MINISTRY OF EDUCATION AND TRAINING

FPT UNIVERSITY

CAPSTONE PROJECT DOCUMENT

AGC101

FINAL REPORT

Tra Da	
Group Member	SE03451 – Soulivong Phimmathong
	SE03271 – Hoang Van Canh
	SE03030 – Vu Hoang Hieu
	SE03193 – Nguyen Hoang
	SE03334 – Nguyen Huu Thao
Supervisor	Mr. Nguyen Van Sang
Project Code	AGC101

Hanoi, May 2016 – August 2016

Table of Contents

1 INITIAL IDEA FOR AGC 6

1.1 INTRODUCTION....6

1.1.1 Purpose 6

1.1.2 Acronyms and Definitions 6

1.2 ABSTRACT....6

1.3 LITERATURE REVIEW....7

1.4 PROPOSAL 10

1.4.1 The idea 10

1.4.2 Objectives 10

1.4.3 Brief description about system 11

1.4.4 System features 12

1.5 BENEFIT FROM PROJECT 13

1.5.1 For our group 13

1.5.2 For Community.... 14

1.6 CRITICAL ASSUMPTION AND CONSTRAINTS....14

1.7 POTENTIAL RISKS 15

2 SOFTWARE PROJECT MANAGEMENT DOCUMENTS 17

2.1 INTRODUCTION....17

2.1.1 Purpose 17

2.1.2 Definition and Acronyms 17

2.2 PROJECT OVERVIEW....18

2.2.1 Project Description 18

2.2.2 Scope.... 18

2.2.3 Standard Objectives 18

2.2.4 Milestone and Deliverables 19

2.3 PROJECT ORGANIZATION....20

2.3.1 Software Process Model 20

2.3.2 Project lifecycle 22

2.3.3 Organizational Chart.... 23

2.3.4 Roles and Responsibilities 24

2.4 TOOLS AND INFRASTRUCTURES....25

2.4.1 Hardware tool 25

2.4.2 Software tool.... 26

2.5 SCHEDULE 27
2.5.1 Detailed Schedule 27
2.5.2 Meeting Schedule 28
2.5.3 Effort Estimation 28
2.6 RISK MANAGEMENT 28
2.6.1 Risk Register 28
2.6.2 Risk probability and impact matrix 29
2.7 CODING CONVENTION 29
2.7.1 Php naming convention 29
2.7.2 File naming convention 29
3 REQUIREMENTS SPECIFICATION DOCUMENTS 31
3.1 USER REQUIREMENTS SPECIFICATION 31
3.1.1 Introduction 31
3.1.2 Overall Description 32
3.1.3 Functional Requirements 34
3.1.4 Non – Functional Requirements 38
3.2 SOFTWARE REQUIREMENTS SPECIFICATION 38
3.2.1 Introduction 38
3.2.2 System Purpose 40
3.2.3 Scope 40
3.2.4 Overall Description 41
3.2.5 Entity Relation Model 46
3.2.6 Functional Specification 48
3.2.7 Non-functional Specification 92
4 SOFTWARE DESIGN DOCUMENTS 95
4.1 ARCHITECTURE DESIGN 95
4.1.1 Choice of Architecture Design 95
4.1.2 Architectural Presentation 97
4.1.3 Package Design 97
4.2 DETAILED DESIGN 99
4.2.1 Class Description 99
4.2.2 UC001: Admin Management 109
4.2.3 UC002 Customer Management 137
4.2.4 UC003 Restaurant Owner Management 152

4.2.5 UC004 Guest 173
4.3 DATABASE DESIGN 187
4.3.1 Database Diagram 187
4.3.2 Table Descriptions 187
5 SOFTWARE TEST DOCUMENTS 199
5.1 INTRODUCTION 199
5.1.1 Purposes 199
5.1.2 System Overview 199
5.2 TEST PLAN 199
5.2.1 Scope of Testing 199
5.2.2 Requirements for Testing 200
5.2.3 Test Strategies 203
5.3 TEST CASES 210
5.4 CHECKLISTS 210
5.4.1 Functionalities checklists 210
5.4.2 User interface checklists 210
5.5 TEST LOGS 213
5.5.1 Defect Logs 213
5.5.2 Test Reports 213
6 SOFTWARE USER'S MANUALS 217
6.1 INSTALLATION GUIDE 217
6.1.1 Purposes 217
6.1.2 Environments 217
6.1.3 Application Installation 217
6.2 USER's GUIDE 225
6.2.1 Purposes 225
6.2.2 Functional Description 225
6.2.3 Detailed Guidelines 226
6.3 PROJECT RESULT REPORT 259
6.3.1 Product Judging 259
6.3.2 Project Summary 260
6.3.3 Lessons Learnt 261
7 REFERENCES 262

