**	**Tue 11/22/16**	**96**	
111	**Technology Research (Part 2)**	**2 days**	**Wed 10/19/16**	**Thu 10/20/16**		
112	.NET SignalR	2 days	Wed 10/19/16	Thu 10/20/16		HuyenPT
113	Create Unit Test Checklist (Part 2)	0.5 days	Fri 10/21/16	Fri 10/21/16	111	DangVH
114	**Code Screen Module**	**1 day**	**Wed 10/19/16**	**Wed 10/19/16**	**111SS**	
115	"Group Management" Screen	1 day	Wed 10/19/16	Wed 10/19/16	58	HaiCM,YenNTH
116	**Code & Unit Test**	**22 days**	**Fri 10/21/16**	**Tue 11/22/16**	**113**	
117	**Reader/Author Module (Part 2)**	**22 days**	**Fri 10/21/16**	**Tue 11/22/16**		
118	Normal User Search Function	2 days	Fri 10/21/16	Tue 10/25/16		VanTTC
119	Book Functions	3 days	Fri 10/21/16	Wed 10/26/16	118SS	DangVH
120	Interaction Functions	3 days	Wed 10/26/16	Mon 10/31/16	119	VanTTC
121	Post Functions	12 days	Mon 10/31/16	Wed 11/16/16	120	HuyenPT
122	Group Functions	4 days	Wed 11/16/16	Tue 11/22/16	121	DangVH
123	**Testing**	**4 days**	**Fri 10/21/16**	**Thu 10/27/16**	**116SS**	
124	Create Test Plan (Part 2)	0.5 days	Fri 10/21/16	Fri 10/21/16		YenNTH
125	Create Test Plan Checklist (Part 2)	0.5 days	Mon 10/24/16	Mon 10/24/16	124	HaiCM

126			**Writing Test Case (Part 2)**	**3 days**	**Mon 10/24/16**	**Thu 10/27/16**	**125**	
127			Create Reader/Author Module Test Case (Part 2)	3 days	Mon 10/24/16	Thu 10/27/16		HaiCM,YenNTH
128			Create Test Case Checklist (Part 2)	2 days	Mon 10/24/16	Wed 10/26/16	126SS	YenNTH
129			*Testing Part 2 Complete*	0 days	Fri 10/21/16	Fri 10/21/16		
130			Create Report 3 (Part 2)	0.5 days	Thu 10/27/16	Thu 10/27/16	124,126	HuyenPT
131			*Submit Report 3 (Part 2)*	0 days	Thu 10/27/16	Thu 10/27/16	130	
132			*Submit Report 4 (Part 2)*	0 days	Thu 10/27/16	Thu 10/27/16	131	
133			Create Quality Report (Part 2)	0.5 days	Thu 10/27/16	Thu 10/27/16	123	HuyenPT
134			Create Report 5 (Part 2)	0.5 days	Tue 11/22/16	Tue 11/22/16	116	HuyenPT
135			*Submit Report 5 (Part 2)*	0 days	Tue 11/22/16	Tue 11/22/16	134	
136			Evaluation	1 day?	Wed 11/23/16	Wed 11/23/16	135	SangNV
137			*End Implement 2*	0 days	Wed 11/23/16	Wed 11/23/16	136	
138			**Implement 3**	**11.5 days?**	**Thu 11/24/16**	**Fri 12/9/16**	**93**	
139			**Requirement**	**1 day?**	**Thu 11/24/16**	**Thu 11/24/16**		
140			Define User Requirement (Part 3)	1 day?	Thu 11/24/16	Thu 11/24/16		VanTTC
141			**Analysis & design**	**2.5 days**	**Fri 11/25/16**	**Tue 11/29/16**	**139**	
142			**User Requirement Specification (Part 3)**	**1.5 days**	**Fri 11/25/16**	**Mon 11/28/16**		
143			Create SRS Review Checklist (Part 3)	0.5 days	Fri 11/25/16	Fri 11/25/16		YenNTH
144			Create Software Requirement Sepecification (Part 3)	0.5 days	Fri 11/25/16	Fri 11/25/16	143SS	HuyenPT,YenNTH
145			Review Software Requirement Specification (Part 3)	0.5 days	Fri 11/25/16	Fri 11/25/16	144	VanTTC
146			Update Software Requirement Specification (Part 3)	0.5 days	Mon 11/28/16	Mon 11/28/16	145	HuyenPT,YenNTH
147			*Complete User Requirement Specification (Part 3)*	0 days	Mon 11/28/16	Mon 11/28/16	146	

148			Create Coding Checklist (Part 3)	0.5 days	Mon 11/28/16	Mon 11/28/16	142	DangVH
149			Create Report 1 (Part 3)	0.5 days	Mon 11/28/16	Mon 11/28/16	142	HuyenPT
150			*Submit Report 1 (Part 3)*	0 days	Mon 11/28/16	Mon 11/28/16	149	
151			**Design**	**0.5 days**	**Tue 11/29/16**	**Tue 11/29/16**		
152			Class/Component Design (Part 3)	0.5 days	Tue 11/29/16	Tue 11/29/16	150	DangVH,HuyenPT,VanTT
153			Create Report 2 (Part 3)	0.5 days	Mon 11/28/16	Mon 11/28/16	149SS	HuyenPT
154			*Submit Report 2 (Part 3)*	0 days	Mon 11/28/16	Mon 11/28/16	153	
155			**Development**	**4 days?**	**Tue 11/29/16**	**Mon 12/5/16**	**141**	
156			Create Unit Test Checklist (Part 3)	1 day?	Tue 11/29/16	Wed 11/30/16		VanTTC
157			**Code & Unit Test**	**3 days?**	**Wed 11/30/16**	**Mon 12/5/16**	**156**	
158			**Admin Module (Part 2)**	**3 days?**	**Wed 11/30/16**	**Mon 12/5/16**		
159			Manage Groups Functions	1 day?	Wed 11/30/16	Thu 12/1/16		DangVH
160			Manage Users Account Functions	1 day	Thu 12/1/16	Fri 12/2/16	159	DangVH
161			Statistic Functions	1 day	Fri 12/2/16	Mon 12/5/16	160	DangVH
162			**Testing**	**10 days?**	**Fri 11/25/16**	**Thu 12/8/16**		
163			Create Test Plan (Part 3)	0.5 days	Wed 11/30/16	Wed 11/30/16	157SS	YenNTH
164			Create Test Plan Checklist (Part 3)	0.5 days	Thu 12/1/16	Thu 12/1/16	163	HaiCM
165			**Writing Test Case (Part 3)**	**1 day**	**Thu 12/1/16**	**Fri 12/2/16**	**164**	
166			Create Admin Module Test Case (Part 2)	1 day	Thu 12/1/16	Fri 12/2/16		YenNTH
167			Create Test Case Checklist (Part 3)	1 day?	Thu 12/1/16	Fri 12/2/16	165SS	HaiCM
168			**Testing Round 1**	**5 days**	**Fri 11/25/16**	**Thu 12/1/16**	**141SS**	
169			Execute Test (Part 1)	3.5 days	Fri 11/25/16	Wed 11/30/16		HaiCM
170			Create Test Report (Part 1)	1.5 days	Wed 11/30/16	Thu 12/1/16	169	HaiCM
171			**Testing Round 2**	**5 days?**	**Fri 12/2/16**	**Thu 12/8/16**	**168**	
172			Execute Test (Part 2)	4 days	Fri 12/2/16	Wed 12/7/16		HaiCM
173			Create Test Report (Part 2)	1 day?	Thu 12/8/16	Thu 12/8/16	172	HaiCM

174	*Testing Part 3 Complete*	0 days	Thu 12/8/16	Thu 12/8/16	171	
175	Create Report 3 (Part 3)	0.5 days	Fri 12/9/16	Fri 12/9/16	174	HuyenPT
176	*Submit Report 3 (Part 3)*	0 days	Fri 12/9/16	Fri 12/9/16	175	
177	*Submit Report 4 (Part 3)*	0 days	Fri 12/9/16	Fri 12/9/16	176	
178	Create Quality Report (Part 3)	0.5 days	Fri 12/9/16	Fri 12/9/16	162	HuyenPT
179	Create Report 5 (Part 3)	0.5 days	Mon 12/5/16	Mon 12/5/16	157	HuyenPT
180	*Submit Report 5 (Part 3)*	0 days	Mon 12/5/16	Mon 12/5/16	179	
181	Evaluation	1 day?	Tue 12/6/16	Tue 12/6/16	180	SangNV
182	*End Implement 3*	0 days	Tue 12/6/16	Tue 12/6/16	181	
183	**Termination**	**10.5 days**	**Fri 12/9/16**	**Fri 12/23/16**	**138**	
184	Create lession learned	0.5 days	Fri 12/9/16	Fri 12/9/16		HuyenPT
185	**Final Report Document (Report 6)**	**2 days**	**Mon 12/12/16**	**Tue 12/13/16**	**184**	
186	Create Final Report document	2 days	Mon 12/12/16	Tue 12/13/16		HuyenPT
187	Create Installing Guide	1 day	Mon 12/12/16	Mon 12/12/16	186SS	DangVH
188	Create User Guideline	1 day	Mon 12/12/16	Mon 12/12/16	186SS	DangVH
189	Create Project Result Assessment	1 day	Mon 12/12/16	Mon 12/12/16	186SS	HuyenPT
190	Create Slides for Final Presentation	1 day	Mon 12/12/16	Mon 12/12/16	186SS	All team
191	*Submit all Final Documents and Source codes*	0 days	Wed 12/14/16	Wed 12/14/16	185	
192	**Pre-closing**	**6 days**	**Wed 12/14/16**	**Wed 12/21/16**	**191**	
193	Trainning presentation	6 days	Wed 12/14/16	Wed 12/21/16		All team
194	**Closing**	**1 day**	**Fri 12/23/16**	**Fri 12/23/16**	**192**	
195	Presentation for Capstone Project	1 day	Fri 12/23/16	Fri 12/23/16		All team
196	*Complete Project*	0 days	Fri 12/23/16	Fri 12/23/16	195	

Figure 2-1: Project Schedule

2.4.4 Resource

Specified as in the section 2.5.2 Project Team

2.4.5 Infrastructure

Item	Description	Expected Availability by	Note
Development Environment			
Operating System	Window 10 (32 bit, 64 bit)	All stages	
Browser	Chrome (50 or above)	All stages	
IDE	Visual Studio 2013	Development and Testing stage	
Technology			
Development language	C#, HTML, CSS, JavaScript		
Development Framework	ASP .net MVC5, Bootstrap		
Database	MongoDB	Development and Testing stage	
Hardware Requirement			
Hardware Configuration	2GB workspaces on server	All stages	
Equipment & Tools			
Source Version Control	GitHub	Development and Testing stage	
Task Tracking	MS Project Professional 2013	Initiation stage	
Document	Microsoft Office Word 2013, Microsoft Office Excel 2013	All stage	
Diagram	Microsoft Office Visio 2013, Astah Professional	All stages	
Mockup	Balsamiq Mockups 3.4.4	Designing stage	
Design	Brackets	Designing stage	

Table 2-2: Infrastructure

2.4.6 Training Plan

Training Area	Participants	Duration	Waiver Criteria
Technical			
ASP .net MVC5	DangVH HuyenPT VanTTC	1 week	Mandatory
JQuery, Knockout	DangVH HuyenPT	1 week	Mandatory
Bootstrap	YenNTH HaiCM	1 week	For design team only
Process			
Quality system	All team	3 hours	If is already trained.
Configuration management	All team	2 hours	If is already trained.
Group review process	All team	2 hours	If is already trained
Defect prevention	All team	2 hours	Mandatory

Table 2-18:Trainging Plan

2.4.7 Finance

This project is non-business. It is a Capstone Project at FPT University. Therefore, we do not need to estimate about finance.

2.5 Project Organization

2.5.1 Organization Structure

Figure 2-3: Organization Structure

2.5.2 Project Team

The detail of Human resource budget allocation over the whole project life is in the below table:

Role	Responsibility	Full name	Effort (%)	Start date	End date
PM	Have overall responsibility of the project: - Project planning and scheduling - Task assignment and tracking processing - Review documents - Report to supervisor	Pham Thi Huyen	50	09/05/2016	12/23/2016
PTL	- PTL is responsible for the technical project execution - Coding functions and modules of system - Peer-review source code of others members	Vu Hai Dang	100	09/05/2016	12/23/2016
Programmer #1	- Support studying technique - Support coding functions and modules of system.	Pham Thi Huyen	50	09/05/2016	12/23/2016
Programmer #2	- Support studying technique - Support coding functions and modules of system.	Thai Thi Cam Van	100	10/01/2016	12/23/2016
Test Leader	- Create test plan, test case, test report, quality report - Execute test.	Nguyen Thi Hai Yen	100	10/30/2016	12/23/2016
Tester	- Support creating test plan, test case, test report, quality report - Execute test.	Chu Minh Hai	100	10/30/2016	12/23/2016
Design Leader	- Create screen design - Review design of others member	Thai Thi Cam Van	100	09/05/2016	09/30/2016
Designer #1	- Support design screen - Creating prototype	Nguyen Thi Hai Yen	100	09/05/2016	10/30/2016
Designer #1	- Support design screen - Creating prototype	Chu Minh Hai	100	09/05/2016	10/30/2016

Table 2-19: Human Resource Budget Allocation

2.6 Communication & Reporting

Communication Type	Method/Tool	When	Information	Participants/ Responsible
Project Task Tracking				
Task scheduling	MS Project Professional 2013	- At the beginning of every stage, and weekly - Refinement and rescheduling as necessary		PM
Task assignment	MS Project Professional 2013	Weekly		PTL
Task status reporting	Daily Report	Daily		Project Team members
Project Meeting				
Kick-off Meeting	Face to face	Initiation stage	- Project introduction - Project plan review - Risk identification - Stakeholders identify	PM, Project Team Members
Project Progress Review Meetings	Face to face	Weekly and on event	- Discus about project status - Discus and resolve any open issue, risks, and changes - Discuss any suggested improvement	PM, Project Team Members
Milestone Meetings	Face to face	2 days after the completion of each stages: - Initial - Implement 1 - Implement 2 - Implement 3 - Termination	- Project objective review - Evaluate project performance (quality, schedule, effort) - Causal analysis - Update project plan for next	PM, Project Team Members, QA, Supervisor

			stage	
Supervisor Communication and Reporting:				
Transfer/Sharing of project documentation/information	GitHub	When available	All project documentation and information	PM, Project Team Members
Project Report	Agreed FPT Software and FU standard format	Weekly	- Project status report - Issue requiring clarifications	PM
Project Meetings with supervisor	Face to face	12h45 Wednesday, Weekly	As above	PM, Project Team Members
Requirement gathering/clarification	Face to face meeting or by email	During requirement analysis phase	As in Q&A list	PM
Review Project Plan & Project schedule	Face to face meeting	Significant changes to WO, PP and Project schedule (scope, objectives Organization, HR, major milestone, deliverables)		PM
Project Progress Review	Face to face meeting or by email	Weekly	- Project status report - Issue requiring clarifications	PM
Project Milestone Review	By email and via project milestone review meeting	The end of each phases	- Project objective review - Evaluate project performance (quality, schedule, effort) - Causal analysis - Update project plan for next stage	PM

Table 2-20: Communication and Reporting Plan

3 SOFTWARE REQUIREMENT

3.1 Introduction

3.1.1 Purpose

This document is created as the introduction for project Bookaholic Social Network – our Capstone Project at FPT University. In this document, we provide the describing of general requirement and non-functional requirements. These requirements will assure that the system will correctly and reliably perform its intended functionality. This specification will provide general, as well as specific requirements to be used in the design, testing and validation of the system. It is intended for both stakeholders and the project team of the system.

3.1.2 Definitions and Acronyms

Acronym	Definition	Note
BSN	Bookaholic Social Network	
SRS	Software Requirements Specifications	
UC	Use Case	

Table 3-1: Definition and Acronyms

3.2 User Requirement Specification

3.2.1 Product Features

DDL is a website, user only connect to internet to use website. System provides these main functions:

3.2.1.1 Guest features

- **Register:** Guests can register for an account to use features of our system.

3.2.1.2 Client features

- **Login/Logout:** After register for an account, user can login as a registered user and use almost functions of our system.
- **Profile :**
  - Reset password**:** User can reset password when forgot password.
  - Update profile: Edit personal information includes name, email, address, date of birth, etc.
- **Search:** User can search book/user/group and system will display search results relate to keywords
- **Group :**
  - Create new group: User can create new group and they have to tag a book/author as the topic of that group.
  - Update group information**:** User can update information of group such as name, type of group, etc.

- Post in group**:** Users can post in group that they are members to follow and discuss with other users.
- Report **:** User can report group which violate regulation to administration
- Join group : User can send request to join group

- **Book :**
  - Rate book**:** User can rate book with 1 to 5 stars.
  - Comment**:** User can comment on book
  - Request add book **:** User can send request add book to administration
- **Post :**
  - Create new post : User can create post with book tag
  - Like/Unlike post :User can like or unlike post
  - Comment on post :User can comment on post
  - Edit/Delete post : User can edit post's content or delete post
- **Interaction:**
  - Follow other user: User can follow other user
  - Receive notification: User can receive notification when someone like or comment on their post.

3.2.1.3 Admin features

- **Manage users :**
  - Ban/Unban users: Admin can ban or unban user's account
  - Accept/Decline request about creating an author account : Admin can accept or decline request create author account
  - Decline request about reporting an account
- **Manage Groups :**
  - Ban/Unban groups: Admin can active or de-active a group.
  - Decline request about reporting group
- **Manage Books :**
  - Add new Book/Category/Author: Admin can add new book, author or category.
  - Edit Book's information: Admin can change or update book's information
  - Accept add-book request: Admin can accept request add book from client
  - Decline add-book request: Admin can decline request add book from client
- **Manage Slides:**
  - Add new slides: Admin can add new slide
  - Delete slides: Admin can delete slide
  - Active/De-active slides: Admin can set slide's status
- **Manage Publishers:**
  - Add new publishers: Admin can add new publisher
  - Edit publisher's information: Admin can change or update publisher's information
- **Statistic:**
  - View User/Author/Group/Book Statistic: Admin can view statistic about User,Author,Group,Book

3.2.2 User characteristic

BSN website aim towards to anyone loves books and looking for a website to share their thought and make friends with other readers. Below are main actors that our system supports:

- **Guest:** Users who have not created an account, they can use functions such as: register for a normal account or register for an author account.
- **Readers & Authors:** Users who have account on system, they can use almost functions of website. For example: searching, posting, rating, connect to friends, etc.
- **Administrators:** They have an administrator control panel to manage all configurations of system

3.2.3 Functional Requirements

3.2.3.1 Register Function

Access right: Guest

This function is used to by guest. Guest can register account and use it to login or logout to use BSN's features.

3.2.3.2 Discover Book

Access right: Reader and Author

This function is used to view an overview of book. The system will display over view of book include image, book's content, rating, comment, books relate.

3.2.3.3 Create Post

Access right: Reader and Author

This function is used to create new post. The system will display a create book with book tag and them user enter input to create a post.

3.2.3.4 Search Function

Access right: Reader and Author

This function is used to search user/book/group/. The system will display a search box for user to search.