PART 1
INTRODUCTION

1 INITIAL IDEA FOR AGC

1.1 INTRODUCTION

1.1.1 Purpose

This report provides an overview of AGC project – our Capstone Project in FPT University. It includes background information, literature review of existing systems, the initial idea of this project, a brief description about our expected system and some potential risks, critical assumptions, constraints, also some benefits for our group and website users.

1.1.2 Acronyms and Definitions

Acronym & Abbreviation	Definition	Note
AGC	Angi.com	
PHP	Hypertext Preprocessor	

Table 1: Definitions and Acronyms

1.2 ABSTRACT

The development of technology and the increasing use of the Internet as a primary source of information lead to the introduction website explosively. This increasing on demand for better restaurant services; these changes in the habits of current and potential customers directly result with the need for significant changes in the development of Online marketing plan.

Almost restaurants currently do not have their own websites to be a channel for advertising, introducing and supporting their business. For the rest, the current system cannot afford the demand of customer like searching, comparing, communicating and reviewing the quality of services efficiently and optimally.

So, we have to connect all customers and restaurant owners, create mutual zone to share the market and bring the benefit for all of them. Furthermore, new expected website has to ensure that provides all functions for customers (seek information, compare, review, book table, order food and manage their booking); for restaurant owners (manage their site content, manage food order, customer booking on their restaurant); has friendly interface and easy to use.

1.3 LITERATURE REVIEW

There are many restaurants & food websites, mobile applications, Facebook pages, blogs those introduce about restaurants, suggest users about places to eat, book a table, order food and manage their booking too such as: Lozi.vn, Foody.vn, etc.

Figure 1 Facebook page

Figure 2 Facebook page

Figure 3 Foody.vn Facebook Page

Facebook Page is one of most online social network which user to share information and interact in a large community. User can add others, view topic and get news from notifications.

Best selling point of Facebook Page is shop owners have a free space to communicate with others and the frequently of using.

However, with the functions provided in Facebook fan page, it only helps user to get news and review subjectively following the direction of admin. To afford demand of customer like: searching, comparing, reviewing & making reservation online efficiently – what social network likes Facebook, Tweeter cannot do, we need a website which supports more tools for these requirements.

Restaurant & food website such as: Foody.vn & Lozi.vn

Figure 4 Foody.vn

Figure 5 Lozi.vn

Foody.vn & Lozi.vn are two examples of most successful restaurant & food websites in Viet Nam. They provide all information about foods & places for users. User also can create post by upload picture and write review for a place. Easy to use and friendly imagine are the advantages to attract users.

However, those website still have some weakness affect choice of customer, such as: too many advertises; Website interface is hard for user to catch up direct information; the duplicate of information; clone accounts and quality of reviews also.

1.4 PROPOSAL

1.4.1 The idea

The ideas of creating a web application for introducing about restaurants & booking table online is not new; there are many existing websites now. However, our expected AGC web application includes main functions of current websites, friendly user interface and easy to use.

Figure 6 The idea

1.4.2 Objectives

This project is a Capstone Project for all team members.

Firstly, we do this project to fulfill the requirements from FPT University studying program. During the time do this, we can learn how to develop a project, how to communicate with other team members, how to control time, how to do teamwork effectively. We also can work with some new technology – PHP, new frameworks: CodeIgniter, MySQL Workbench, etc. Therefore, after finishing this project, we can practice what we have learnt in university

and learn so many new things. It is very necessary for our future work after graduated from FPT University.