3.2.3.5 Create Group

Access right: Reader and Author

This function is used create group about author or book. The system will display a create group for user. In this screen, users can create group, tag author or book and select group type.

3.2.3.6 Send Request Add Book

Access right: Reader and Author

This function is used to send request add book to admintrastion. The system will display a add book request screen. In this screen, users can enter input and send request.

3.2.3.7 Rating Book

Access right: Reader and Author

This function is used to rate a book. The system will display start as a book's rate and user can click to rate.

3.2.3.8 Interaction

Access right: Reader and Author

This function is used to follow other account or group. The system will display icon for user to follow other account or group.

3.2.3.9 Create Report

Access right: Reader and Author

This function is used to create report other account or group. The system will display icon for user to click and report other account or group.

3.2.3.10 Management User's Account

Access right: Administrator

This function is used to management user's account. The system will display a Management Account Screen. In this screen, admin can view information about account, status of account and handing request create author account.

3.2.3.11 Management Groups

Access right: Administrator

This function is used to management group. The system will display management group screen. In this screen, admin can view information about group's information and group such as the number of member, admin group, number of created group, etc.

3.2.3.12 Management Books

Access right: Administration

This function is used to management book. The system will display management book screen. In this screen, admin can add a new book/category/author and handling request add book.

3.2.3.13 Management Slide

Access right: Administration

This function is used to management slide. The system will display management slide screen. In this screen, admin can add/active/de-active slide.

3.2.3.14 Management Publisher

Access right: Administration

This function is used to management publisher. The system will display management publisher screen. In this screen, admin can add/edit/delete publisher.

3.2.4 Non-functional Requirement

The system has to satisfy these principles:

- **Learnable**: The user interface must be easy to learn, even at the first time looking at the screen, user may immediately understand the function of each button or icon.
- **Efficiency**: The user interface must minimize the number of steps that the system takes to complete its task.
- **Memorable**: System contains some complex screens. Therefore, interface should be easier to use each time the user interacts with it.
- **Visibility**: Important information (example: text in nodes) should be clearly visible.
- **Consistency**: Like items should always be displayed and act the same way through the entire application.
- **Easy to maintain and upgrade**
- **Ensure data security capabilities, high performance**
- **Scalability system**

3.3 Software Requirements Specification

3.3.1 Overall Description

3.3.1.1 Product Features

Use Case No.	Group of functions	Functions	Glossary
GUEST MODULE			
UC001	Register	Register for a normal account	Register for a normal account (reader)
UC002		Register for an author account	Register for an author account: User must upload an image of their identity card and wait for approve from admin of website.
READER/AUTHOR MODULE			
UC003	Account	Login	Login by registered account
UC004		Logout	Logout
UC005		Edit personal information	Edit personal information includes name, email, address, date of birth.
UC006		Edit avatar and cover photo	Edit avatar and cover photo
UC007		Reset password	Reset password by confirm an auto email.
UC008	Post	Create a post	Create a post to introduce about book(s). User has to tag book(s) as the topic of that post.
UC009		Edit a post	Edit caption and book tags of a created post.
UC010		Delete a post	Delete posts
UC011		Like a post	Like posts
UC012		Unlike a post	Unlike posts
UC013		Comment on a post	Comment on a post

UC014		Delete a comment	Delete comments
UC015	Interaction	Follow user account	Follow other account to get their new post on new-feed.
UC016		Report user account	Report other accounts.
UC017		Send join-group request	Send join-group request. After that, users have to wait admin of that group to add them as members.
UC018		Leave a group	Members can leave a group themselves.
UC019		Report a group	Report groups.
UC020		Get Notification	Users get notification when: + Other users like their post + Other users comment on their post + Other users follow their account
UC021	Group	Create a group	To create a group, users have to tag a book/author as the topic of that group.
UC022		Edit group information	Edit group profile
UC023		Edit group's avatar/cover photo	
UC024		Add new members	Add new members by enter account name.
UC025		Accept join-group request	Users can send a request to group and admin have right to accept them as members or not.
UC026		Set group's admin	Set other members in group as admins.
UC027		Remove a member	Admins of a group van remove other members from their group.
UC028		Create a group post	Create group posts: Members do not need to tag books or authors.
UC029		Like a group post	
UC030		Edit a group post	Edit group posts.
UC031		Delete a group post	Delete group posts.
UC032		Comment on a group post	
UC033		Delete comment on a group post	
UC034	Book	Rate a book	Rate a book: the highest score is 5 stars.
UC035		Comment on a book	Comment about book in its own details page

UC036		View a book's details	View details about a book: image, description, rating and comments of readers about that book.
UC037		Search book/author/other account/group	Search book/author/other account/group
UC038		View suggested books/authors	BSN system suggests books/authors base on the trend of reading: + Book: by access times + Author: by number of followers
ADMIN MODULE			
UC039	User Accounts Management	Search user	Search user
UC040		Ban user	If an account is reported, admin of page has right to ban that account of decline the reporting request.
UC041		Unban user	Unban user
UC042		Decline request about reporting an account	If an account is reported, admin of page has right to ban that account of decline the reporting request.
UC043		Accept request about creating author account	
UC044		Decline request about creating author account	Accept/decline request about creating author account from guests.
UC045	Groups Management	Band a group	When a group is reported, admin of page can band it.
UC046		Unban a group	Unban a group
UC047		Decline request about reporting a group	
UC048	Books Management	Add a new book	Add new books.
UC049		Add a new Category	Add new Categories.
UC050		Add an author	Add Authors
UC051		Edit book's information	Edit book's information
UC052		Accept add-book request	
UC053		Decline add-book request	Approve/decline requests about adding a book
UC054	Sliders Management	Add a new slider	Add new sliders to introduce about website.
UC055		Delete a slider	Delete sliders.
UC056		Active/de-active a slider	Active/de-active slides.
UC057		Show a slider	Display sliders on the login page.
UC058	Publishers Management	Add a new publisher	Add new publishers
UC059		Edit publisher' information	Edit publishers' information

UC060		Delete a publisher	Delete publisher
UC061	Statistics	View user statistic	View statistic about users: + number of old accounts + number of new accounts
		View author statistic	View statistic about authors: + number of old accounts + number of new accounts + authors with largest number of followers
		View group statistic	View statistic about groups: + number of old groups + number of new groups
		View book statistic	View statistic about books: + number of old books + number of new books + the book in trend: base on number of access time

Table 3-2: List of Product Features

3.3.1.2 User Characteristics

BSN website aim towards to anyone loves books and looking for a website to share their thought and make friends with other readers. Below are main actors that our system supports:

- **Guest:** Users who have not created an account, they can use functions such as: register for a normal account or register for an author account.
- **Readers & Authors:** Users who have account on system, they can use almost functions of website. For example: searching, posting, rating, connect to friends, etc.
- **Administrators:** They have an administrator control panel to manage all configurations of system

3.3.2 Functional Specification

3.3.2.1 Business Rules

No	Description
B1	Email must content characters '@' and '.'
B2	Authors must have CMND photo.
B3	Allowed file extension: .jpg, .png
B4	The tag book must be attached when user posting a new post.
B5	Displayed date is dd/mm/yyyy format
B6	Date time input format is datetime

Table 3-3: Bussiness Rules

3.3.2.2 Guest Module

3.3.2.2.1 Register

Figure 3-1: Guest Module - Register

3.3.2.2.1.1 UC001-Register for a normal account

3.3.2.2.1.1.1 Use Case Specification - Normal flow

Use Case ID	UC001	**Version**	1.0
Use Case Name	Register for a normal account		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Guest	**Secondary Actor**	N/A
Description:	This function allow guests to register for a normal account (reader account)		
Preconditions:	1. Guest are viewing Login-register page 2. Enter information in register form		
Trigger:	Click on “Đăng ký” button on the website		
Post conditions:	Confirm mail has sent to guest’s email.		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter BSN website	

2	BSN	Display Login-register page includes: - Email textbox - Password textbox - Login button: “Đăng nhập” - Forgot password hyperlink: “Bạn quên?” - Account name textbox on register form - Email textbox on register form - Password textbox on register form - Author registers hyperlink: “Tác giả đăng ký” Sign up button: “Đăng ký”
3	User	Enter information in register form on website
4	User	Click “Đăng ký” button
5	BSN	Send confirm email
6	User	Follow guide in confirm email
7	BSN	Confirm account
8	BSN	Redirects user to Login-register page
Priority		High
Frequency of Use:		High
Business Rules:		B1
Other Information:		N/A

3.3.2.2.1.1.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4, required fields are not entered	
Step	**Actor**	**Action**
4.1	BSN	Display Login-register page with message: with MS01
4.1	BSN	Mark error fields

EC2	At step 4, fields are entered with wrong type of data	
Step	**Actor**	**Action**
4.1	BSN	Display Login-register page with message: with MS01
4.2	BSN	Mark error fields

3.3.2.2.1.2 UC002-Register for an author account

3.3.2.2.1.2.1 Use Case Specification - Normal flow

Use Case ID	UC002	**Version**	1.0
Use Case Name	Register for an author account		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Guest	**Secondary Actor**	N/A
Description:	This function allows guests to register for an author account.		
Preconditions:	1. Display Author register page 2. Enter information in author register form		
Trigger:	Click on register button on the website		
Post conditions:	Confirm mail has sent to guest's email		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter BSN website	
2	User	Click "Tác giả đăng ký" hyperlink	
3	BSN	Display Author register page includes: - Email textbox - Password textbox - Login button: "Đăng nhập" - Forgot password hyperlink: "Bạn quên?" - Account name textbox on register form - Email textbox on register form - Password textbox on register form - Choose file button - Sign up button: "Đăng ký"	
4	User	Enter information in register form on website and upload an identification image	
5	User	Click "Đăng ký" button	

6	BSN	Send confirm email
7	User	Follow guide in confirm email
8	BSN	Confirm account
9	BSN	Redirects user to Login-register page
Priority		High
Frequency of Use:		High
Business Rules:		B1 B2 B3
Other Information:		N/A

3.3.2.2.1.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 5 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
5.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		
EC1	At step 5, required fields are not entered	
Step	**Actor**	**Action**
5.1	BSN	Display Login-register page with message: with MS01 – MS09
5.2	BSN	Mark error fields
EC2	At step 5, fields are entered with wrong type of data	
Step	**Actor**	**Action**
5.1	BSN	Display Login-register page with message: with MS01 – MS09

3.3.2.3 Reader/Author Module

3.3.2.3.1 Account

Figure 3-2: Reader/Author Module - Account

3.3.2.3.1.1 UC003-Login

3.3.2.3.1.1.1 Use Case Specification - Normal flow

Use Case ID	UC001	**Version**	1.0
Use Case Name	Login		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Registered User	**Secondary Actor**	N/A
Description:	This function allows users to login system by registered account.		
Preconditions:	1. Account must be existed. 2. Display login-register page.		
Trigger:	Click Login button (“Đăng nhập”)		
Post conditions:	1. Validate account success 2. Display home page as reader or author’s interface.		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter BSN location on browser	

2	BSN	Display login-register page includes: - Email textbox - Password textbox - Login button: "Đăng nhập" - Forgot password hyperlink: "Bạn quên?" - Account name textbox on register form - Email textbox on register form - Password textbox on register form - Confirm password textbox on register form - Author register hyperlink: "Tác giả đăng ký" Sign up button: "Đăng ký"
3	User	Enters email and password
4	User	Click "Đăng nhập" button
5	BSN	Logs user into system
6	BSN	Display home page as normal user or author's interface.
Priority		High
Frequency of Use:		High
Business Rules:		B1
Other Information:		N/A

3.3.2.3.1.1.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
AT2	At step 4 in the main flows**,** if BSN failed to validate user name & password	
Step	**Actor**	**Action**
4.1	BSN	Display Login page with message MS01 MS02
Exceptions:		
EC1	At step 3 in main flow, if user entered wrong email or password	

Step	Actor	Action
3.1	BSN	Display Login popup message with MS01 MS02

3.3.2.3.1.2 UC004-Logout

3.3.2.3.1.2.1 Use Case Specification - Normal flow

Use Case ID	UC004	**Version**	1.0
Use Case Name	Logout		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Registered User	**Secondary Actor**	N/A
Description:	This function allow user to log out system.		
Preconditions:	User logged in to system		
Trigger:	User click "Đăng xuất" on dropdown list from setting icon in navigation bar		
Post conditions:	1. Log user out from system. 2. Display login-register page		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Click "Đăng xuất" button	
2	BSN	Display login-register page	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.1.2.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.1.3 UC005-Edit personal Information

3.3.2.3.1.3.1 Use Case Specification - Normal flow

Use Case ID	UC005	**Version**	1.0
Use Case Name	**Edit personal Information**		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows users to edit personal information includes name, email, address, date of birth.		
Preconditions:	User logged in BSN website		
Trigger:	User click "Chỉnh sửa thông tin" hyperlink while in home page then click save button ("Lưu")		
Post conditions:	Updated information display in edit profile page		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Click "Chỉnh sửa thông tin" hyperlink while in home page	
2	BSN	Display Edit profile page includes: - Navigation bar - User profile panel - Side bars User's information	
3	BSN	Display user's information and editable text box	
4	User	Modifies fields	
5	User	Click "Lưu" button	
6	BSN	Display home page with updated information	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.2.1.1 Alternative Flows and Exceptions

Alternative Flows:	
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons

Step	Actor	Action
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 5, fields are entered with wrong type of data	
Step	**Actor**	**Action**
5.1	BSN	Display Edit profile page with message: MS 07
5.2	BSN	Mark error fields
EC2	At step 5, fields are null	
Step	**Actor**	**Action**
5.1	BSN	Disable "Luu" button

3.3.2.3.2.2 UC006-Edit avatar and cover photo

3.3.2.3.2.2.1 Use Case Specification - Normal flow

Use Case ID	UC006	**Version**	1.0
Use Case Name	Edit avatar and cover photo		
Created by:	YenNTH	**Date Created:**	09/16/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows users to edit their avatar and cover photo.		
Preconditions:	User logged in BSN website		
Trigger:	User click camera icon on the avatar or cover to edit avatar or cover photo		
Post conditions:	Avatar photo or cover photo is edited .		
Normal Flow			
Step	**Actor**	**Action**	
1	Reader/Author	Click icon camera on the avatar or cover	
2	BSN	Display form to choose avatar photo or cover photo	
3	Reader/Author	Choose avatar photo or cover photo	

4	BNS	Update avatar photo or cover photo
Priority		High
Frequency of Use:		High
Business Rules:		B3
Other Information:		N/A

3.3.2.3.2.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flows, if user click cancel	
Step	**Actor**	**Action**
3.1	BSN	Form choose avatar photo or cover photo will be close
AT2	At step 3 in the main flows, if user choose file is not .jpg .png	
Step	**Actor**	**Action**
3.1	BSN	Display message MS32
Exceptions: N/A		

3.3.2.3.2.3 UC007-Reset password

3.3.2.3.2.3.1 Use Case Specification - Normal flow

Use Case ID	UC007	**Version**	1.0
Use Case Name	Reset password		
Created by:	HaiCM	**Date Created:**	09/16/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows users to reset their password through email.		
Preconditions:	1. User's account must be existed and correct. 2. User browsed BSN website		
Trigger:	Click "Bạn quên?" hyperlink in Login-register page		
Post conditions:	Reset password has sent to user's email		
Normal Flow			
Step	**Actor**	**Action**	

1	User	Click “Bạn quên?” hyperlink in Login-register page
2	BSN	Display reset password popup included: - Email text box “Gửi” and “Đóng” buttons
3	User	Enter registered email
4	User	Click “Gửi” button
5	BSN	Sends reset password email
6	BSN	Close popup
7	User	Follow guide in email
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.2.3.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flow, user clicks on “Đóng” button	
Step	**Actor**	**Action**
3.1	BSN	Close pop-up
AT2	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4, entered email is invalid or does not exist in databas	
Step	**Actor**	**Action**
4.1	BSN	Displays popup with message: with MS01

3.3.2.3.3 Post

Figure 3-3: Reader/Author Module-Post

3.3.2.3.3.1 UC008-Create a post

3.3.2.3.3.1.1 Use Case Specification - Normal flow

Use Case ID	UC008	**Version**	1.0
Use Case Name	Create a post		
Created by:	HaiCM	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows users to create a post to introduce about books.		
Preconditions:	User logged in BSN website		
Trigger:	Click “Đăng” button on recommendation area		
Post conditions:	New recommendation displays on home page or personal page		

Normal Flow		
Step	**Actor**	**Action**
1	User	Enter Home page or Personal page
2	User	Click text area and enter a recommendation
3	User	Click tag book
4	User	Input and enter book's name or author's name
5	BSN	Search book's name or author's name in database then show results
6	User	Choose a tag
7	User	Click "Đăng" button
8	BSN	Displays new recommendation on home page or personal page
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.3.1.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 6 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
6.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 7, book's tag does not chosen	
Step	**Actor**	**Action**
1	BSN	Display viewing page with message: with MS19
2	BSN	Mark error fields
EC2	At step 5, BSN system cannot search any book or author	
Step	**Actor**	**Action**

1	BSN	No data to display for the reader/author to choose
2	BSN	Mark error fields

3.3.2.3.3.2 UC009-Edit a post

3.3.2.3.3.2.1 Use Case Specification - Normal flow

Use Case ID	UC009	**Version**	1.0
Use Case Name	**Edit a post**		
Created by:	HaiCM	**Date Created:**	10/21/2016
Primary Actor	User	**Secondary Actor**	N/A
Description:	This function allows users to edit caption and book tags of a created post.		
Preconditions:	User is viewing their own recommendation		
Trigger:	Click “Sửa” hyperlink on angle-down icon at top-right of the post		
Post conditions:	Caption has changed		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Viewing personal’s recommendation	
2	User	Click “Sửa” hyperlink on angle-down icon at top-right of the post	
3	BSN	Display recommendation with text area and book’s tag editable	
4	User	Modifies caption	
5	User	Click “Đăng” button	
6	BSN	Changes caption	
Exceptions:			
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.4.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
AT1	At step 5 in the main flows, if caption is null	
Step	**Actor**	**Action**
5.1	BSN	Disable "Đăng" button
Exceptions: N/A		

3.3.2.3.4.2 UC010-Delete a post

3.3.2.3.4.2.1 Use Case Specification - Normal flow

Use Case ID	UC010	**Version**	1.0
Use Case Name	**Delete a post**		
Created by:	HaiCM	**Date Created:**	10/21/2016
Primary Actor	User	**Secondary Actor**	N/A
Description:	This function use to remove a recommendation		
Preconditions:	User is viewing their recommendation		
Trigger:	Click "Xóa" hyperlink on angle-down icon at top-right of the post		
Post conditions:	Recommendation has removed from home page or personal page		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Viewing personal's recommendation	
2	User	Click "Xóa" hyperlink on angle-down icon at top-right of the recommendation	
3	BSN	Delete chosen post	
4	BSN	Refresh viewing page in real-time	
Priority	High		
Frequency of Use:	High		

Business Rules:	N/A
Other Information:	N/A

3.3.2.3.5.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click drop down list icon again	
Step	**Actor**	**Action**
2.1	BSN	Close drop down list
Exceptions: N/A		

3.3.2.3.5.2 UC011-Like a post

3.3.2.3.5.2.1 Use Case Specification - Normal flow

Use Case ID	UC011	**Version**	1.0
Use Case Name	**Like a post**		
Created by:	HaiCM	**Date Created:**	10/21/2016
Primary Actor	User	**Secondary Actor**	
Description:	This function allows user to like others' post and their own post.		
Preconditions:	User logged in BSN website		
Trigger:	Click "Thích" button below a post		
Post conditions:	Display "Thích" button in liked status and number of "like" increase		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Viewing a post	
2	User	Click "Like" button below caption	
3	BSN	Display post has liked	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.6.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.6.2 UC012-Unlike a post

3.3.2.3.6.2.1 Use Case Specification - Normal flow

Use Case ID	UC012	**Version**	1.0
Use Case Name	Unlike a post		
Created by:	YenNTH	**Date Created:**	10/21/2016
Primary Actor	User	**Secondary Actor**	N/A
Description:	This function allows user to unlike others' post and their own post.		
Preconditions:	User logged in BSN website and post that user liked		
Trigger:	Click "Thích" button below a post		
Post conditions:	Display "Thích" button in liked status and number of "like" increase		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Viewing a post	
2	User	Click "Like" button below caption	
3	BSN	Display post has unliked	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.6.2.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.6.3 UC013-Comment on a post

3.3.2.3.6.3.1 Use Case Specification - Normal flow

Use Case ID	UC013	**Version**	1.0
Use Case Name	Comment on a recommendation/ post		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function is used to comment on a recommendation/ post		
Preconditions:	User logged in BSN website		
Trigger:	Press enter button after enter a comment		
Post conditions:	Display comment below recommendation or post		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Click “Viết bình luận” text area below caption	
2	User	Enter a comment	
3	User	Click “Bình luận” button	
4	BSN	Display recommendation or post with comment	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.6.3.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.6.4 UC014-Delete a comment

3.3.2.3.6.4.1 Use Case Specification - Normal flow

Use Case ID	UC014	**Version**	1.0
Use Case Name	Delete a comment		
Created by:	HuyenPT	**Date Created:**	10/21/2016

Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function use to edit a comment		
Preconditions:	User logged in BSN website		
Trigger:	Click "Xóa" hyperlink on icon at right of comment		
Post conditions:	Comment has deleted		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Click "Xóa" hyperlink on pencil icon at right of comment	
2	BSN	Delete chosen post	
3	BSN	Refresh viewing page in real-time	
Priority			
Frequency of Use:			
Business Rules:			
Other Information:			

3.3.2.3.6.4.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 1 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
1.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.7 Interaction

3.3.2.3.7.1 UC015-Follow user account

3.3.2.3.7.1.1 Use Case Specification - Normal flow

Use Case ID	UC017	**Version**	1.0
Use Case Name	**Follow user account**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user can follows the other and get update their actions like: posting, etc.		
Preconditions:	User logged in BSN website		
Trigger:	Click “Theo dõi” button in another user’s personal page		
Post conditions:	Display “Theo dõi” button change to “Đã theo dõi” button		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to another user’s personal page	
2	BSN	Display other’s personal page includes: - Navigation bar - Personal panel - Side bars Recommendation area	
3	User	Click “Theo dõi” button in other’s personal panel	
4	BSN	Display “Theo dõi” button change to “Đã theo dõi” button	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.8.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**

3.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.8.2 UC016-Report user account

3.3.2.3.8.2.1 Use Case Specification - Normal flow

Use Case ID	UC016	**Version**	1.0
Use Case Name	**Report user account**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user report the other		
Preconditions:	User logged in BSN website		
Trigger:	Click “Báo cáo” button in another user’s personal page		
Post conditions:			
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to another user’s personal page	
2	BSN	Display other’s personal page includes: - Navigation bar - Personal panel - Side bars Recommendation area	
3	User	Click “Báo cáo” button in other’s personal panel	
4	BSN	Display popup with list of radio button includes: - List of reasons Text field to enter another reason	
5	User	Choose a reason and click “Gửi” button	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.9.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
AT2	At step 4 in the main flows, if user click close icon	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 5 in the main flows, if user want to report by enter another reason but text field is null	
Step	**Actor**	**Action**
5.1	BSN	Disable "Gửi" button

3.3.2.3.9.2 UC017-Send join-group request

3.3.2.3.9.2.1 Use Case Specification - Normal flow

Use Case ID	UC017	**Version**	1.0
Use Case Name	**Send join-group request**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user send request to join a group		
Preconditions:	User logged in BSN website		
Trigger:	Click "Tham gia" button in group page		
Post conditions:	Display "Tham gia" button change to "Đã gửi yêu cầu" button		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to group page	
2	BSN	Display group page includes: - Navigation bar - Group's panel	

		- Side bars Posts area
3	User	Click “Tham gia” button in group’s panel
4	BSN	Display “Tham gia” button change to “Đã gửi yêu cầu” button
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.10.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
3.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.10.2 UC018-Leave a group

3.3.2.3.10.2.1 Use Case Specification - Normal flow

Use Case ID	UC018	**Version**	1.0
Use Case Name	**Leave a group**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user out a group		
Preconditions:	1. User logged in BSN website 2. User joined a group		
Trigger:	Click “Rời nhóm” button in group page		
Post conditions:	Display “Rời nhóm” button change to “Tham gia” button		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to group page	

2	BSN	Display group page includes: - Navigation bar - Group's panel - Side bars Posts area
3	User	Click "Rời nhóm" button in group's panel
4	BSN	Display "Rời nhóm" button change to "Tham gia" button
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.11.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.11.2 UC019-Report a group

3.3.2.3.11.2.1 Use Case Specification - Normal flow

Use Case ID	UC019	**Version**	1.0
Use Case Name	**Report a group**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user report a group		
Preconditions:	1. User logged in BSN website 2. User joined a group		
Trigger:	Click "Báo cáo" button in group page		
Post conditions:			
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to group page	
2	BSN	Display other's personal page includes: - Navigation bar - Group's panel	

		- Side bars Posts area
3	User	Click “Báo cáo” button in group’s panel
4	BSN	Display popup with list of radio button includes: - List of reasons Text field to enter another reason
5	User	Choose a reason and click “Gửi” button
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.12.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
AT2	At step 4 in the main flows, if user click close icon	
Step	**Actor**	**Action**
4.1	BSN	Close popup
Exceptions:		
EC1	At step 5 in the main flows, if user want to report by enter another reason but text field is null	
Step	**Actor**	**Action**
5.1	BSN	Disable “Gửi” button

3.3.2.3.12.2 UC020-Get notification

3.3.2.3.12.2.1 Use Case Specification - Normal flow

Use Case ID	UC020	**Version**	1.0
Use Case Name	Get notification		

Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user know about all activities related to that user		
Preconditions:	Login the BSN website		
Trigger:	Click bell icon in the navbar		
Post conditions:	Display notification		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Click bell icon in the navbar	
2	BSN	Display notification	
Alternative Flows: N/A			
Exceptions: N/A			
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.12.2.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.13 Group

3.3.2.3.13.1 UC021-Create a group

3.3.2.3.13.1.1 Use Case Specification - Normal flow

Use Case ID	UC021	**Version**	1.0
Use Case Name	**Create a group**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user create a group		
Preconditions:	User logged in BSN website		

Trigger:		Click “Tạo nhóm” hyperlink in home page
Post conditions:		New group has created
Normal Flow		
Step	**Actor**	**Action**
1	User	Go to home page
2	BSN	Display home page includes: - Navigation bar - Side bars Posts area
3	User	Click “Tạo nhóm” button in home page
4	BSN	Display popup includes: - Group name text box
5	User	Enter information and click “Tạo” button
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.14.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Close popup
Exceptions:		
EC1	At step 5 in the main flows, if any text box is null	
Step	**Actor**	**Action**

5.1	BSN	Disable “Tạo” button

3.3.2.3.14.2 UC022-Edit group information

3.3.2.3.14.2.1 Use Case Specification - Normal flow

Use Case ID	UC022	**Version**	1.0
Use Case Name	Edit group information		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to edit group profile		
Preconditions:	User logged in BSN website		
Trigger:	Click “Cài đặt” button in group page then click “Lưu” button after change group’s information		
Post conditions:	Display updated group’s information		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to group page	
2	BSN	Display group page includes: - Navigation bar - Group’s panel - Side bars Posts area	
3	User	Click “Cài đặt” button in home page	
4	BSN	Display edit group profile page includes: - Navigation bar - Group’s panel - Side bar Information area	
5	User	Enter information and click “Lưu” button	
6	BSN	Display updated group’s information	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		

Other Information:	N/A

3.3.2.3.14.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 5 in the main flows, if any text box is null	
Step	**Actor**	**Action**
5.1	BSN	Show the corresponding error message
EC2	At step 5 in the main flows, if any text box is entered wrong type of data	
Step	**Actor**	**Action**
5.1	BSN	Show the corresponding error message

3.3.2.3.14.3 UC023-Edit group's avatar and cover photo

3.3.2.3.14.3.1 Use Case Specification - Normal flow

Use Case ID	UC023	**Version**	1.0
Use Case Name	Edit group's avatar and cover photo		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow admin of group edit cover and avatar photo		
Preconditions:	Go to group page		
Trigger:	Click on name of group		
Post conditions:	Avatar or cover photo of group is edited		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to group page	

2	BSN	Display group page
3	User	1. Click to camera icon to edit avatar and cover photo . 2. Choose photo
4	BSN	Update avatar and cover photo
Priority		High
Frequency of Use:		High
Business Rules:		B3
Other Information:		N/A

3.3.2.3.14.3.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
3.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 3 in the main flows, if photo is not .jpg, .png	
Step	**Actor**	**Action**
3.1	BSN	Display message MS32

3.3.2.3.14.4 UC024-Add new member

3.3.2.3.14.4.1 Use Case Specification - Normal flow

Use Case ID	UC024	**Version**	1.0
Use Case Name	**Add new member**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user as an admin of group to add new member by enter account name		
Preconditions:	1. User logged in BSN website 2. User is an admin of group		
Trigger:			
Post conditions:	New member has added in group		

Normal Flow		
Step	**Actor**	**Action**
1	User	Go to group page
2	BSN	Display group page includes: - Navigation bar - Group's panel - Side bars Posts area
3	BSN	Display list account name
4	User	Choose an account name
5	BSN	Add new member in group
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.15.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if BSN system cannot search any account name	
Step	**Actor**	**Action**
4.1	BSN	Display "Không tìm được người dùng" message
Exceptions: N/A		

3.3.2.3.15.2 UC025-Accept join-group request

3.3.2.3.15.2.1 Use Case Specification - Normal flow

Use Case ID	UC025	**Version**	1.0
Use Case Name	**Accept join-group request**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user as an admin of group to add new member by accept their request		

Preconditions:		1. User logged in BSN website 2. User is an admin of group
Trigger:		
Post conditions:		New member has added in group
Normal Flow		
Step	**Actor**	**Action**
1	User	Go to group page
2	BSN	Display group page includes: - Navigation bar - Group's panel - Side bars Posts area
3	User	Click "Cài đặt" button, then click "Yêu cầu tham gia" tab
4	BSN	Display list join-request
5	User	Accept one or many request
6	BSN	Add new member in group
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.16.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.16.2 UC026-Set group's admin

3.3.2.3.16.2.1 Use Case Specification - Normal flow

Use Case ID	UC026	**Version**	1.0
Use Case Name	**Set group's admin**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author

Description:		This function allows user as an admin of group to set other be an admin
Preconditions:		1. User logged in BSN website 2. User is an admin of group
Trigger:		Click "Thêm với tư cách quản lí" hyperlink on dropdown list in config icon in "Thành viên" tab
Post conditions:		"Quản trị viên" sub-tab has new admin
Normal Flow		
Step	**Actor**	**Action**
1	User	Go to group page
2	BSN	Display group page includes: - Navigation bar - Group's panel - Side bars Posts area
3	User	Click "Thêm với tư cách quản lí" hyperlink on dropdown list in config icon in "Thành viên" tab
4	BSN	"Quản trị viên" sub-tab has new admin
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.17.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.17.2 UC027-Remove a member

3.3.2.3.17.2.1 Use Case Specification - Normal flow

Use Case ID	UC027	**Version**	1.0
Use Case Name	**Remove a member**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user as an admin of group to remove member out of		

		group
Preconditions:		1. User logged in BSN website 2. User is an admin of group
Trigger:		Click "Xóa khỏi nhóm" hyperlink on dropdown list in config icon in "Thành viên" tab
Post conditions:		Number of members has decreased
Normal Flow		
Step	**Actor**	**Action**
1	User	Go to group page
2	BSN	Display group page includes: - Navigation bar - Group's panel - Side bars Posts area
3	User	Click "Xóa khỏi nhóm" hyperlink on dropdown list in config icon in "Thành viên" tab
4	BSN	Remove member and decrease number of members
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.18.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.18.2 UC028-Create group post

3.3.2.3.18.2.1 Use Case Specification - Normal flow

Use Case ID	UC028	**Version**	1.0
Use Case Name	Create group post		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow user create a group		

Preconditions:		User logged in BSN website
Trigger:		Click "Tạo nhóm" on setting item in the navbar
Post conditions:		Create group successfully
Normal Flow		
Step	**Actor**	**Action**
1	User	Click “Tạo nhóm” on setting item
2	BSN	Display pop to create group
3	User	Input all information of group
4	User	Click “Thêm” button
5	BSN	Create new group
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.18.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4 in the main flows, if user don’t input and click “Thêm” button	
Step	**Actor**	**Action**
1	User	Don’t input anything and click “Thêm” button
2	BSN	Display the corresponding message

3.3.2.3.18.3 UC029-Like a group post

3.3.2.3.18.3.1 Use Case Specification - Normal flow

Use Case ID	UC029	**Version**	1.0
Use Case Name	**Like a group post**		

Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow user like a post of group		
Preconditions:	1. User logged in BSN website 2. As one member of the group or admin of group		
Trigger:	Click "Like" button below post		
Post conditions:	Number of like is increased		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to BSN website	
2	User	Create a group or join group	
3	User	Click "Like" button	
4	BSN	Calculates and displays the total number of likes	
Priority		High	
Frequency of Use:		High	
Business Rules:		N/A	
Other Information:		N/A	

3.3.2.3.19.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.19.2 UC030-Edit group post

3.3.2.3.19.2.1 Use Case Specification - Normal flow

Use Case ID	UC030	**Version**	1.0
Use Case Name	**Edit group post**		
Created by:	HuyenPT	**Date Created:**	10/21/2016

Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow creators post edit group post		
Preconditions:	1. User logged in BSN website 2. As creators post		
Trigger:	Click "Sửa" on the drop down list		
Post conditions:	Display all information of group to edit		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to BSN website	
2	User	Click "Sửa" on drop down list	
3	BSN	Display all information of group to edit	
4	User	Edit information	
5	User	Click "Lưu" button	
6	BSN	Update information of group	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.20.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 5 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 5 in the main flows , if the user enters name of group empty	
Step	**Actor**	**Action**
1	User	Enter name of group empty
2	BSN	Display message MS18

EC2	At step 5 in the main flows , if the user enters name of group already exists	
Step	**Actor**	**Action**
1	User	Enter name of group already exists
2	BSN	Display message MS31

3.3.2.3.20.2 UC031-Delete group post

3.3.2.3.20.2.1 Use Case Specification - Normal flow

Use Case ID	UC031	**Version**	1.0
Use Case Name	**Delete group post**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow creators post or admin of group edit group post		
Preconditions:	1. User logged in BSN website 2. As creators post or admin of group		
Trigger:	Click "Xóa" on the drop down list		
Post conditions:	Post was deleted		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to BSN website	
2	User	Click "Xóa" on drop down list	
3	BSN	Delete group post	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.21.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**

1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.21.2 UC032-Comment on a group post

3.3.2.3.21.2.1 Use Case Specification - Normal flow

Use Case ID	UC032	**Version**	1.0
Use Case Name	Comment on a group post		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow user comment on a group post		
Preconditions:	1. User logged in BSN website 2. As member of group		
Trigger:	Click textbox comment		
Post conditions:	Show comment on below the post		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to BSN website	
2	User	Click comment textbox and enter content	
3	User	Click “Đăng” button	
4	BSN	Display comment	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.21.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 3 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
1	BSN	Redirects user to chosen hyperlink or button

Exceptions: N/A

3.3.2.3.21.3 UC033-Delete a comment on a group post

3.3.2.3.21.3.1 Use Case Specification - Normal flow

Use Case ID	UC033	**Version**	1.0
Use Case Name	**Delete a comment on a group post**		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allow user delete comment of post		
Preconditions:	1. User logged in BSN website 2. As commentator or creator's post		
Trigger:	Click "Xóa" icon		
Post conditions:	The comment was deleted		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Go to BSN website	
2	User	Click "Xóa" button	
3	BSN	Comment was deleted	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.22.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.23 Book

Figure 3-4: Reader/Author Module-Book

3.3.2.3.23.1 UC034-Rate a book

3.3.2.3.23.1.1 Use Case Specification - Normal flow

Use Case ID	UC034	**Version**	1.0
Use Case Name	Rate a book		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to rate a book		
Preconditions:	User logged in BSN website		
Trigger:	Click rating stars		
Post conditions:	Display rating point updated and rating success message		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter a book's page	

2	BSN	Display a book's page includes: - Book's image - Book's information - Rating stars - Comment area Right side bar
3	User	Click rating stars between 1 – 5 star to rate this book
4	BSN	Display rating point updated and rating success message
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.23.1.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.3.23.2 UC035-Comment on a book

3.3.2.3.23.2.1 Use Case Specification - Normal flow

Use Case ID	UC035	**Version**	1.0
Use Case Name	Comment on a book		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to comment on a book		
Preconditions:	User logged in BSN website		
Trigger:	Press Enter in comment textbox		
Post conditions:	Display new comment		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter a book's page	

2	BSN	Display a book's page includes: - Book's image - Book's information - Rating stars - Comment area Right side bar
3	User	Click on comment textbox and enter a comment then press Enter
4	BSN	Display new comment
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.23.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.23.3 UC036-View book's detail

3.3.2.3.23.3.1 Use Case Specification - Normal flow

Use Case ID	UC036	**Version**	1.0
Use Case Name	View book's detail		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to view book's details		
Preconditions:	User logged in BSN website		
Trigger:	Click on "Xem thêm" hyperlink in book's page		
Post conditions:	Display detail popup		

Normal Flow		
Step	**Actor**	**Action**
1	User	Enter a book's page
2	BSN	Display a book's page includes: - Book's image - Book's information - Rating stars - Comment area Right side bar
3	User	Click on "Xem thêm" hyperlink in book's page
4	BSN	Display detail popup
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.23.3.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.23.4 UC037-Search book/author/other account/group

3.3.2.3.23.4.1 Use Case Specification - Normal flow

Use Case ID	UC037	**Version**	1.0
Use Case Name	Search book/ author/ other accounts		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to search book/ author/ other accounts		