Secondly, we want to create a web application that helps user find information about restaurants, dining address; the promotions. It provides the users a more effective, easier and simpler way to book table. They can view, edit, and manage their booking too. Specially, this web application allows user to review the restaurant that they used services. So other user can refer to and make thier decision. The other special features of AGC is to enable users to order food on menu before coming so that they can enjoy the best services.

The difference between our system from the current restaurant and food website is that our website content is manage by restaurant owners. They have to pay fee for administrator to have restaurant account. And they can manage (view, update, delete) their site content, manage (view, statistic) customer order/ booking on their restaurant. So, they can develop their business effectively.

1.4.3 Brief description about system

This web application will includes most restaurants in Hanoi, Vietnam. It will be public for all Internet users to look for information about restaurant and food. However, they need to sign up to use full functions from the system. With friendly and simple interface, customer can easily find information, review restaurants, book table, etc. restaurant owner can manage their site content, manage customer booking on their restaurant. If they have any problem, they can get contact admin directly. This web application uses PHP technology platforms and browsers.

The picture below is the application feature flow:

Figure 7 AGC feature flow

1.4.4 System features

AGC provides huge advantages of helping customers to find their best fits restaurants and menus as well all others basic information needed such as contact information, address, etc.

On the other hand, restaurants owner also have chances to show their products and services on AGC, which will gain their potential customers. Besides, the owners will also able to access some business statistical data such as total amount of booking, etc.

Our main functions are grouped by users as follow:

1. **Admin**
   - ✓ Control users' accounts.
   - ✓ Add/modify restaurants' categories.
   - ✓ Add/modify news.
   - ✓ View statistical information.
   - ✓ View Customers and Restaurant owners information
2. **Customers**
   - ✓ Access to plenty of restaurant basic information and information of the system as a whole.
   - ✓ View specific restaurant information in detail.
   - ✓ Reserve tables if needed.
   - ✓ Search for interested restaurants or even dishes.
   - ✓ View restaurants' list based on interest, address, restaurant category, etc.
   - ✓ Interact with social network
3. **Restaurant owners**
   - ✓ Create and publish restaurant information on the websites.
   - ✓ View customers table booking as well as customers' basic information.
   - ✓ Update table booking status for customers.
   - ✓ Interact with social network.
4. **Guests**
   - ✓ View general information in AGC.
   - ✓ Register with AGC.

1.5 BENEFIT FROM PROJECT

1.5.1 For our group

After developing and implementing this project, our group will:

• Have experiences in managing software project: How to make a plan, manage time and risk, etc. These experiences will help us a lot in our future work.

• Know how to communicate with other team members and how to do teamwork efficiently.

- Have chance to study new technology: PHP technology and frameworks: Codesigniter, Bootstrap, HTML5, JQuery, etc.
- Complete Capstone Project successfully.

1.5.2 For Community

Our website will provide channel to help restaurant owners connect with customers effectively. On the other hand, customer can save their time, money and choose the restaurants those meet their need. They also can review and give feedback for restaurant to improve the quality of services.

For restaurant owners, they can have the best marketing engine to develop their business, save a lot of money. Avoid overloading and have best preparation for special demand from customer. Finally, Customer information will give references for them to create the right marketing strategies.

1.6 CRITICAL ASSUMPTION AND CONSTRAINTS

There are some critical assumptions that we realize after analyzing this project. The first assumption is about team members. We assume that all the developers can study new web technology - PHP in a short time. We do not know anything about it before this project, but we have to study hard for not missing any deadline of project plan. Besides, we also assume all our members do not have any health problems, so they are not absent and can do their works. The second one is about devices – laptop. We assume they are always at good condition. There are also some constraints of our project.

Firstly, we are international group so the misunderstanding between team members always happened and need more time to solve.

Secondly, about the time and deadline, we have to finish project on time. It has no extra time for us to complete developing and deliver application to teachers. Besides, the reports need to be submitted before the deadline.

Thirdly, about the quality, the application must be well enough for users to do main functions.

Fourthly, about the business requirements assumption, we assume that restaurants operate well and our system provides almost their needs.

Finally, about the technique, out knowledge in web developing is not the high level. Therefore, with all the expected features that we gave before, we do not know if we can solve all of those or not. However, we will try our best to make our project successfully.

1.7 POTENTIAL RISKS

After analyzing this project, we may face with the following risks:

- Developing a web application by PHP technology is new with us, so it will take time for us to study and may be later we will have some technical problems.

- With the short duration - about 4 months – we will not have enough time to do all things and miss the delivery deadline.

- We do not have any experiences in software project management such as time management, risk management etc. Therefore, our project plan will be not good and completed. So maybe we will miss the deadline or have some unknown risks.

- It is the first time we manage big project like this, we do not have much experiences in communicating between the team. So maybe in the future, we will have conflict and argument and we will not finish all the works in time.

- About the device, all team members have different laptop with different configuration so we will have some difficulties in installing and testing application.

- Maybe we will lose source code or device during the developed time.

PART 2
SOFTWARE PROJECT MANAGEMENT DOCUMENTS

2 SOFTWARE PROJECT MANAGEMENT DOCUMENTS

2.1 INTRODUCTION

2.1.1 Purpose

2.1.2 Definition and Acronyms

Acronym & Abbreviation	Full form	Definition
AGC	AGC	Project name
AGC101	AGC101	Project code
Tra Da	Tra Da	Group name
SRS	Software Requirements Specification	A document
SPMP	Software Project Management plan	A document
SDD	Software Design Description	A document
STD	Software Test Documentation	A document
SUM	Software User's Manual	A document
IDE	Integrated Environment Development	Software development tool
QA	Quality Assurance	
QC	Quality Control	

Table 2 Definitions and Acronyms

2.2 PROJECT OVERVIEW

2.2.1 Project Description

We plan to create a responsive website that assembles restaurants in Hanoi, Vietnam.

All information gathered will be organized neatly and accurately publish to users. On the other hand, restaurant owners will be able to post their menus, services and detailed description of their restaurants on AGC website.

2.2.2 Scope

In Scope

- Gather all types of restaurants in Hanoi, Vietnam in Vietnam
- Customer will be able to perform table booking, interact with social network and view general information in the system
- Restaurant owner will have functionalities to add/update/delete his/her restaurant information as well as updating table booking status
- Admin will be able to control users' accounts and view numbers of users and restaurants' account

Out scope:

- Choosing menu in a restaurant online
- Developing mobile web based application
- Online payment functionalities

2.2.3 Standard Objectives

1. Deploy the project before August 27, 2016.
2. Fulfil all requirements specified in SRS.
3. Submit all reports to FPT university capstone stone project committees and academic department.
4. Successfully defense thesis at FPT University.

2.2.4 Milestone and Deliverables

- **Milestones**

No	Milestones	Date
1	Hold kick – off meeting	13 Apr 2016
2	Completed Report No. 1 Introduction	25 April 2016
3	Created project schedule	30 Apr 2016
4	Completed Report No. 2 SPMP	5 May 2016
5	Competed writing use case	12 May 2016
6	Completed Report No. 3 SRS	15 May 2016
7	Complete Report No. 4 SDD	5 Jun 2016
8	Complete coding and unit test	3 Aug 2016
9	Deliver tested codes (Code demo 1)	12 Aug 2016
10	Completed Report No. 5 STD	12 Aug 2016
11	Completed Report No. 6 SUM	17 Aug 2016
12	Represent capstone project and close the project	31 Aug 2016

Table 3: Milestones

- **Deliverables**

No	Deliverables	Format	Delivery Date	Delivery Method
Internal deliverables				
1	AGC_WorkSchedule	.mpp	12 May 2016	GitHub repository

2	AGC_Risk_Register	.xlsx	13 May 2016	GitHub repository
3	AGC_Test_Case	.xlsx	6 Aug 2016	
External deliverables				
1	Report No.1 Introduction	.docx	25 Apr 2016	GitHub repository
2	Report No. 2 SPMP	.docx	5 May 2016	GitHub repository
3	Report No. 3 SRS	.docx	15 May 2016	GitHub repository
4	Report No. 4 SDD	.docx	5 Jun 2016	GitHub repository
5	Report No.5 STD	.docx	12 Aug 2016	GitHub repository
6	Report No.6 SUM	.docx	17 Aug 2016	GitHub repository
7	The CD - Source Code Executable Program Package	.rar	24 Aug 2016	Hand directly by hand
8	Final documentation	.docx	24 Aug 2016	Hand directly by hand

Table 4: Deliverables

2.3 PROJECT ORGANIZATION

2.3.1 Software Process Model

We use Rational Unified Process model to develop AGC website. The Rational Unified Process (RUP) is an iterative software development process framework created by

the Rational Software Corporation, a division of IBM since 2003. RUP is not a single concrete prescriptive process, but rather an adaptable process framework, intended to be tailored by the development organizations and software project teams that will select the elements of the process that are appropriate for their needs. RUP is a specific implementation of the Unified Process.