Preconditions:		User logged in BSN website
Trigger:		Enter book/ author/ other accounts into search textbox
Post conditions:		Display suggest book/ author/ other accounts
Normal Flow		
Step	**Actor**	**Action**
1	User	Enter a book's page
2	BSN	Display a book's page includes: - Book's image - Book's information - Rating stars - Comment area Right side bar
3	User	Click on comment textbox and enter a comment then press Enter
4	BSN	Display new comment
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.3.23.4.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.3.23.5 UC038-View suggested book/author

3.3.2.3.23.5.1 Use Case Specification - Normal flow

Use Case ID	UC038	**Version**	1.0
Use Case Name	**View suggested book/author**		

Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Reader	**Secondary Actor**	Author
Description:	This function allows user to view suggested book/ author		
Preconditions:	User logged in BSN website		
Trigger:	N/A		
Post conditions:	N/A		
Normal Flow			
Step	**Actor**	**Action**	
1	User	Enter a BSN website	
2	BSN	Display a home page includes: - Navigation bar - Side bars with list of groups, suggested books and authors - Recommendation area Newfeed	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.3.24.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4 Admin Module

3.3.2.4.1 User Accounts Management

Figure 3-5: Admin Module-User Accounts Management

3.3.2.4.1.1 UC039-Search user

3.3.2.4.1.1.1 Use Case Specification - Normal flow

Use Case ID	UC039	**Version**	1.0
Use Case Name	Search user		
Created by:	HuyenPT	**Date Created:**	10/21/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin search user		
Preconditions:	Log in as admin		

Trigger:		Click search textbox
Post conditions:		
Normal Flow		
Step	**Actor**	**Action**
1	Admin	Successful login as admin
2	Admin	Click search textbox
3	Admin	Enter name of user
4	BSN	Search and display the user
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.1.1.2 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.4.1.2 UC040-Ban user

3.3.2.4.1.2.1 Use Case Specification - Normal flow

Use Case ID	UC040	**Version**	1.0
Use Case Name	**Ban user**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow ban user		
Preconditions:	Log in as admin		
Trigger:	Click ban button		
Post conditions:	User will be banned		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	

2	Admin	Click ban button
3	BSN	Ban users
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.2.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.4.2.2 UC041-Unban user

3.3.2.4.2.2.1 Use Case Specification - Normal flow

Use Case ID	UC041	**Version**	1.0
Use Case Name	**Unban user**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow ban user		
Preconditions:	Log in as admin		
Trigger:	Click unban button		
Post conditions:	Unban users		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click unban button	
3	BSN	Unban users	
Priority		High	
Frequency of Use:		High	
Business Rules:		N/A	
Other Information:		N/A	

3.3.2.4.3.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.4.3.2 UC043-Decline request reporting an account

3.3.2.4.3.2.1 Use Case Specification - Normal flow

Use Case ID	UC0	**Version**	1.0
Use Case Name	Decline request reporting an account		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin decline request reporting an account		
Preconditions:	Successful login as admin		
Trigger:	Click decline request button		
Post conditions:	Request will be declined		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click decline request button	
3	BSN	Decline request reporting an account	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.3.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.3.3 UC043-Accept request creating author account

3.3.2.4.3.3.1 Use Case Specification - Normal flow

Use Case ID	UC043	**Version**	1.0
Use Case Name	**Accept request creating author account**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	**This function allow admin accept request creating author account**		
Preconditions:	Successful login as admin		
Trigger:	Click accept button		
Post conditions:	Request creating author account will be accepted		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click accept button	
3	BSN	Request creating author account will be accepted	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.5.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.5.2 UC044-Decline request creating author account

3.3.2.4.5.2.1 Use Case Specification - Normal flow

Use Case ID	UC044	**Version**	1.0

Use Case Name	**Decline request creating author account**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin decline request creating author account		
Preconditions:	Successful login as admin		
Trigger:	Click decline button		
Post conditions:	Request creating author account will be declined		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click decline button	
3	BSN	Request creating author account will be declined	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.6.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.7 Groups Management

Figure 3-6: Admin Module-Group Management

3.3.2.4.7.1 UC045-Band a group

3.3.2.4.7.1.1 Use Case Specification - Normal flow

Use Case ID	UC045	**Version**	1.0
Use Case Name	**Band a group**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin ban a group		
Preconditions:	Successful login as admin		
Trigger:	Click ban button		
Post conditions:	Group was banned		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	

2	Admin	Click ban button
3	BSN	Ban group
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.8.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.8.2 UC046-Unban a group

3.3.2.4.8.2.1 Use Case Specification - Normal flow

Use Case ID	UC046	**Version**	1.0
Use Case Name	**Unban a group**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin unban a group		
Preconditions:	Successful login as admin		
Trigger:	Click unban button		
Post conditions:	Group was unbanned		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click unban button	
3	BSN	Unban group	
Priority		High	

Frequency of Use:	High
Business Rules:	N/A
Other Information:	N/A

3.3.2.4.9.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.9.2 UC047-Decline request reporting a group

3.3.2.4.9.2.1 Use Case Specification - Normal flow

Use Case ID	UC047	**Version**	1.0
Use Case Name	Decline request reporting a group		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin decline request reporting a group		
Preconditions:	Successful login as admin		
Trigger:	Click decline request button		
Post conditions:	Request will be declined		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click decline request button	
3	BSN	Request will be declined	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.9.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.10 Books Management

Figure 3-7: Admin Module-Book Management

3.3.2.4.10.1 UC048-Add a new book

3.3.2.4.10.1.1 Use Case Specification - Normal flow

Use Case ID	UC048	**Version**	1.0
Use Case Name	**Add a new book**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin add new book		
Preconditions:	Successful login as admin		
Trigger:	Click "Thêm sách" button		
Post conditions:	Popup to add new book is display then new book is added		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	BSN	Popup add new book is displayed	
3	Admin	Input all information of book	
4	Admin	Click "Thêm" button	
5	BSN	Books is added	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.11.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4 in the main flows, if admin input name of book empty	
Step	**Actor**	**Action**

4.1	BSN	Display message MS10
EC2	At step 4 in the main flows, if admin input name of author empty	
Step	**Actor**	**Action**
4.1	BSN	Display message MS11
EC3	At step 4 in the main flows, if admin input category empty	
Step	**Actor**	**Action**
4.1	BSN	Display message MS12
EC3	At step 4 in the main flows, if admin input publisher empty	
Step	**Actor**	**Action**
4.1	BSN	Display message MS14
EC3	At step 4 in the main flows, if admin don't choose image of book	
Step	**Actor**	**Action**
4.1	BSN	Display message MS16
EC3	At step 4 in the main flows, if admin don't choose date	
Step	**Actor**	**Action**
4.1	BSN	Display message MS17

3.3.2.4.11.2 UC050-Add a new category

3.3.2.4.11.2.1 Use Case Specification - Normal flow

Use Case ID	UC0	**Version**	1.0
Use Case Name	Add a new category		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin add a new category		
Preconditions:	Successful login as admin		
Trigger:	Click "Thêm thể loại" button		
Post conditions:	Popup to add new category is displayed and new category is added		
Normal Flow			

Step	Actor	Action
1	Admin	Successful login as admin
2	BSN	Popup add new category is displayed
3	Admin	Input all information of category
4	Admin	Click "Thêm" button
5	BSN	Category is added
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.11.2.2 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4 in the main flows, if admin input name of category empty	
Step	**Actor**	**Action**
4.1	BSN	Display message MS26

3.3.2.4.11.3 UC050-Add an author

3.3.2.4.11.3.1 Use Case Specification - Normal flow

Use Case ID	UC050	**Version**	1.0
Use Case Name	**Add an author**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin add a new author		
Preconditions:	Successful login as admin		
Trigger:			

Post conditions:		New author is added
Normal Flow		
Step	**Actor**	**Action**
1	Admin	Successful login as admin
2	Admin	Click accept author account
3	BSN	Author account will be accepted
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.12.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.12.2 UC051-Edit book's information

3.3.2.4.12.2.1 Use Case Specification - Normal flow

Use Case ID	UC051	**Version**	1.0
Use Case Name	**Edit book's information**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin edit book’s information		
Preconditions:	Successful login as admin		
Trigger:	Click to edit book button		
Post conditions:	Information of book will be edited		
Normal Flow			
Step	**Actor**	**Action**	

1	Admin	Successful login as admin
2	Admin	Edit information of book
3	BSN	Update new information of book
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.13.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.13.2 UC052-Accept add-book request

3.3.2.4.13.2.1 Use Case Specification - Normal flow

Use Case ID	UC052	**Version**	1.0
Use Case Name	**Accept add-book request**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin accept add book request		
Preconditions:	Successful login as admin		
Trigger:	Click accept button		
Post conditions:	Request add book will be accepted		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click accept button	
3	BSN	Request creating author account will be accepted	

Priority	High
Frequency of Use:	High
Business Rules:	N/A
Other Information:	N/A

3.3.2.4.14.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.14.2 UC053-Decline add-book request

3.3.2.4.14.2.1 Use Case Specification - Normal flow

Use Case ID	UC053	**Version**	1.0
Use Case Name	**Decline add-book request**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin decline request add book		
Preconditions:	Successful login as admin		
Trigger:	Click decline request button		
Post conditions:	Request will be declined		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click decline request button	
3	BSN	Request will be declined	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		

Other Information:	N/A

3.3.2.4.15.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.16 Sliders Management

Figure 3-8: Admin Module-Slider Management

3.3.2.4.16.1 UC054-Add a new slider

3.3.2.4.16.1.1 Use Case Specification - Normal flow

Use Case ID	UC054	**Version**	1.0
Use Case Name	**Add a new slider**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A

Description:		This function allow admin add a new slider
Preconditions:		Successful login as admin
Trigger:		
Post conditions:		New slider is added
Normal Flow		
Step	**Actor**	**Action**
1	Admin	Successful login as admin
2	Admin	Click add slider
3	Admin	Input all field to add slider
4	Admin	Click "Thêm" button
5	BSN	Slider will be accepted
Priority		High
Frequency of Use:		High
Business Rules:		B3
Other Information:		N/A

3.3.2.4.17.1.1 2Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4 in the main flows, if admin add photo is not .jpg, .png	
Step	**Actor**	**Action**
4.1	BSN	Display message MS32

3.3.2.4.17.2 UC055-Delete a slider

3.3.2.4.17.2.1 Use Case Specification - Normal flow

Use Case ID	UC055	**Version**	1.0
Use Case Name	**Delete a slider**		

Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin delete a slider		
Preconditions:	Successful login as admin		
Trigger:	Click delete button		
Post conditions:	Slider will be deleted		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click add slider	
3	BSN	Slider was deleted	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.18.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.18.2 UC056-Active/de-active a slider

3.3.2.4.18.2.1 Use Case Specification - Normal flow

Use Case ID	UC056	**Version**	1.0
Use Case Name	**Active/de-active a slider**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin active/de-active a slider		

Preconditions:		Successful login as admin
Trigger:		Click active/de-active button
Post conditions:		Slider will be active/de-active
Normal Flow		
Step	**Actor**	**Action**
1	Admin	Successful login as admin
2	Admin	Click active/de-active button
3	BSN	Slider will be active/de-active
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.19.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.19.2 UC057-Show a slider

3.3.2.4.19.2.1 Use Case Specification - Normal flow

Use Case ID	UC057	**Version**	1.0
Use Case Name	**Show a slider**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin view all slider		
Preconditions:	Successful login as admin		
Trigger:			
Post conditions:	Can view all slider of BSN website		

Normal Flow		
Step	**Actor**	**Action**
1	Admin	Successful login as admin
2	BSN	Show all slider of BSN website
Priority		High
Frequency of Use:		High
Business Rules:		N/A
Other Information:		N/A

3.3.2.4.20.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.2.4.21 Publishers Management

Figure 3-9: Admin Module Publisher Management

3.3.2.4.21.1 UC058-Add a new publisher

3.3.2.4.21.1.1 Use Case Specification - Normal flow

Use Case ID	UC058	**Version**	1.0
Use Case Name	**Add a new publisher**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin add a new publisher		
Preconditions:	Successful login as admin		
Trigger:	Click add publisher button		
Post conditions:	Publisher is added		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click add publisher	
3	Admin	Input all field to add publisher	
4	Admin	Click “Thêm” button	
5	BSN	Publisher is added	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.22.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 4 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
4.1	BSN	Redirects user to chosen hyperlink or button
Exceptions:		
EC1	At step 4 in the main flows, if admin add photo is not .jpg, .png	
Step	**Actor**	**Action**

4.1	BSN	Display message MS32

3.3.2.4.22.2 UC059-Edit publisher's information

3.3.2.4.22.2.1 Use Case Specification - Normal flow

Use Case ID	UC059	**Version**	1.0
Use Case Name	**Edit publisher's information**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin edit publisher's information		
Preconditions:	Successful login as admin		
Trigger:	Click to edit publisher button		
Post conditions:	Information of publisher will be edited		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Edit information of publisher	
3	BSN	Update new information of publisher	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.23.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.23.2 UC060-Delete a publisher

3.3.2.4.23.2.1 Use Case Specification - Normal flow

Use Case ID	UC060	**Version**	1.0
Use Case Name	**Delete a publisher**		
Created by:	HuyenPT	**Date Created:**	09/16/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin delete a publisher		
Preconditions:	Successful login as admin		
Trigger:	Click delete button		
Post conditions:	Publisher is deleted		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	Admin	Click delete button	
3	BSN	Publisher is deleted	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.24.1.1 Alternative Flows and Exceptions

Alternative Flows:		
AT1	At step 2 in the main flows, if user click other hyperlinks or buttons	
Step	**Actor**	**Action**
2.1	BSN	Redirects user to chosen hyperlink or button
Exceptions: N/A		

3.3.2.4.25 Statistics

Figure 3-10: Admin Module-Statistics

3.3.2.4.25.1 UC061-View statistic

3.3.2.4.25.1.1 Use Case Specification - Normal flow

Use Case ID	UC061	**Version**	1.0
Use Case Name	**View statistic**		
Created by:	HuyenPT	**Date Created:**	11/25/2016
Primary Actor	Admin	**Secondary Actor**	N/A
Description:	This function allow admin view statistic		
Preconditions:	Successful login as admin		
Trigger:			
Post conditions:	Can view statistic		
Normal Flow			
Step	**Actor**	**Action**	
1	Admin	Successful login as admin	
2	BSN	Show all statistic	
Priority	High		
Frequency of Use:	High		
Business Rules:	N/A		
Other Information:	N/A		

3.3.2.4.26.1.1 Alternative Flows and Exceptions

Alternative Flows: N/A
Exceptions: N/A

3.3.3 Non-Functional Specification

3.3.3.1 Reliability

1. Mean time between failures: The mean time between each failure is expected to be about 480 hours of using.
2. The maximum bugs per function are 2 bugs/a function when user uses software within 2 months. The average number of bugs in the software during system testing is about to be around 1 bugs/KLOC.
3. The database must be backed up daily and can be recovered if necessary

3.3.3.2 Performance Requirements

3.3.3.2.1 Availability

The application must be available 95% of time. Users can access to it everywhere from their Web browser with internet connection.

3.3.3.2.2 Response time

In term of response time, waiting time of processing will be 2 to 5 seconds; time to process any functions will not exceed 7 seconds.

3.3.3.2.3 Maintainability

- **Coding standards and naming conventions**
  - Output of the project must include coding standards and naming conventions documentations. Implementation code must be easy to maintain.
  - If some components are reused, the documentations of those components must also be included.
- **Design**
  - The design of the system must be loosely coupled that chances on some module will not affect others.
- **Logging**
  - All the errors should be logged, supporting for bug fixing and maintenance.
  - All strange or sensitive situations should also be logged.
- **Mean time to repair:** Immediately when Administrator finds out problem or website is attacked/ hacked by someone. Average 1 day.

3.3.3.2.4 Usability

Usability Requirements support the following from the perspective of its primary users:

- **Efficiency of use:** user can complete each function in less than 12 actions
- **Intuitiveness:** User can understand approximately 90% help/ error messages

3.3.3.2.5 Security Requirements

In order to avoid unwanted access by strangers, the security implemented in various ways:

- **User authorize**: Each function must be distributed system access and manipulate the individual parts. To edit information, user must declare their username and password before the operation. Functions will be show after users login dependencies user's role and permission of each user.
- **Manage Data Layer**: Only Administrator can modify database system.

3.3.3.2.6 Hardware/Software Requirements

Hardware requirement:

- Server: Web service 2013, IIS8

- Client: PC/Laptop (window 7, window 8, window 10)

● **Software requirements:** Web browser (Chrome 50.0 or higher) with internet connection

4 SOFTWARE DESIGN

4.1 Introduction

4.1.1 Purpose

This chapter provides a guideline for the development team of what the system's architect, how to implement functions.

This section of document is the software design of the project in order to develop the software, it includes four main parts:

- Architecture Design.
- Detail Design.
- Database design.
- Screen design.

4.1.2 Definitions, Acronyms, Abbreviations

Acronym	Definition	Note
DDL	Dandelion	
DB	Database	
MVC	Model view control	
IDE	Integrated development environment	
Q&A	Question and answer	
GUI	Graphic user interface	
FU	FPT University	

Table 4-1: Definitions and Acronyms

4.2 Architecture design

4.2.1 Choice of Architecture Design

4.2.1.1 MVC Model

The purpose of BSN is developing a social network, where people can share and discus about book. The system of BSN is structured based on MVC combined with layered architecture.

4.2.1.1.1 MVC Model Overview

The **model-view-controller or MVC** is software architecture commonly used for creating web applications or software. In other words, it's a structure for web applications to follow in order to ensure efficiency and consistency. Many of the most popular frameworks use the MVC architecture, including ASP.NET, CodeIgniter, Zend, Django, and Ruby on Rails. At

the same time, there are many web developers who don't use a coding framework yet still set up their applications to follow the MVC structure.

The Model-View-Controller (MVC) design pattern assigns objects in an application one of three roles: model, view, or controller. The pattern defines not only the roles objects play in the application, it defines the way objects communicate with each other. Each of the three types of objects is separated from the others by abstract boundaries and communicates with objects of the other types across those boundaries. The collection of objects of a certain MVC type in an application is sometimes referred to as a layer—for example, model layer.

Figure 11: MVC Model

In addition to dividing the application into three kinds of components, the MVC design defines the interactions between them:

- **Controller:** The controller can be considered the "middle man" of the application. It works with the user, taking in data, and then working with the model to get the appropriate data or calculation, and then working with the view to show the response to the user.
- **Model:** A model is simply a representation of something we need to deal within our application. It is a "model" for something we must represent in code, such as a book, user, bank account, or whatever. The model is responsible for holding the functions and variables that are involved with whatever it's representing. You can think of a model's logic as the core concept to object oriented programming — models are just our "classes". However, don't let this confuse you as controllers are technically structured as classes as well.
- **View:** Finally, after the controller requests information from the model it sends it to a view. A view is just like the application's templating system — there might be a view for a certain type of page layout *(profile page)*, a mobile view, or a view for a particular theme/skin. A view will contain all of the markup, CSS, and etc. that you traditionally use with creating a static web page.

4.2.1.1.2 Advantages and disadvantages of MVC Model

- Advantages:
  - MVC separates system into components, which can be developed, maintained and upgraded individually without pausing system.
  - Develop tools is useful and easy to use.
  - Large of documentary sources.
- Disadvantages:
  - For small projects that apply MVC model caused cumbersome, time consuming in development process.
  - Time consuming to transits data between components.
  - Not suitable for agent-oriented applications such as interactive mobile and robotics applications.
  - Multiple pairs of controllers and views based on the same data model make data model change expensive.
  - The division between the View and the Controller is not clear in some cases.

4.2.1.1.3 The reasons for choosing MVC Model

- MVC makes parts of system can be developed individually and simultaneously to reduce developing time.
- Better support for test-driven development.
- Easy to develop in case of larger source.
- BSN system is not complete system, now. We built the system that towards extensibility and maintainability in the future.

4.2.1.2 .Net Framework

4.2.1.2.1 .Net Framework Overview

.NET Framework is a software framework developed by Microsoft that runs primarily on Microsoft Windows. It includes a large class library known as Framework Class Library (FCL) and provides language interoperability (each language can use code written in other languages) across several programming languages.

The .NET Framework is a technology that supports building and running the next generation of applications and XML Web services. The .NET Framework is designed to fulfill the following objectives:

- To provide a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.
- To provide a code-execution environment that minimizes software deployment and versioning conflicts.
- To provide a code-execution environment that promotes safe execution of code, including code created by an unknown or semi-trusted third party.
- To provide a code-execution environment that eliminates the performance problems of scripted or interpreted environments.
- To make the developer experience consistent across widely varying types of applications, such as Windows-based applications and Web-based applications.
- To build all communication on industry standards to ensure that code based on the .NET Framework can integrate with any other code.

4.2.1.2.2 Advantages and disadvantages of .Net Framework

- Advantages
  - Less time to produce product
  - Less Complexity.
  - Easily to access complex O.S functions
  - Easily to build Data Oriented Project, support huge DB functions.
  - Managed
  - Support Both Windows and Web Application.
  - Easy to create Dynamic sites.
- Disadvantages
  - Not suitable for High End Application
  - Low performance compare to C, C++.
  - Unavailability of build in methods.
  - .NET framework is free to download but Code Editor is costly.
  - Only few O.S supports .NET.

4.2.1.2.3 The reasons for choosing .Net Framework

- Consistent with BSN system.
- There are many plugins and resources which support creating a website using MVC model.
- Many members can use and have experiences using C# (a language of .Net Framework)

4.2.2 Architecture Representation

Figure 12: System Overview

- **Model** includes "**Models**" and "**View Models**". View Models is an object that defines how the data will be sent over the network to remove circular references from Models, hide particular properties that clients are not supposed to view, omit some properties in order to reduce payload size, flatten object graphs that contain nested

objects, to make them more convenient for clients, avoid "over-posting" vulnerabilities and decouple your service layer from your database layer. "Models" is where the application's data objects are stored. A model object is in charge of encapsulating application state and one object could be related to other objects establishing a one-to-one or one-to-many relationship.

- **View** is what is presented to the users and how users interact with the system. The view is expected to render the model in a meaningful way to the user. In BSN, the view is made with .cshtml file including CSS, HTML, JavaScript and jQuery, it sends user gestures to controller and allows controller to select view.
- **Controller** is the decision maker and the glue between the model and view; it handles user actions and gestures, and responds to user events.

4.2.3 Architectural Goals and Constraints

❖ **Availability:**
- The application must be available 95% of time. Users can access to it everywhere from there .Web browser with internet connection.

❖ **Maintainability:**
- Coding standards and naming conventions:
  - Output of the project must include coding standards and naming conventions documentations. Implementation code must be easy to maintain.
  - All code must be clearly commented, including class, method documentations.
  - If some components are reused, the documentations of those components must also be included.
- Design:
  - The design of the system must be loosely coupled that chances on some module will not affect others.
- Logging:
  - All the errors should be logged, supporting for bug fixing and maintenance.
  - All strange or sensitive situations should also be logged.

❖ **Usability:**
- Intuitiveness: all help/error messages are simple to understand; user can know exactly how to do each feature after one time using it.

❖ **Capacity and scalability:**
- Throughput, storage and growth requirements.

4.2.4 Logical View

4.2.4.1 Overview

Logical View includes Package diagram and Class diagram. Package diagram describes the organization of packages and elements. Class Diagram provides an overview of the target system by describing the objects and classes inside the system and the relationships between them. It provides a wide variety of usages; from modeling the domain-specific data structure to detailed design of the target system

- Controller contain the interface between:
  - Associated models
  - Associated views
  - The input devices (e.g., keyboard, pointing device, time).
  - Send commands to the model to update the model's state.
  - Create queries to DB
  - Process data.
- Model is:
  - the domain-specific software simulation
  - Or implementation of the application's central structure.
- View: deal with everything graphical:
  - Requests data from their model
  - Display the data.

4.2.4.2 Architecturally Significant Design Packages

Figure 13: Package Diagram

❖ **Model:**

No	Model class	Role
1	Identity	Description entity of User in database
2	Book	Description entity of Book in database
3	Slider	Description entity of Conversation in database
4	Group	Description entity of Group in database
5	Publisher	Description entity of Publisher in database
6	Post	Description entity of Post in database
7	Comment	Description entity of Comment in database
8	Author	Description entity of Author in database

Table 4-1 : Model list

❖ **Controller:**

No	Controller class	Role
1	AccountController	Receive request login, logout, register from client then process data and respond login view, logout view, register view and login, logout, register status.
2	HomeController	Receive request to home page from client. Handle request from client and process data to get all data of home page. Respond data back to Home View.
3	BooksController	Receive request about book from client. Process data and respond to client.
4	PublishersController	Receive request about publisher from client. Process data and respond to client.
5	CategoriesController	Receive request about category from client. Process data and respond to client
6	SlidersController	Receive request about slider from client. Process data and respond to client.
7	TimeLineController	Receive request about user's page from client. Process data to get all data of user's page and

		respond to client
8	GroupsController	Receive request about group from client. Process data and respond to client.
9	SearchController	Receive request about search from client. Process data and respond to client.

Table 4-2: Controller list

❖ **View:**
Include many .cshtml file

4.2.5 Process view

Figure 14: Login activity diagram

Figure 15 : Edit Profile activity diagram

Figure 16: Comment on book activity diagram

Figure 17: Create Group activity diagram

Figure 18 : Create Post activity diagram

4.2.6 Deployment View

Figure 19: Deployment Diagram

No	Name	Description
1	MongoDB	MongoDB use to store system's data. Using MongoDB version 3.0.12.
2	Client	Client is web browser to use system. Chrome 50 or higher.
5	Web Server	Web server is hosted by … Web Service.

Table 4-3 : Deployment Diagram Description

4.3 Detail Design

4.3.1 Package

4.3.1.1 Package Diagram

Figure 4-1: Package Diagram

4.3.1.2 Package Description

4.3.1.2.1 Model

4.3.1.2.1.1 BSN_User

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	UserName	String		Public	User's name
3	Email	String		Public	User's Email
4	EmailConfirmed	Boolean		Public	Status of registration confirmation via email
5	PasswordHash	String		Public	Password encrypt by SHA 256
6	Role	String		Public	User's role
7	Gender	String		Public	User's gender

8	Avatar	String		Public	Public id of user's avatar in cloudinary
9	Cover	String		Public	Public id of user's cover in cloudinary
10	DOB	DateTime		Public	User's date of birth
11	Address	String		Public	User's address
12	SSNImgId	String		Public	User's SSN image public id in cloudinary

4.3.1.2.1.2 Post

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	Content	String		Public	The content of post
3	PostedBy	String		Public	UserId of user who create post
4	PostedDate	DateTime		Public	Time of post
5	BookTag	Array[String]		Public	List of book taged in user's posst

4.3.1.2.1.3 Book

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	BookName	String		Public	Book's name
3	ImgPublicId	String		Public	Book's image publicid in cloudinary
4	ReleaseDay	DateTime		Public	Date of book release
5	Url	String		Public	Link detail of book
6	Description	String		Public	Content of book

7	RateTime	Int		Public	Sum rating point of each rate
8	RatingPoint	Int		Public	Sum rating time
9	AvarageRating	Double		Public	RatingPoint/RateTime

4.3.1.2.1.4 Category

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		public	Mongodb objectid Unique for each document
2	Name	String		public	Category's name

4.3.1.2.1.5 Author

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	UserId	ObjectId		Public	User's id
3	AuthorName	String		Public	Name of Author
4	RatingPoint	Double		Public	Author's rating point

4.3.1.2.1.6 Publisher

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	Name	String		Public	Publisher's name
3	PhoneNumber	String		Public	Publisher's phone number
4	ImagePublicId	String		Public	Publisher's image publicid in cloudinary
5	Address	String		Public	Publisher's

					address

4.3.1.2.1.7 Report

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	UserId	ObjectId		Public	User's id
3	GroupId	ObjectId		Public	Group's id
4	Reporteduserid	ObjectId		Public	Id of user reported
5	Reportedgroupid	ObjectId		Public	Id of group reported
6	Content	String		Public	Content of report
7	Status	Boolean		Public	Status of report if admin accepted or decline report

4.3.1.2.1.8 Group

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	GroupName	String		Public	Book's name
3	Locked	Boolean		Public	Status of group (lock or not)
4	GroupType	String		Public	Group's type
5	CreateDate	DateTime		Public	Date time group created
6	Tag	String		Public	Group's tag(author's name or book's name)
7	CreatorId	String		Public	Id of user that created group
8	Description	String		Public	Content of group
9	CoverImg	String		Public	Group cover's image public id in cloudinary
10	AvaImg	String		Public	Group avatar's image public id in cloudinary

4.3.1.2.1.9 Slider

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	ImagePublicId	String		Public	Slide's image public id in cloudinary
3	Description	String		Public	Content of slide
4	Status	Boolean	True	Public	Slide's status (show or not show)

4.3.1.2.1.10 Book Statistic

No	Field Name	Type	Default	Note	Description
1	_id	ObjectId		Public	Mongodb objectid Unique for each document
2	BookId	String		Public	Book's id
3	EachDate	DateTime		Public	Each date of book statistic
4	Count	int		Public	Number of access time in book page each date

4.3.1.2.2 View

Contain.cshtml files to display user interface.

4.3.2 Controller

4.3.2.1.1.1 AccountController

No	Method	Parameter	Return	Description
1	AccountController	+ userManager : ApplicationUserManager		Get user management
2	Login	+ returnUrl : string	ActionResult	Show login form for user
3	Login	+ model : AccountViewModel + returnUrl : string	async	Handle login request from user
4	Register		ActionResult	Show normal user register form for user
5	AuthorRegister		ActionResult	Show author register request form for user

6	Register	model : AccountViewModel	async	Handle register for normal account
7	AuthorRegister	model : AccountViewModel	async	Handle register request for author account
8	ConfirmEmail	+ userId : string + code : string	async	Send email confirm for activate account to user
9	ForgotPassword		ActionResult	Show forgot password form for user
10	ForgotPassword	model : AccountViewModel	async	Handle input data from user then send email to reset password to user
11	ForgotPasswordConfirmation		ActionResult	Show confirm message when user confirm
12	ResetPassword	code : string	[AllowAnonymous]	Show reset password form for user
13	ResetPassword	model : ResetPasswordViewModel	async	Handle reset password
14	ResetPasswordConfirmation		ActionResult	Show confirm message when user confirm
15	LogOff		ActionResult	Handle log out
16	Users	+ searchString : string + currentFilter : string, page : int	ActionResult Authors	Get all users to show for admin manage
17	Authors	+ searchString : string + currentFilter : string, page : int	ActionResult	Get all authors to show for admin manage
18	AuthorConfirm	id : string	async	Admin confirm request when guest register as author account

4.3.2.1.1.2 Book Controller

No	Method	Parameter	Return	Description
1	Index	+ searchString : string + currentFilter : string + page : int	ActionResult	Get all books for admin manage
2	Details	id : string	ActionResult	Get book information that have book id equal with requested book
3	Create		ActionResult	Show book create form for admin to create new book
4	Create	book : Book	ActionResult	Accept input data and handle data then send back respond
5	Edit	id : string	ActionResult	Show book edit form with all information for admin to edit
6	Edit	book : Book	ActionResult	Accept input data and handle data then send back respond
7	DeleteConfirm	id : string	ActionResult	Handle delete request a book from admin
8	RatingBook	+ id : string + rating : int	ActionResult	Auto plus 1 to RatingPoint and RateTime each time user rate a book
9	CommentBook	+ commentedUser : string + bookId : string + commentContent : string	ActionResult	Save user comment in book page
10	BookRequest	searchString : string	ActionResult	Handle data when user request a book
11	RequestAddBook	+ bookName : string + author : string + categories : string	ActionResult	Handle user book request

4.3.2.1.1.3 Category Controller

No	Method	Parameter	Return	Description

1	Index		ActionResult	Get all categories
2	Create	categoryName : string	ActionResult	Create new category

4.3.2.1.1.4 Group Controller

No	Method	Parameter	Return	Description
1	GetUserForAdd	+ selectedValues : string [][] + groupId : string	MultiSelectList	Get all user that following group admin for add new member function
2	GroupReportContent		List<string>	Get all group report content
3	Index	+ searchString : string + currentFilter : string + page : int	ActionResult	Get all groups for admin manage
4	MainPage	id : string	ActionResult	Get information for group main page
5	Members	id : string	ActionResult	Get all member in group for member page
6	GroupRequestHandle	+ groupId : string + userId : string + option : int	ActionResult	Handle all request to group (Join request, leave group, accept join request, set to admin, delete member…)
7	Setting	id : string	ActionResult	Get information of group for setting page
8	Setting	groupSetting : GroupSettingViewModel	ActionResult	Handle input data to update group information
9	Create	+ groupName : string + groupTag : string + groupDesc : string + groupType : string	ActionResult	Handle input data to create new group

10	ChangeImage	+ id : string + file : HttpPostedFileBase + option : int	ActionResult	Handle change group avatar and group cover image and upload to cloudinary
11	AddNewMember	+ addUser : string + groupId : string	ActionResult	Add new member into group

4.3.2.1.1.5 Home Controller

No	Method	Parameter	Return	Description
1	Index		ActionResult	Get all information, post of user and suggest books, authors for user
2	GetListBookTag	input : string	ActionResult	Get all books for book tag
3	LockedPage		ActionResult	Show locked page if user or group has been locked

4.3.2.1.1.6 Timeline Controller

	Method	Parameter	Return	Description
1	Details	id : string	ActionResult	Show user time line with all information
2	EditProfile	id : string	ActionResult	Show edit form for user change information
3	EditProfile	user : UserProfile	async	Edit user information
4	ChangeImage	+ id : string + file : HttpPostedFileBase, option : int	ActionResult	Handle change user avatar and user cover image
5	FollowHandle	+ followerId : string + followedUserId : string + option : int	ActionResult	Handle follow or unfollow user

4.3.2.1.1.7 Report Controller

No	Method	Parameter	Return	Description
1	Index	page : int	ActionResult	Get all user report for admin to manage

2	GetReport	+ reportContent : string + userId : string + beReportedId : string + option : int	ActionResult	Get report from user and save into database
3	Lock	+ id : string + option : int + reportId : string	ActionResult	Handle lock or unlock user and group
4	Reject	id : ObjectId	ActionResult	Reject report user or group

4.3.2.1.1.8 Publisher Controller

No	Method	Parameter	Return	Description
1	Get	page : int	ActionResult	Get list publishers
2	Upload	publisher : Publisher	ActionResult	Upload new publisher
3	Delete	id : string	ActionResult	Delete a publisher
4	Edit	publisher : Publisher	ActionResult	Edit a publisher's information

4.3.2.1.1.9 Slider Controller

No	Method	Parameter	Return	Description
1	Get	page : int	ActionResult	Get list sliders
2	Upload	desc : string	ActionResult	Upload new slider
3	Delete	id : string	ActionResult	Delete a slider
4	Show	id : string	ActionResult	Show sliders on register page

4.3.3 Function

4.3.3.1 Guest Module

4.3.3.1.1 Register

4.3.3.1.1.1 Class diagram

4.3.3.1.1.2 Sequence diagram

4.3.3.1.1.2.1 Register for a normal account

4.3.3.1.1.2.2 Register for an author account

4.3.3.2 Reader/Author Module

4.3.3.2.1 Account

4.3.3.2.1.1 Class diagram

4.3.3.2.1.2 Sequence diagram

4.3.3.2.1.2.1 Login

4.3.3.2.1.2.2 Logout

4.3.3.2.1.2.3 Edit personal information

4.3.3.2.1.2.4 Edit avatar and cover photo

4.3.3.2.1.2.5 Reset password

4.3.3.2.2 Post

4.3.3.2.2.1 Class diagram

4.3.3.2.2.2 Sequence diagram

4.3.3.2.2.2.1 Create a post

4.3.3.2.2.2.2 Edit a post

4.3.3.2.2.2.3 Delete a post

4.3.3.2.2.2.4 Like a post

4.3.3.2.2.2.5 Unlike a post

Refer figure 3.2.2.2.4

4.3.3.2.2.2.6 Comment on a post

4.3.3.2.2.2.7 Delete a comment

Figure 4-20: Delete Comment Sequence Diagram

4.3.3.2.3 Interaction

4.3.3.2.3.1 Class diagram

4.3.3.2.3.2 Sequence diagram

4.3.3.2.3.2.1 Follow user account

4.3.3.2.3.2.2 Report user account

4.3.3.2.3.2.3 Send join-group request

4.3.3.2.3.2.4 Leave a group

4.3.3.2.3.2.5 Report a group

4.3.3.2.3.2.6 Get Notification

4.3.3.2.4 Group

4.3.3.2.4.1 Class diagram

4.3.3.2.4.2 Sequence diagram

4.3.3.2.4.2.1 Create a group

4.3.3.2.4.2.2 Edit group information

4.3.3.2.4.2.3 Edit group's avatar/cover photo

4.3.3.2.4.2.4 Add new members

4.3.3.2.4.2.5 Accept join-group request

4.3.3.2.4.2.6 Set group's admin

4.3.3.2.4.2.7 Remove a member

4.3.3.3 Admin Module

4.3.3.3.1 User Accounts Management

4.3.3.3.1.1 Class diagram

4.3.3.3.1.2 Sequence diagram

4.3.3.3.1.2.1 Search user

4.3.3.3.1.2.2 Ban user

4.3.3.3.1.2.3 Unban user

4.3.3.3.1.2.4 Decline request about reporting an account

4.3.3.3.1.2.5 Accept request about creating author account

4.3.3.3.1.2.6 Decline request about creating author account

4.3.3.3.2 Groups Management

4.3.3.3.2.1 Class diagram

4.3.3.3.2.2 Sequence diagram

4.3.3.3.2.2.1 Band a group

4.3.3.3.2.2.2 Unban a group

4.3.3.3.2.2.3 Decline request about reporting a group

4.3.3.3.3 Books Management

4.3.3.3.3.1 Class diagram

4.3.3.3.3.2 Sequence diagram

4.3.3.3.3.2.1 Add a new book

4.3.3.3.3.2.2 Add a new Category

: Admin
: BookCreate.View
: CategoriesController
BSNDatabaseContext
1: Click add & input data()
1.1: Create(categoryName:string) : ActionResult
1.1.1: InsertOneAsync()
Display Successful Message