Figure 8 Rational Unified Process Model

2.3.1.1 Inception phase

The primary objective is to scope the system adequately as a basis for validating initial costing and budgets. In this phase the business case which includes business context, success factors (expected revenue, market recognition, etc.), and financial forecast is established. To complement the business case, a basic use case model, project plan, initial risk assessment and project description (the core project requirements, constraints and key features) are generated.

2.3.1.2 Elaboration phase

The primary objective is to mitigate the key risk items identified by analysis up to the end of this phase. The elaboration phase is where the project starts to take shape. In this phase the problem domain analysis is made and the architecture of the project gets its basic form. The key domain analysis for the elaboration is the system architecture.

2.3.1.3 Construction phase

The primary objective is to build the software system. In this phase, the main focus is on the development of components and other features of the system. This is the phase when the bulk of the coding takes place. In larger projects, several construction iterations may be developed in an effort to divide the use cases into manageable segments that produce demonstrable prototypes.

This phase produces the first external release of the software. Its conclusion is marked by the initial operational capability milestone.

2.3.1.4 Transition phase

The primary objective is to 'transit' the system from development into production, making it available to and understood by the end user. The activities of this phase include training the end users and maintainers and beta testing the system to validate it against the end users' expectations. The system also goes through an evaluation phase, any developer which is not producing the required work is replaced or removed. The product is also checked against the quality level set in the Inception phase.

If all objectives are met, the product release milestone is reached and the development cycle is finished.

2.3.2 Project lifecycle

There are 4 phases in this development:

1. **Inception phase**

This is a first phase of project development. We plan to develop business case, software project management plan and prototype. Define scope, cost and schedule.

2. **Elaboration phase**

During this phase, we further analyze and complete the work in the Inception phase. Identifies users, develop use cases, prototype, and software architecture. After this stage we should have been able to decide whether the project is worth develop or not.

3. **Construction phase**

During this phase, all remaining components and application features are developed and integrated into the product. The main activities will be coding and testing.

4. Transition phase

Is the last phase in this software development life cycle, we will have a final check of overall project within Tra Da team and with the advisor to approve. Finally, presentation slide will be created. Then, all documentations and source codes will be submitted to FPT University thesis defense committees.

2.3.3 Organizational Chart

Figure 9 AGC101 Organizational Chart

2.3.4 Roles and Responsibilities

Full Name	Roles	Responsibilities
Nguyen Van Sang	Team Advisor	▪ Give team direction. ▪ Give team consultation. ▪ Approve all deliverables. ▪ Approve project success or fail.
Soulivong Phimmathong	Project Manager	▪ Oversee overall project. ▪ Encourage and motivate members. ▪ Initialize meeting. ▪ Ensure all tasks will be all schedule ▪ Divide and assign tasks. ▪ Create SPMP. ▪ Control work quality.
SRS Analysis		
Nguyen Huu Thao	SRS Analysis Leader	▪ Lead collecting and analyzing software requirements. ▪ Complete SRS documentation.
Soulivong Phimmathong	SRS Analysis member	▪ Work closely with the SRS analysis leader.
Software Design		
Vu Hoang Hieu	Software design Leader	▪ Lead and design the look and feel of AGC web application. ▪ Complete SDD documentation.
Nguyen Hoang	Software design member	▪ Work closely with the Software design leader.