4.3.3.3.3.2.3 Add an author

4.3.3.3.3.2.4 Edit book's information

4.3.3.3.4 Sliders Management

4.3.3.3.4.1 Class diagram

4.3.3.3.4.2 Sequence diagram

4.3.3.3.4.2.1 Add a slider

4.3.3.3.4.2.2 Delete a slider

4.3.3.3.4.2.3 Active/de-active a slider

: Admin
: Slider.View
: SliderController
BSNDatabaseContext
1: Select slider & click "Trình chiếu/Hủy trình chiếu"()
1.1: Show(id:string) : ActionResult
1.1.1: Find(slider)
alt : check slider status
[if[slider.isShow]]
1.1.2: Deactive()
[else]
1.1.3: Active()

4.3.3.3.5 Publishers Management

4.3.3.3.5.1 Class diagram

4.3.3.3.5.2 Sequence diagram

4.3.3.3.5.2.1 Add a new publisher

4.3.3.3.5.2.2 Edit publisher' information

4.3.3.3.5.2.3 Delete a publisher

4.4 Data design

4.4.1 Entity Relationship Diagram

Figure 4-21: Entity Relationship Diagram

4.4.1.1 Entity description

No	Entity	Description
1	BSN User	User is all people who using BSN feature
2	Author	Kind of special User that has book on their own in BSN
3	Admin	User that manager BSN system
4	Book	A book which user can view or interact with it
5	Publisher	A Publisher which produce book
6	Group	A Group which user created and joined
7	Message	A Message which user send or receive to talk together

Table 2-3: Entity description

4.4.1.2 Relationship

No	Relation	From	To	Description
1	Create	Admin	Publisher	An admin create publishers and a publisher is created by an admin
2	Create	Admin	Book	An admin creates a books and a book is created by an admin
3	Has	Book	Publisher	Each book has its publishers
4	Ban/Unban	Admin	BSN User	Admin bans/unbans BSN users form system
5	RequestCreate	BSN User	Book	A BSN user request to create new books
6	Post	BSN User	Book	BSN users posts about books
7	Rate	BSN User	Book	BSN user rate for a books
8	Receive	BSN User	Message	BSN user receive messages from other BSN users
9	Send	BSN User	Message	BSN user send messages to other BSN Users
10	Create	BSN User	Group	BSN user create groups
11	Has	Group	Author	Each group is about an author or a book
12	Has	Group	Book	Each group is about an author or a book
13	Has	Author	Book	Author has books

Table 4-4: Relationship description

4.4.2 Table Diagram

Figure 4-2: Table Diagram

4.4.2.1 Users Collection

Filed Name		Type	Description
_id		ObjectId	Mongodb objectid Unique for each document
UserName		String	User's name
Email		String	User's Email
EmailConfirmed		Boolean	Status of registration confirmation via email
PasswordHash		String	Password encrypt by SHA 256
Role		String	User's role
Gender		String	User's gender
Avatar		String	Publicid of user's avatar in cloudinary
Cover		String	Publicid of user's cover in cloudinary
DOB		DateTime	User's date of birth
Address		String	User's address
SSNImgId		String	User's SSN image publicid in cloudinary
Interacbook		Array[String]	List of book's id that user interac with it
	BookId	ObjectId	Book's id
Follower		Array[String]	List other user's id that follow user's account
	UserId	ObjectId	User's id
Following		Array[String]	List other user's id that user followed
	UserId	ObjectId	User's id
Notification		BsonArray	List user's notification

	_id	ObjectId	User's id
	Url	String	Notification's link
	SenderId	ObjectId	Sender's id

Table 4-5: Users Collection

4.4.2.2 Posts Collection

Field Name		Type	Description
_id		ObjectId	Mongodb objectid Unique for each document
Content		String	User's post content
PostedBy		String	User's id
PostedDate		DateTime	Time of user's post
BookTag		Array[String]	List of book taged in user's posst
	BookId	ObjectId	Book's id
Like		BsonArray	List like of user's post
	PostId	String	User's Post's id
	LikeBy	String	User's id
Comment		BsonArray	List comment of user's post
	_id	ObjectId	Mongodb objectid Unique for each document
	PostId	String	User's Post's id
	Content	String	Content of User's comment
	CommentedBy	String	User's id
	CommentedDate	DateTime	Comment's date

Table 4-6: Posts Collection

4.4.2.3 Books Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document

BookName		String	Book's name
ImgPublicId		String	Book's image publicid in cloudinary
ReleaseDay		DateTime	Date of book release
Url		String	Link detail of book
Description		String	Content of book
RateTime		Int	Sum rating point of each rate
RatingPoint		Int	Sum rating time
AvarageRating		Double	RatingPoint/RateTime
Category		Array[String]	List category's id of book
	CategoryId	ObjectId	Category's id
Publisher		Array[String]	List publisher's id of book
	PublisherId	ObjectId	Publisher's id
Author		Array[String]	List author's id of book
	AuthorId	ObjectId	Author's id
Comment		BsonArray	List comment of book
	_id	ObjectId	Mongodb objectid
	UserId	ObjectId	Mongodb objectid
	Time	DateTime	Date time of comment
	Description	String	Content of comment

Table 4-7: Books Collection

4.4.2.4 Authors Collection

Field Name		Type	Description
_id		ObjectId	Mongodb objectid Unique for each document
UserId		ObjectId	User's id
AuthorName		String	Name of Author
RatingPoint		Double	Author's rating point
BookList		Array[String]	List Book of Author

	BookId	ObjectId	Book's id

Table 4-8: Authors Collection

4.4.2.5 Publishers Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
Name	String	Publisher's name
PhoneNumber	String	Publisher's phone number
ImagePublicId	String	Publisher's image publicid in cloudinary
Address	String	Publisher's address

Table 4-9: Publishers Collection

4.4.2.6 Reports Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
UserId	ObjectId	User's id
GroupId	ObjectId	Group's id
Reporteduserid	ObjectId	Id of user reported
Reportedgroupid	ObjectId	Id of group reported
Content	String	Content of report
Status	Boolean	

Table 4-10: Reports Collection

4.4.2.7 Category Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
Name	String	Category's name

Table 4-11: Category Collection

4.4.2.8 Groups Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
GroupName	String	Book's name
Locked	Boolean	Status of group(lock or not)
GroupType	String	Group's type
CreateDate	DateTime	Date time group created
Tag	String	Group's tag(author's name or book's name)
CreaterId	String	Id of user that created group
Description	String	Content of group

CoverImg		String	Group cover's image public id in cloudinary
AvaImg		String	Group avatar's image public id in cloudinary
ListJoinRequest		Array[String]	List of users request to join group
	UserId	ObjectId	User's id
GroupMembers		Array[String]	List of group members
	UserId	ObjectId	User's id
	RoleInGroup	String	Group member role name

Table 4-12: Groups Collection

4.4.2.9 Slides Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
ImagePublicId	String	Slide's image publicid in cloudinary
Description	String	Content of slide
Status	Boolean	Slide's status (on or off)

Table 4-13: Slides Collection

4.4.2.10 BookStatistic Collection

Field Name	Type	Description
_id	ObjectId	Mongodb objectid Unique for each document
BookId	String	Book's id
EachDate	DateTime	
Count	int	

Table 4-14: BookStatistic Collection

4.5 Screen Design

4.5.1 Guest

4.5.1.1 Screen Flow

Figure 4-15: Quest-Reader-Author Screen Flow

4.5.1.2 Register

Figure 4-16: Register screen

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Register	Đăng ký	Label		Y		Display register form
2	Username	Tên tài khoản	Text box	Type	Y	8-20	Username of user
3	Email	Email	Textbox	Type	Y		Email of user
4	Password	Mật khẩu	Text box	Type	Y	8-50	Password of user
5	Sign up	Đăng ký	Button	Click	Y		User register a new account

Table 4-17: Register screen

4.5.2 Reader/Author

4.5.2.1.1 Screen Flow

Figure 4-18: Guest-Reader-Author Screen Flow

4.5.2.1.2 Login

Figure 4-19 Login screen

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1.	Email	Email	Text box	Type	Y		Email of registered user
2.	Password	Mật khẩu	Text box	Type	Y	8-20	Password of registered user
3.	Login	Đăng nhập	Button	Click	Y		Login
4.	Forgot Password	Bạn không đăng nhập được?	Hyperlink	Click	Y		Resend password to user

Table 4-20: Login screen

4.5.2.1.3 Forgot password

Figure 4-21: Forgot password

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Email	Khung Email	Text area		Y		Enter email to reset password.
2	Send	Gửi	Button	Click	Y		Send reset password request to system

Table 4-22: Forgot password

4.5.2.1.4 Homepage

Figure 4-23: Homepage

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Logo	Bookaholic	Image	Click	Y		Display homepage
2	Search box	Ô tìm kiếm	Textbox		Y		Search author, book.
3	Icon User	Trang cá nhân	Icon	Click	Y		Display user page
4	Icon Home	Trang chủ	Icon	Click	Y		Reload homepage
5	Icon comment	Tin nhắn	Icon	Click	Y		Displays list of messages
6	Icon bell	Thông báo	Icon	Click	Y		Displays list of notifications
7	Icon setting	Cài đặt	Icon	Click	Y		Display - Create group - Setting - Logout
8	Create group	Tạo nhóm	Hyperlink	Click	Y		Display create group popup
9	Setting	Cài đặt	Hyperlink	Click	Y		Display edit

							information page
10	Logout	Đăng xuất	Hyperlink	Click	Y		Redirect to login page
11	Group	Nhóm	Hyperlink	Click	Y		Display group page
12	Username	Tên người dùng	Hyperlink	Click	Y		Display personal page
13	Book	Sách	Image	Click	Y		Show image's book and name, author. When click the image's book then display book page.
14	Rating	Đánh giá	Icon		Y		Display average rating point
15	Button recommendation	Nhận xét	Button	Click	Y		Display the form to post comment about this book.
16	Form comment (Click button recommendation)	Tên sách	Hyperlink	Click	Y		Display the new tag : Bookpage
		Ảnh người dùng	Image		Y		Display the image of user
		Khung nhập nội dung	Textarea	Type	Y		Allow enter feelings about the book
		Thẻ sách	Text		Y		Display book tag
		Nút post	Button	Click	Y		Posted 1 post comments on personal pages
17	Form recommendation	Khung nhập nội dung	Textarea	Type	Y		Allow enter feelings about the book
		Gắn thẻ sách	Button	Click	Y		Display the input form to enter the booktag
		Nút post	Button	Click	Y		Posted 1 post comments on personal pages
18	Review form	Ảnh đại diện người dùng	Image		Y		Display image of user
		Tên người dùng	Text	Click	Y		Display the personal page
		Thời gian đăng bài	Time		Y		Show time post comments

		Nội dung	Text		Y		Show the comment of user about book
		Thẻ sách	Text		Y		Display book tag
		Thích	Button	Click	Y		Switch to liked status and increase the number of likes.
19	Author	Tác giả	Image	Click	Y		Show image's author and name of author. When click the image's book then display author page
20	Button Follow	Nút theo dõi	Button	Click	Y		Switch to followed status
21	Publisher	Nhà xuất bản	Image		Y		Show image's publisher and name of publisher, rating .

Table 4-24: HomePage

4.5.2.1.5 Personal page

Figure 4-25: Personal Page

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Logo	Bookaholic	Image	Click	Y		Display homepage
2	Search box	Ô tìm kiếm	Textbox		Y		Search author, book.
3	Icon User	Trang cá nhân	Icon	Click	Y		Display user page
4	Icon Home	Trang chủ	Icon	Click	Y		Reload homepage
5	Icon comment	Tin nhắn	Icon	Click	Y		Displays list of messages
6	Icon bell	Thông báo	Icon	Click	Y		Displays list of notifications
7	Icon setting	Cài đặt	Icon	Click	Y		Display - Create group - Setting - Logout
8	Create group	Tạo nhóm	Hyperlink	Click	Y		Display create group popup
9	Setting	Cài đặt	Hyperlink	Click	Y		Display edit information page
10	Logout	Đăng xuất	Hyperlink	Click	Y		Redirect to login page
11	Recommendation	Khung nhận xét	Text field		Y		Use to enter a recommendation
12	Tag a book	Gắn thẻ sách	Button	Click	Y		Click button to tag a book or tag an author
13	Post	Đăng	Button	Click	Y		Click to post a recommendation
14	Avatar	Ảnh đại diện	Image		Y		Avatar of user
15	Change avatar	Thay đổi ảnh đại	Hyperlink	Click	Y		Click to change avatar

		diện					
16	Cover	Ảnh bìa	Image		Y		Cover of user
17	Change cover	Thay đổi ảnh bìa	Hyperlink	Click	Y		Click to change cover
18	Username	Tên người dùng	Hyperlink	Click	Y		Redirect to user page
19	Book's image	Ảnh bìa sách	Image		Y		
20	Book name	Tên sách	Hyperlink	Click	Y		Redirect to book page

Table 4-26: Personal Page

4.5.2.1.6 Edit profile

Figure 4-27: Edit profile

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Username	Tên người dùng	Text field		Y		Text field can be edited to change username
2	Gender	Giới tính	Radio buttons	Click	Y		Click to change gender of user
3	Date of birth	Ngày sinh	Text field		Y		Edit to change date of birth
4	Address	Địa chỉ	Text field		Y		Edit to change address
5	Cancel	Huỷ	Button	Click	Y		When click cancel button, all editing info will cancel
6	Save	Lưu	Button	Click	Y		Click to save all editing info

Table 4-28: Edit profile

4.5.2.1.7 Report user

Figure 4-29: Report user

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Avatar	Ảnh đại diện	Image		Y		Avatar of reported user
2	Radio buttons	Người này đang làm phiền tôi	Label	Click	Y		List of reasons, click to choose a reason
3	Send	Gửi	Button	Click	Y		Click to send report to admin
4	Cancel	Hủy	Button	Click	Y		Cancel reporting, close popup

Table 4-30: Report user

4.5.2.1.8 Request to add books

Figure 4-31: Request to add books

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Book's name	Tên sách	Text field		Y		Request book's name
2	Author	Tác giả	Text field		Y		Request book's author
3	Category	Thể loại	Text field		Y		Request book's category
4	Send	Gửi	Button		Y		When click, send request to admin
5	Close	Đóng	Button		Y		When click, close popup

Table 4-32: Request to add books

4.5.2.1.9 Create a group

Figure 4-33: Create a group

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Name of group	Tên nhóm	Text field		Y		
2	Book	Sách	Button	Click	Y		
3	Author	Tác giả	Button	Click	Y		
4	Category	Thể loại	Combo box	Click	Y		
5	Description	Miêu tả	Text area		Y		
6	Public group	Nhóm công khai	Radio button	Click	Y		
7	Closed group	Nhóm kín	Radio button	Click	Y		

Table 4-34: Create a group

4.5.2.1.10 Group page

4.5.2.1.10.1 Group page-Conversation

Figure 4-35: Group Page-Conversation

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1.	Logo	Bookaholic	Image	Click	Y		Display homepage
2.	Search box	Ô tìm kiếm	Textbox		Y		Search author, book.
3.	Icon User	Trang cá nhân	Icon	Click	Y		Display user page
4.	Icon Home	Trang chủ	Icon	Click	Y		Reload homepage
5.	Icon comment	Tin nhắn	Icon	Click	Y		Displays list of messages
6.	Icon bell	Thông báo	Icon	Click	Y		Displays list of notifications
7.	Icon setting	Cài đặt	Icon	Click	Y		Display - Create group - Setting - Logout
8.	Create group	Tạo nhóm	Hyperlink	Click	Y		Display create group popup
9.	Setting	Cài đặt	Hyperlink	Click	Y		Display edit information page
10.	Logout	Đăng xuất	Hyperlin	Click	Y		Redirect to

			k				login page
11.	Recommendation	Khung nhận xét	Text field		Y		Use to enter a recommendation
12.	Description	Mô tả nhóm	Label		Y		
13.	Description's content	Nội dung mô tả	Text area	Click	Y		Description about group
14.	Group setting	Cài đặt	Button	Click	Y		When click, redirect to group setting page
15.	Report group	Ảnh đại diện	Image		Y		Avatar of reported group
		Người này đang làm phiền tôi	Label	Click	Y		List of reasons, click to choose a reason
		Gửi	Button	Click	Y		Click to send report to admin
		Hủy	Button	Click	Y		Cancel reporting, close popup
16.	Post	Đăng	Button	Click	Y		Click to post a recommendation
17.	Avatar	Ảnh đại diện	Image		Y		Avatar of group
18.	Change avatar	Thay đổi ảnh đại diện	Hyperlink	Click	Y		Click to change avatar
19.	Cover	Ảnh bìa	Image		Y		Cover of group
20.	Change cover	Thay đổi ảnh bìa	Hyperlink	Click	Y		Click to change cover
21.	Username	Tên người dùng	Hyperlink	Click	Y		Redirect to user page
22.	Book's image	Ảnh bìa sách	Image		Y		
23.	Book name	Tên sách	Hyperlink	Click	Y		Redirect to book page

Table 4-36.1: Group Page-Conversation

4.5.2.1.10.2 Group page-Members

Figure 4-37: Group Page-Members

Table 4-38: Add new member

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1.	Search	Ô tìm kiếm	Search box	Click	Y		Search members
2.	Add new member	Thêm thành viên mới	Button	Click	Y		Display popup with: - Enter username text field - Add button - Close button
		Nhập tên người dùng	Text field		Y		Enter a username to add to group
		Nút thêm	Button		Y		When click, add selected user to group
		Nút đóng	Button		Y		When click, cancel adding new member and close popup
3.	Normal member	Ảnh đại diện của thành viên	Image		Y		Member's avatar
		Tên thành viên	Hyperlink	Click	Y		When click, redirect to member page
		Biểu tượng cài đặt	Icon	Click	Y		When click, show modify popup: - Set as an admin - Remove from group
4.	Modify popup	Thêm với tư cách quản lý	Hyperlink	Click	Y		Set member as an admin
		Xóa khỏi nhóm	Hyperlink	Click	Y		Remove user from group. User no longer

							be as a member of group
5.	Admin	Ảnh đại diện của quản trị viên	Image		Y		Admin's avatar
		Tên quản trị viên	Hyperlink	Click	Y		When click, redirect to user page
		Biểu tượng cài đặt	Icon	Click	Y		When click, show modify admin popup: - Remove as an admin - Remove from group
6.	Modify admin popup	Xóa với tư cách quản lý	Hyperlink	Click	Y		Remove admin right and become a member
		Xóa khỏi nhóm	Hyperlink	Click	Y		Remove user from group. User no longer be as a member of group

Table 4.10.2: Group Page-Members

4.5.2.1.11 Setting group

Figure 4-39: Edit group

Figure 4-40: Accept to join

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Edit group tab	Tên nhóm	Hyperlink	Click	Y		Click to redirect to group page
		Mô tả nhóm	Label		Y		
		Nội dung mô	Textarea	Click	Y		Description

		tả					about group
		Thông tin nhóm	Hyperlink	Click	Y		Group's information tab
		Yêu cầu tham gia	Hyperlink	Click	Y		Join-group request tab
		Nhãn Tên nhóm	Label		Y		
		Tên nhóm	Text area		Y		Group name's text area. Admin can edit to change
		Nút radio	Button	Click	Y		Click to choose Public or Private Group's type
		Mô tả nhóm	Text area		Y		Group description's text area. Admin can edit to change
		Nút lưu	Button	Click	Y		When click, save and update all group's info
2	Accept to join	Chấp nhận tất cả	Button	Click	Y		Accept all join-group requests
		Từ chối tất cả	Button	Click	Y		Denied all join-group requests
		Tên người dùng	Hyperlink	Click	Y		When click, redirect to user page
		Chấp nhận	Button	Click	Y		Accept chosen request
		Từ chối	Button	Click	Y		Denied chosen request

Table 4-41: Setting group

4.5.3 Admin

4.5.3.1.1 Screen Flow

Figure 4-42: Admin Screen Flow

4.5.3.1.2 Login

Figure 4-43: Login

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
21	Register	Đăng ký	Label		Y		Display register form
22	Username	Tên tài khoản	Text box	Type	Y	20	Username of Admin
23	Email	Email	Textbox	Type	Y		Email of Admin
24	Password	Mật khẩu	Text box	Type	Y	50	Password of Admin

Table 4-44: Login

4.5.3.1.3 User management

Figure 4-45: User management

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total users	Tổng số người dùng	Label		Y		Total users registed
2	Total new users	Người dùng mới	Label		Y		Total new users
3	List user	Danh sách người dùng	Table		Y		List users (User name, email, kind of login, status, action)
4	View button	Xem	Button	Click	Y		When click the view button then display user page.

Table 4-46: User management

4.5.3.1.4 Author management

Figure 4-47: Author Management

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total authors	Tổng số tác giả	Label		Y		Total authors registed
2	Total new authors	Tác giả mới	Label		Y		Total new authors
3	List author	Danh sách tác giả	Table		Y		List authors (Author name, email, image, status, action)
4	Verify button	Nút xác nhận	Butoon	Click	Y		Admin will confirm when author registed

Table 4-48: Author management

4.5.3.1.5 Group management

Figure 4-49: Group Management

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total groups	Tổng số nhóm	Label		Y		Total groups
2	Total new groups	Tác giả mới	Label		Y		Total new groups
3	List group	Danh sách group	Table		Y		List groups (Group name, tag book or tag author, number of member, public or private, action)
4	Lock button	Nút khóa	Button	Click	Y		Lock group

Table 4-50: Group Management

4.5.3.1.6 Book management

4.5.3.1.6.1 Statistics books

Figure 4-51: Statistics books

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total books	Tổng số sách	Label		Y		Total books
2	Button Add book	Thêm sách mới	Button	Click	Y		When click the button add book then link to add book page..
3	Search	Tìm kiếm	Textbox	Click	Y		Search about book
4	List book	Danh sách sách	Table		Y		List books (book'name, author, category, publishing date, action)
5	Edit button	Nút sửa	Button	Click	Y		When click button edit then appear popup edit book.
6	Delete button	Nút xóa	Button	Click	Y		When click button delete will this book deleted.

Table 4-52.1: Statistics books

4.5.3.1.6.2 Request add book

Figure 4-53: Request add book

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total books	Tổng số sách	Label		Y		Total books
2	Button Add book	Thêm sách mới	Button	Click	Y		When click the button add book then link to add book page…
3	Search	Tìm kiếm	Textbox	Click	Y		Search about book
4	List book	Danh sách sách	Table		Y		List books (book's name, author, category, publishing date, action).
5	Agree button	Nút đồng ý	Button	Click	Y		When click agree button, the new book will be added.
6	Button Cancel	Nút hủy	Button	Click	Y		When click cancel button , the book will be cancel.

Table 4.5.2: Request add book

4.5.3.1.6.3 Add a book

Figure 4-54: Add a book

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Total books	Tổng số sách	Label		Y		Total books
2	Button Add new category	Thêm thể loại	Text	Click	Y		When click the add new category button will show add new category popup
3	Add new category popup	Thêm thể loại	Textbox		Y		Header of popup
		Ô nhập tên thể loại	Button		T		Enter new category
		Nút Thêm	Button	Click	Y		When click add button, new category will be added
		Nút Hủy		Click	Y		When click cancel button, close popup
4	Add a book form	Tên sách	Text		Y		Enter new book name
		Chọn tác giả	Search box		Y		Search the author of the book
		Ngày xuất bản	Choose date	Click	Y		Choose exactly publishing date

		Chọn NXB	Combo box	Click	Y		Choose publisher
		Chọn thể loại	Combo box	Click	Y		Choose category of the book
		Miêu tả	Text field		Y		Description about the book
		Chọn ảnh bìa	Button	Click	Y		Upload book image
		Nút Thêm	Button	Click	Y		When click add button, new book has added
		Nút Hủy	Button	Click	Y		When click cancel button, cancel adding new book

Table 4.5.3: Add a book

4.5.3.1.7 Slider management

Figure 4-55: Slider Management

Table 4-56: Popup add slider

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Add slide button	Thêm slide mới	Button		Y		When click the add slide button the popup will appear .
2	Search	Tìm kiếm	Textbox	Click	Y		Search slide
3	Popup Add Slide	Khung thêm slide	Model popup		Y		Popup appear and allow add new slide
		Chọn file			Y		Allow choose file
		Miêu tả	Text input		Y		Enter the description about the slide
		Nút thêm	Button	Click	Y		When choose file and enter description, then click the add button, the slide will be added.
		Cancel button	Button	Click	Y		When click cancel button, add new slide will be canceled.
4	List slides	Danh sách slide	Table		Y		List slides (image, description, on button, off button, action).
5	On button	Nút bật	Button	Click	Y		When click on the on button, the slide will be show in the login page.
6	Off	Nút tắt	Button	Click	Y		When click on the off

	button						button, the slide will be don't show in the login page.
7	Delete button	Nút xóa	Button	Click	Y		When click on the delete button, the slide will be deleted.

Table 4-57: Slider Management

4.5.3.1.8 Publisher management

Figure 4-58: Publisher Management

Figure 4.7.2: Add new publisher

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Add publisher button	Thêm nhà xuất bản mới	Button		Y		When click the add spublisher button the popup will appear .
2	Popup Add publisher	Khung thêm nhà xuất bản	Model popup		Y		Popup appear and allow add new publisher .
		Chọn file			Y		Allow choose file
		Tên nhà xuất bản	Text input		Y		Enter the name of publisher
		Địa chỉ	Text input	Click	Y		Enter the address of publisher
		Nút thêm	Button	Click	Y		When choose file and enter name, enter address then click the add button, the publisher will be added.
		Cancel button	Button	Click	Y		When click cancel button, add new publisher will be canceled.
3	List publishers	Danh sách nhà xuất	Table		Y		List publisher (image, name of publisher,

		bản					address).
		Nút sửa	Button	Click	Y		Edit publisher's info
		Nút xóa	Button	Click	Y		Delete publisher
4	Search	Tìm kiếm	Textbox	Click	Y		Search publisher

Table 4-59: Publisher Management

4.5.3.1.9 Report management

4.5.3.1.9.1 Report user management

Figure 4-60: Report user

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Search	Tìm kiếm	Textbox	Click	Y		Search user
2	List reports	Danh sách phản hồi	Table		Y		List reports (reporter, reported, email of reported, action).
3	Handling button	Nút xử lý	Button	Click	Y		When click handling button, reported user has been banned
4	Denied button	Nút từ chối	Button	Click	Y		When click denied button, report has denied

Table 3.8.1: Report user

4.5.3.1.9.2 Report group management

Figure 4-61: Report group

No	Field name	Field name in Vietnamese	Type	Require	Mandatory	Max-Length	Description
1	Search	Tìm kiếm	Textbox	Click	Y		Search user
2	List groups	Danh sách nhóm	Table		Y		List groups (reporter, group was reported, reason,administrators, email of adminstrators action).
3	Handling button	Nút xử lý	Button	Click	Y		When click handling button, reported group has been banned
4	Execute button	Nút thực hiện	Button	Click	Y		When click denied button, report has denied

Table 3.8.2: Report group

5 SOFTWARE TESTING

5.1 Introduction

5.1.1 Purpose

This is the comprehensive test plan of the BSN project. The purpose of the document describes scopes of test and activities which need to be taken during test process of project. It addresses the following items: Scopes of Testing, Requirements for Testing, Test Strategy, Test Resources, Test Environment, Test Milestones and Deliverables.

5.1.2 Definitions and Acronyms

This section describes the definitions, terms, and acronyms that are used in software requirements specification.

Acronym	Definition	Note
BSN	Bookaholic Social Network	
GUI	Graphic User Interface	
IT	Integration Test	
KLOC	1000 line of code	
PM	Project Manager	
QA	Quality Assurance	
SRS	Software Requirement Specification	
ST	System Test	
TC	Test Case	
TL	Test Leader	
TP	Test Plan	
TR	Test Report	
UT	Unit Test	

Table 5-1: Definitions and Acronyms

5.1.3 Scope of testing

BSN will be tested by 3 phases:

Phase 1: Unit testing

- Unit testing will be done by developers
- Developers user White Box Testing technique to do
- When executing unit testing, if any bugs are found, developers have to log bug on “Defect Log Management” file and fix it until it is correct.

Rule for filling test result:

Test result pass	Pass
Test result fail	Fail
Do not test	Untested
Cannot test	N/A (Not available)

Phase 2: Integration testing

- After finishing component testing, integration testing will be performed by testers.
- Material are integration test cases, high- level design and test tools.
- Integration test focuses on specific areas of use cases when all requirements are completed.
- Integration test should be performed to ensure all components incorporate well.
- When executing integration testing, if any bugs are found, testers have to log on "Defect Log Management" file and assign to developer fix it and redo this process until it is correct.

Rule for filling test result:

Test result pass	Pass
Test result fail	Fail
Do not test	Untested
Cannot test	N/A (Not available)

Phase 3: System testing

- After finishing integration testing and developers collect all functions and items, testers will be performed system testing, it means doing test whole system.
- Material area system test case, SRS
- If any bugs are found, developers have to fix and testers will verify them. System test is ended only when test cases are passed and no bug is found.

Rule for filling test result:

Test result pass	Pass
Test result fail	Fail
Do not test	Untested
Cannot test	N/A (Not available)

5.1.4 Constraints

- There are only 2 testers and do not have much experience in test plan, test phase and testing.
- Deadline for testing only can be met if development progress is on time.
- Time of testing is short.
- Test execution can be performed when system passes Unit Test Inspection.
- At least one round of testing must be performed for requirements.
- Have more environments should be tested: Window 8, Window 10 and more browsers: Google Chrome 50.0 or above.

5.2 Test plan

5.2.1 Test type

5.2.1.1 Function Testing

- Functional testing is a type of software testing whereby the system is tested against the functional requirements/specifications.
- Functions are tested by feeding them input and examining the output. Functional testing ensures that the requirements are properly satisfied by the website. This type of testing is not concerned with how processing occurs, but rather, with the results of processing.
- During functional testing, Black Box Testing technique is used in which the internal logic of the system being tested is not known to the tester.

Test Objective:	The type of this test is to ensure proper target-of-test functionality, including user interaction, all function defined in specification document implemented correctly.
Technique:	Executing each use case, use-case flow, or function, using valid and invalid data, to verify the following: - The expected results occur when valid data is used. - The appropriate error or warning messages are displayed when invalid data is used. - Each business rule is properly applied.
Completion Criteria:	- All planned tests have been executed. - All identified defects have been addressed and closed.
Special Considerations:	Testing may be stopped when Time runs out A certain number of defects found Test coverage > 97% Stop when testing becomes unproductive

Table 3-1: Function Testing

5.2.1.2 User Interface Testing

GUI testing is the process of ensuring proper functionality of the GUI for a given web and making sure it conforms to its written specifications.

GUI testing evaluates design elements such as layout, colors, fonts, font sizes, labels, text boxes, text formatting, captions, buttons, lists, icons, links, content and more.

Test Objective:	Verify the following: - Navigation through the target-of-test properly reflects business functions and requirements, including window-to-window, field-to-field, and use of access methods (tab keys, mouse movements, accelerator keys) - Window objects and characteristics, such as menus, size, position, state, and focus conform to standards.
Technique:	Create or modify tests for each window to verify proper navigation and object states for each application window and objects.
Completion Criteria:	Each window successfully verified to remain consistent with benchmark version or within acceptable standard
Special Considerations:	Not all properties for custom and third party objects can be accessed.

Table 3-2: GUI Testing

5.2.1.2.1 Data and Database Integrity Testing

The databases and the database processes should be tested as a subsystem within the Project. These subsystems should be tested without the target-of-test's User Interface as the interface to the data. Additional research into the Database Management System (DBMS) needs to be performed to identify the tools and techniques that may exist to support the testing identified below.

Test Objective:	Ensure database access methods and processes function properly and without data corruption.
Technique:	- Invoke each database access method and process, seeding each with valid and invalid data or requests for data. - Inspect the database to ensure the data has been populated as intended, all database events occurred properly, or review the returned data to ensure

	that the correct data was retrieved for the correct reasons.
Completion Criteria:	All database access methods and processes function as designed and without any data corruption.
Special Considerations:	- Testing may require a DBMS development environment or drivers to enter or modify data directly in the databases. - Processes should be invoked manually. - Small or minimally sized databases (limited number of records) should be used to increase the visibility of any non-acceptable events.

Table 3-3: Data and Data Integrity Testing

5.2.2 Test stages

Clearly state the stage in which the test will be executed. Identified below are the stages in which common test are executed

Type of Tests	**Stage of Test**		
	Unit	**Integration**	**System**
Function Testing	X	X	X
User Interface Testing	X		X

5.2.3 Test model

BSN follows V-Model process:

Table 5-1: V-Model

Testing progress is divided to 5 phases include: Unit test, Component test, Integration test, System test and Acceptance test

- Unit test:
  - Unit testing is used to verify a single minimal unit of source code. The purpose of unit testing is to isolate the smallest testable parts of BSN and verify that they function properly in isolation.
  - Unit testing is the first level of testing and is perform prior to component testing
  - Unit testing will be done by developer.
- Integration test:
  - Integration testing is a level of the software testing process where individual unit or component are combined and tested as a group.
  - The purpose is to expose faults in the interaction between integrated units.
  - Integration testing is performed after component testing

- Integration testing will be done by tester
- There are two methods of doing integration testing: Bottom-up Integration testing and Top Down Integration testing:

No	Integration Testing Method
1	Bottom-up integration This testing begins with unit testing, followed by tests of progressively higher-level combinations of units called modules.
2	Top- Down integration This testing, the highest-level modules are tested first and progressively lower-level modules are tested after that

Table 5-2: Integration test

- System test:
  - System Testing is a level of the software testing process where a complete, integrated system is tested
  - The purpose is to evaluate the system's compliance with the specified requirements
  - System testing is performed after integration testing
  - System testing will be done by tester
- Acceptance test:
  - Acceptance testing is performed after system testing
  - Acceptance testing will be performed by the test leader and team leader.
  - The acceptance test will be done for a period of 1 weeks after completion of the system test process

5.2.4 Acceptance test criteria

- Criteria for Unit test of Development team, for Test team accepts to start testing:
  - *Number of TC/KLOC: 20TC/KLOC*
  - *Number defects/KLOC: 3-4 defects/KLOC*
  - *Statement coverage: 97%*
  - *Branch coverage: 100%*
  - *Path coverage: 100%*
- Criteria for Integration test:
  - *Number of TC/KLOC: 30 TC/KLOC*
  - *Number defects/KLOC: 2-3 defects/KLOC*
- Criteria for System test:

- *Number of TC/KLOC: 20 TC/KLOC*
- *Number defects/KLOC: 4-6 defects/KLOC*

5.2.5 Feature not to be tested

- The stable of website when do not connect internet.
- Over than 5000 users connect to system at the same time.

5.2.6 Resources

5.2.6.1 Human resource

Worker/Doer	Role	Specific Responsibilities/Comments
YenNTH	Test Leader	Manage Test Resource and assign test tasks. Create and review Test Plan. Create and review Test Case. Execute test. Create and review Test Report
HaiCM	Tester	Create and review Test Case. Execute test. Create Test view points Create and review Test Report

Table 5-2: Human resource

5.2.6.2 Test Environment

5.2.6.2.1 Hardware

Name	Purpose	Detail
Laptop MacBook Air	Device for create and execute test	Window 7 Ultimate Core i5
Dell Vostro	Device for create and execute test	Window 10 Core i5

Table 5-1: Hardware

5.2.6.2.2 Software

Name	Purpose	Detail
Test Plan	Managing test	Microsoft Word 2010, 2013
Test case	Executing test	Microsoft Excel 2010, 2013
Test report, Test checklist	Tracking test	Microsoft Excel 2010, 2013

Chrome	Executing test	Chrome 50.0

Table 5-2: Software

5.2.6.2.3 Others

Name	Purpose	Detail	Vendor/In-house	Version
BSN_Defect Log Management_v1.0_EN	Tracking bug during testing time	Microsoft Excel 2013, 2010	FPT-University	v1.0
Test Effort	Effort execute test	Microsoft Excel 2013, 2010	FPT-University	v1.0

Table 5-3: Infrastructure

5.2.7 Test milestones

Milestone Task	Effort (pd)	Start Date	End Date
Create Test Plan	6	1/10/2016	5/10/2016
Review & Update Test Plan	2	6/10/2016	10/10/2016
Create Unit Test case	6	11/10/2016	20/10/2016
Review & Update Unit Test Case	2	21/10/2016	22/10/2016
Create Component Test case	12	23/10/2016	30/10/2016
Review & Update Component Test Case	2	31/10/2016	1/10/2016
Create Integration Test case	2	2/11/2016	4/11/2016
Review & Update Integration Test Case	2	5/11/2016	6/11/2016
Create System Test case	6	7/11/2016	26/11/2016
Review & Update System Test Case	2	27/11/2016	30/11/2016
Execute Unit test phase 1	2	21/10/2016	26/10/2016
Execute Unit test phase 2	2	4/11/2016	12/11/2016
Execute Unit test phase 3	2	20/11/2016	25/11/2016
Execute Integration test phase 1	2	17/11/2016	18/11/2016
Execute Integration test phase 2	2	19/11/2016	20/11/2016
Execute Integration test phase 3	2	1/12/2016	2/12/2016

Execute System test phase 1	4	15/11/2016	25/11/2016
Execute System test phase 2	4	26/11/2016	30/11/2016
Execute System test phase 3	4	1/12/2016	9/12/2016

Table 5-3: Test milestones

5.2.8 Deliverables

No	Deliverables	Responsibilities	Delivered Date
1	Test Plan	Tester	
2	Component Test case	Tester	
3	Integration Test case	Tester	
4	System Test case	Tester	
5	Defect Log Management	All members	
6	Test report	PM	

Table 7-1: Deliverables

5.3 Test case

Refer to:

- BSN_System Test Case_v1.0_EN.xlsx
- BSN_UnitTestCase_CategoriesController _v1.0.xlsx
- BSN_UnitTestCase_BooksController _v1.0.xlsx
- BSN_UnitTestCase_PublishersController _v1.0.xlsx
- BSN_UnitTestCase_GroupController _v1.0.xlsx
- BSN_UnitTestCase_ReportController _v1.0.xlsx

5.4 Test Report

5.4.1 System test report

No	Module Code	Pass	Fail	N/A	Number of Test Case
1	Admin Module	229	50	0	279
2	Account Module	72	32	0	104
3	Group Module	216	2	0	218
4	Post Management Module	99	0	0	99
5	Interaction Module	34	1	0	35
6	Book Module	21	1	0	22
	Total	650	85	0	735

Table 5-2: System test report

5.4.2 Test report

No	Module Code	Round 1		Round 2		Final
		Pass	Fail	Pass	Fail	
1	Unit Test	N/A	N/A	N/A	N/A	N/A
2	Integration Test	45	5	5	0	50
3	System Test	650	85	85	0	735
	Total	695	90	90	0	785

Table 5-3: Test Report

5.4.3 Defect report

Defects	Logged	%Closed	%Invalid	%Open
Critical	0	0%	0%	0%
High	5	0%	0%	0%
Medium	26	100%	0%	0%
Low	34	100%	0%	0%
Total	65	100%	0%	0%

Table 5-4: Defect Report

6 USER MANUAL

6.1 Introduction

6.1.1 Purpose

This document contains guide-lines step by step to deploy BSN Web App to local IIS Web Server. This user's manual has been developed to help users better understand the requirements that may apply to use this website by providing them simple step by step tutorials. This manual is intended to help make website's functions more accessible and their associated requirements more understandable to users.

6.1.2 Environment

Following are the software required to start the BSN system:

- Operating System: Window 7, Window 8, Window 10
- Browser: Firefox 40, Chrome 44 or higher
- Database: MongoDB 3.0.12
- .NET Framework 4.5

6.2 Installation Guideline

6.2.1 Installation IIS on Windows

Step 1: Open Control Panel and click on “Programs” as shown in the figure below:

Table 6-1: Control Panel

Step 2: Then click into "Programs and Features" and select "Turn Windows features on or off". After that, "Windows features" dialog shows up as figure below:

Table 6-2: Windows Feature Dialog

Step 3: Scroll to "Internet Information Services" and expand it. Then check all components under "World Wide Web Service" > "Application Development Features" as shown in the figure below:

Table 6-3: Windows Features dialog

Step 4: Click "OK" to let Windows install all required files. Once installed you may now close the dialog.

6.2.2 Creating Application Pool

Open the Internet Information Services (IIS) Manager and follow the procedure given below:

Step 1: Select "Application Pool" => add new 2 Application Pools is: ASP .NET v4.0 (select Integrate) and select .NET Framework select v4.0.30319.

Step 2: Choose OK then back to Connection panel. After that Click "ISAPI and CGI Restrictions"

Step 3: Allow 2 items ASP .NET v4.0.

Step 4: Select "Application Pools" and select "ASP.NET v4.0" from the list since our app uses this default application pool. If you are using a different application pool for your app then select that instead. On the left panel, select the link "Advance Settings" as shown in the figure below:

Step 5: Make sure that you select "Local System" as the Identity from the Advance Settings dialog as shown in the figure below:

6.2.3 Add BSN Web App into IIS

Step 1: Right click on “Sites -> select Add website…”

Step 2: Enter Site name and Select pool is ASP.NET v4.0. After that select Physical path (location store BSN Web App) and change default Port to 2710. Finally, click “OK” to finish add BSN Web App.

Step 3: Start MongoDB then right click BSN (Site name is created), select “Manage Website -> Browse”.

6.3 User Guideline

6.3.1 Guest

6.3.1.1 Register for a normal or an author account

This is the first page which user will see. From this page the user can go to every page they want.

To register account on website, the users do the steps below:

Step 1: Open browser and enter to the address bar: http://bookaholic.com/. Register – Login page is displayed.

Step 2: Enter information on register form

Step 3: Click “Đăng ký” button to login BSN website

Table 6-4: Register - Login screen

6.3.2 Reader/Author

6.3.2.1 Account

6.3.2.1.1 Login

To login account on website, the users do the steps below:

Step 1: Open browser and enter to the address bar: http://bookaholic.com/ Register – Login page is displayed.

Step 2: Enter information (Email, Password)

Step 3: Click "Đăng nhập" button

Table 6-5: Login page

6.3.2.1.2 Reset password

In case the user forgot password, the users do the steps below:

Step 1: Click “Bạn không đăng nhập được?” below “Mật khẩu” textbox

Step 3: Input email on textbox

Step 4: Click “Gửi” button

Table 6-6: Reset password

6.3.2.1.3 Edit personal information

Users to edit personal information includes name, email, address, date of birth., the users do the steps below:

Step 1: User logged in BSN website

Step 2: Click “Chỉnh sửa thông tin” hyperlink while in home page

Step 3: Modifies fields

Step 4: Click “Lưu” button

At the step 2:
Display Edit profile page includes:
- Navigation bar
- User profile panel
- Side bars

User’s information

Table 6-7: Edit personal information

6.3.2.1.4 Edit avatar and cover photo

Users to edit their avatar and cover photo, the users do the steps below:

Step 1: User logged in BSN website

Step 2: At the home page or personal page

Click icon camera on the avatar or cover

Step 3: Choose avatar photo or cover photo

Table 6-8: Edit avatar and cover photo

6.3.2.2 Post

6.3.2.2.1 Create a post

To post a recommendation, users (includes Reader and Author) do the steps below:

Step 1: User logged in BSN website

Step 2: Enter Home page or Personal page

Step 3: Click “Bạn đang nghĩ gì” text area and enter a recommendation

Step 4: Click “Nhập thẻ sách” input and enter book’s name or author’s name

Step 5: Click “Đăng” button

Table 6-9: Post a recommendation

6.3.2.2.2 Edit caption

To users (includes Reader and Author) want to edit caption of posted recommendation, the users do the steps below:

Step 1: Viewing personal's recommendation

Step 2: Click "Sửa" hyperlink on angle-down icon at top-right of the post

Step 3: Modifies caption

Step 4: Click "Đăng" button

Table 6-10: Edit caption

6.3.2.2.3 Edit book's tag

To users (includes Reader and Author) edits book's tag, the users do the steps below:

Step 1: Viewing personal's recommendation

Step 2: Click "Sửa" hyperlink on angle-down icon at top-right of the post

Step 3: Modifies book's tag

Step 4: Click "Đăng" button

Table 6-11: Edit book's tag

6.3.2.2.4 Delete post

To users remove a recommendation, the users do the steps below:

Step 1: Viewing personal's recommendation

Step 2: Click "Xóa" hyperlink on angle-down icon at top-right of the recommendation

Table 6-12: Delete recommendation

6.3.2.2.5 Like post

To users like a post, the users do the steps below:

Step 1: Viewing a post

Step 2: Click "Like" button below caption

Table 6-13: Like post

6.3.2.2.6 Unlike post

User to unlike others' post and their own post, the users do the steps below:

Step 1: User logged in BSN website and post that user liked

Step 2: Viewing a post

Step 3: Click "Like" button below caption

Table 6-14: Unlike post

6.3.2.3 Comment

6.3.2.3.1 Comment on a post

In a post, user comment on a recommendation/ post, the users do the steps below:

Step 1: User logged in BSN website

Step 2: Click “Viết bình luận” text area below caption

Step 3: Enter a comment

Step 4: Click “Đăng” button

Table 6-15: Comment on a post

6.3.2.3.2 Delete comment

To delete a comment, users do the steps below:

Step 1: User logged in BSN website

Step 2: Click “Xóa” hyperlink on pencil icon at right of comment

Table 6-16: Delete comment

6.3.2.4 Group

6.3.2.4.1 Create a group

To create a group, users do the steps below:

Step 1: User logged in BSN website

Step 2: Go to home page

Step 3: Display home page includes:
- Navigation bar
- Side bars
- Posts area

Step 4: Click “Tạo nhóm” button in home page

Step 5: Enter information and click “Tạo” button

Table 6-17: Create a group

6.3.2.4.2 Edit group profile

To user to edit group profile, the users do the steps below:

Step 1: User logged in BSN website

Step 2: Go to group page

Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars
- Posts area

Step 4: Click "Cài đặt" button in home page

Step 5: Enter information and click "Lưu" button

Table 6-18: Edit group profile

6.3.2.4.3 Add new member by enter account name

To users as an admin of group to add new member by enter account name, do the steps below:

Step 1: User logged in BSN website as admin
Step 2: Go to group page
Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars
- Posts area

Step 4: Choose an account name

Table 6-19: Add new member by enter account name

6.3.2.4.4 Add new member by accept join-group request

User as an admin of group to add new member by accept their request, do the steps below:

Step 1: User logged in BSN website as admin
Step 2: Go to group page
Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars
- Posts area

Step 4: Click "Cài đặt" button, then click "Yêu cầu tham gia" tab
Step 5: Accept one or many request

Table 6-20: Add new member by accept join-group request

6.3.2.4.5 Set another member admin

To set other admin, admin of group do the steps below:

Step 1: User logged in BSN website as admin of group
Step 2: Go to group page
Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars
- Posts area

Step 4: Click "Thêm với tư cách quản lí" hyperlink on dropdown list in config icon in "Thành viên" tab

Table 6-21: Set another member admin

6.3.2.4.6 Edit group's avatar and cover photo

User as an admin of group edit cover and avatar photo, do the steps below:

Step 1: User logged in BSN website as admin of group
Step 2: Go to group page
Step 3:

- Click to camera icon to edit avatar and cover photo .
- Choose photo

Table 6-22: Edit group's avatar and cover photo

At step 3 when choose photo:

Table 6-23: Edit group's avatar and cover photo

6.3.2.4.7 Remove member

User as an admin of group to remove member out of group, do the steps below:

Step 1: User logged in BSN website as admin of group
Step 2: Go to group page
Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars
- Posts area

Step 4: Click "Xóa khỏi nhóm" hyperlink on dropdown list in config icon in "Thành viên" tab

Table 6-24: Remove member

6.3.2.4.8 Create group post

User create a group, the user do the steps below:

Step 1: User logged in BSN website

Step 2: Click text area and enter a recommendation

Step 3: Choose tag book

Step 4: Click “Đăng” button

Table 6-25: Create group post

6.3.2.5 Book

6.3.2.5.1 Rate a book

User to rate a book, the user do the steps below:

Step 1: User logged in BSN website

Step 2: Enter a book’s page (click name of book on home page, personal page, group page ….)

Step 3: Display a book’s page includes:

- Book’s image
- Book’s information
- Rating stars
- Comment area

Right side bar

Step 4: Click rating stars between 1 – 5 stars to rate this book

Table 6-26: Rate a book

6.3.2.5.2 Comment a book

To comment on a book, users do the steps below:

Step 1: User logged in BSN website

Step 2: Enter a book's page (click name of book on home page, personal page, group page ….)

Step 3: Display a book's page includes:

- Book's image
- Book's information
- Rating stars
- Comment area

Right side bar

Step 4: Click on comment textbox and enter a comment then press Enter

Table 6-27: Comment a book

6.3.2.5.3 View book detail

To view book's details, users do the steps below:

Step 1: User logged in BSN website

Step 2: Enter a book's page (click name of book on home page, personal page, group page ….)

Step 3: Display a book's page includes:

- Book's image
- Book's information
- Rating stars
- Comment area

Right side bar

Step 4: Click on "Xem thêm" hyperlink in book's page

Table 6-28: View book detail

6.3.2.5.4 View suggested book

User to view suggested books, the user do the steps below:

Step 1: User logged in BSN website

Step 2: Enter a BSN website

Step 3: Display a home page includes:

- Navigation bar
- Side bars with list of groups, suggested books and authors
- Recommendation area

Newsfeed

Table 6-29: View suggested book

6.3.2.6 Interaction

6.3.2.6.1 Follow user account

To follow other account and get update their actions like: posting, etc., users do the steps below:

Step 1: User logged in BSN website

Step 2: Go to another user's personal page

Step 3: Display other's personal page includes:
- Navigation bar
- Personal panel
- Side bars

Recommendation area

Step 4: Click "Theo dõi" button in other's personal panel

Table 6-30: Follow user account

6.3.2.6.2 Report user account

To report other account, users do the steps below:

Step 1: User logged in BSN website

Step 2: Go to another user's personal page

Step 3: Display other's personal page includes:
- Navigation bar
- Personal panel
- Side bars

Recommendation area

Step 4: Click "Báo cáo" button in other's personal panel

Step 5: Choose a reason and click "Gửi" button

Table 6-31: Report user account

6.3.2.6.3 Sent join-group request

User send request to join a group, the user do the steps below:

Step 1: User logged in BSN website

Step 2: Go to group page

Step 3: Display group page includes:
- Navigation bar
- Group's panel
- Side bars

Posts area

Step 4: Click "Tham gia" button in group's panel

Table 6-32: Sent join-group request

6.3.2.6.4 Leave a group

To out a group, users do the steps below:

Step 1: User logged in BSN website
User joined a group
Step 2: Click “Rời nhóm” button in group’s panel

Table 6-33: Leave a group

6.3.2.6.5 Report a group

To report a group, users do the steps below:

Step 1: User logged in BSN website
User joined a group

Step 2: View group page

Step 3: Click “Báo cáo” button in group’s panel

Display popup with list of radio button includes:
- List of reasons
Text field to enter another reason

Table 6-34: Report a group

6.3.3 Admin

6.3.3.1 Login

To login admin account, the users do the steps below:

Step 1: Open browser and enter to the address bar: http://bookaholic.com/.

Step 2: Admin enter username and password

Step 3: Click on Login button

Table 6-35: Login

:

6.3.3.2 User

6.3.3.2.1 Search user

Admin search user, the admin do the step bellows:
Step 1: Log in as admin

Step 2: Click search textbox

Step 3: Enter name of user

At the step 3: The name of user is displayed

Table 6-36: Search user

6.3.3.2.2 Ban user

Admin ban user, the admin do the step bellows:

Step 1: Log in as admin

Step 2: Click ban button

At the step 2, user will be banned

Table 6-37: Ban user

6.3.3.2.3 Unban user

Admin unban user, the admin do the step bellows:

Step 1: Log in as admin

Step 2: Click unban button

At the step 2, user will be unbanned

Table 6-38: Unban user

6.3.3.3 Group

6.3.3.3.1 Ban a group

Admin ban a group, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý nhóm”.

Step 2: Click ban button

Table 6-39: Ban a group

6.3.3.3.2 Unban a group

Admin unban a group, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý nhóm”.

Step 2: Click unban button

Table 6-40: Unban group

6.3.3.4 Book

6.3.3.4.1 Add a new book

Admin add new book, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý sách”.

Step 2: Click “Thêm sách” button

Popup add new book is displayed

Step 3: Input all information of book

Step 4: Click “Thêm” button

Table 6-41: Add a new book

6.3.3.5 Sliders

6.3.3.5.1 Add a new slider

Admin add a new slider, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý Slider”.

Step 2: Click add slider

Step 3: Input all field to add slider

Step 4: Click “Thêm” button

Slider will be accepted

Table 6-42: Add a new slider

6.3.3.5.2 Delete a slider

Admin delete a slider, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý Slider”.

Step 2: Click “Xóa” button

Table 6-43: Delete a slider

6.3.3.5.3 Active/de-active a slider

Step 1: Go to Admin page, Click on “Quản lý Slider”.

Step 2: Click “Trình chiếu” /“Bỏ trình chiếu” button

Table 6-44: Enable/Disable a slider

6.3.3.6 Publisher

6.3.3.6.1 Admin add a new publisher

Admin add a new publisher, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý Quản lý nhà xuất bản”.

Step 2: Click add publisher

Step 3: Input all field to add publisher

Step 4: Click “Thêm” button

Table 6-45: Add new new a publisher

6.3.3.6.2 Edit publisher’s information

Admin edit publisher's information, the admin do the step bellows:

Step 1: Go to Admin page, Click on “Quản lý Quản lý nhà xuất bản”.

Step 2: Click to edit publisher button

Step 3: Edit information of publisher

Table 6-46: Edit publisher's information

7 PROJECT RESULT REPORT

7.1 Product Judging

7.1.1 Advantage of BSN system

The idea of BSN project is to develope a website where people who loves book can share and discus with others about their favorite books or authors. Therefore, this project can strengthen Vietnam's reading culture.

As the goals that we have set before started project, the BSN system has been developed in right direction. And what it provides to users is listed below:

- Member: member can create post about book, rate book and they can also create group to dicuss together about their favorite book or uthor.
- Admin: Admin can easily manage user, group or other materials of system such as: book, author, slide, publisher, etc.

7.1.2 Current Limitations

- Website does not support English, Vietnamese only.
- System does not save the edit history of post and comment.

7.1.3 Expectation in Future

- Support multi-language to allow users from other countries use our website.
- Develop more features such as reply comment, tag other user to a comment, allow create a group's event.

7.2 Project Summary

Project Title		**Bookaholic Social Network**	
Project Supervisor		Nguyễn Văn Sang	
Committers (5)			
1	**Project Manager**	Phạm Thị Huyền	*huyenptse03416@fpt.edu.vn*
2	**Team member**	Thái Thị Cẩm Vân	*vanttcse03409@fpt.edu.vn*
3	**Team member**	Vũ Hải Đăng	*dangvhse03380@fpt.edu.vn*
4	**Team member**	Nguyễn Thị Hải Yến	*yennthse03171@fpt.edu.vn*
5	**Team member**	Chu Minh Hải	*haicmse03143@fpt.edu.vn*
Main objective		Develope a website where people who loves book can share and discus with others about their favorite books or authors.	
Purpose		Provide a BSN online on website.	
Source Repository		https://github.com/sangnvus/201609JS02	
		Plan	**Actual**
Start Date		09/05/2016	09/05/2016

End Date	14/12/2016	14/12/2016
Releases version	1.0	1.0
Duration	78	78
Effort (person-day)	390	390
Test cases	1000	1524
Defects	70	65
Document pages	~ 1500 pages	~ 1400 pages
Lines of code (C#)	~ 7000	~ 6000
Lines of code (HTML)	~ 6500	~6200
Lines of code (javascript (jquery and knockout js))	~700	~800
LOC (Total)	~ 14200	~ 13000

Table 7-1: Project summary

Knowledge:

- Iterative and Incremental work process to develop a project.
- Putting the learned knowledge into practice.
- Improve skils: teamwork, leader-ship, research and self-study, plan and manage time.
- Technical: Identity Framework, Signal R, knockout js, ASP.Net MVC5.
- Tools: Visual Studio, TortoiseGit, Astah, Balsamiq, Project Professional, Visio, etc.

7.3 Lesson Learnt

- The project manager needs to be aware of the strengths and weaknesses of his/her staff to use this to develop a good project.
- The success of a project is not only dependent on the skills and strengths of the people involved. Therefore, a project needs to have all members working towards a common goal.
- If you have the knowledge and experience to make a decision, then you should go ahead to present your idea or reasons of decision.
- Be open to change. Sometimes, you may find that the things you knew along may not be correct at this given time, under these specific conditions.
- Good communication is that which will stop mistakes from becoming failures.
- Please think carefully before making a decision. For example, in estimating the scope of project and set priority for each task or function – it is an important phase.

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