Development		
Hoang Van Canh	Development Leader	▪ Lead coding team. ▪ Demonstrate the completed sytem.
Soulivong Phimmathong	Development member	▪ Work closely with the Development leader.
Vu Hoang Hieu	Development member	▪ Work closely with the Development leader.
Nguyen Hoang	Development member	▪ Work closely with the Development leader.
Testing		
Nguyen Hoang	QA Leader	▪ Lead Testing team. ▪ Complete STD.
Nguyen Huu Thao	QA member	▪ Work closely with the testing leader.
Vu Hoang Hieu	QA member	▪ Work closely with the testing leader.
Soulivong Phimmathong	QA member	▪ Work closely with the testing leader.
Hoang Van Canh	QA member	▪ Work closely with the testing leader.

Table 5: Roles and Responsibilities

2.4 TOOLS AND INFRASTRUCTURES

2.4.1 Hardware tool

Hardware	**Purpose**	**Detail**
5 Laptop computers	development tool	With minimum: 4GB RAM, 500GB Hard disk and Intel core i5, 1.80 GHz
2 Android phones	testing tool	Android 5.0
2 IOS phones	testing tool	IOS 9
2 iPad	testing toll	Ipad 2 mini and iPad 4

Table 6 Hardware tool

2.4.2 Software tool

Category	**Software**	**Version**
IDE	Netbeans IDE	8.1
	MySQL Workbench	6.3 CE
Operating system	Windows 7, 8.1, 10	Home, Professional, Education
Communication	Facebook	
	Email	
	Skype	
Documentation	Microsoft Word	2013
	Microsoft Excel	2013
	Microsoft PowerPoint	2013
	Microsoft Project	2007
Database	MySQL	
Data Repository	Google Drive	
	Git Hub and Tortoise Git	
	Facebook	
Design	https://www.draw.io/	
	https://pidoco.com/	
	Enterprise Architect	12.1
	Microsoft Visio	2010
Language	Php	5.6
Framework	CodeIgniter	3.0.6
	Bootstrap	3.3.7
Server	XAMPP	5.6
	Apache	2.4

Table 7 Software tools

2.5 SCHEDULE

2.5.1 Detailed Schedule

		Task Name	Duration	Start	Finish	Predece	Resource Names
1		AGC	134.88 days	Mon 4/11/16	Wed 8/31/16		Soulivong Phir
2		Inception	23.25 days	Mon 4/11/16	Thu 5/5/16		All
3	✓	initial project concept	2 days	Mon 4/11/16	Tue 4/12/16		All
4	✓	Kick-off meeting	0 days	Wed 4/13/16	Wed 4/13/16		All
5	✓	Establish team advisor	0 days	Thu 4/14/16	Thu 4/14/16	4	All
6	✓	Submit capstone project registration to	0 days	Fri 4/15/16	Fri 4/15/16		Soulivong Phimr
7	✓	Define project and system scope	0 days	Sat 4/16/16	Sat 4/16/16		All
8	✓	Create report no.1: Introduction	5 days	Sun 4/17/16	Thu 4/21/16		Nguyen Huu Tha
9	✓	Review & update report no.1 : Draft ves	2 days	Fri 4/22/16	Sun 4/24/16	8	Nguyen Huu Tha
10	✓	Submit report no.1 final version	0 days	Mon 4/25/16	Mon 4/25/16	9	Soulivong Phimr
11		Requirements	9.63 days	Sun 4/17/16	Wed 4/27/16		Nguyen Huu Th
16		Project Management Plan	12.63 days	Fri 4/22/16	Thu 5/5/16		Soulivong Phir
23		Elaboration	29 days	Thu 5/5/16	Sun 6/5/16	2	
24		User Requirements Specification	9.88 days	Thu 5/5/16	Mon 5/16/16		Nguyen Huu Th
30	✓	Software Requirements Specificatic	25.13 days	Thu 5/5/16	Tue 5/31/16		Nguyen Huu Th
39	✓	Design	26 days	Sun 5/8/16	Sun 6/5/16		Vu Hoang Hieu
56	✓	Construction	70 days	Sun 6/5/16	Wed 8/17/16	23	Hoang Van Ca
57	✓	Requirements & Design	4 days	Sun 6/5/16	Thu 6/9/16		Hoang Van Ca
60	✓	Coding & Unit Test	52 days	Thu 6/9/16	Wed 8/3/16	57	Hoang Van Ca
66	✓	Testing	12 days	Wed 8/3/16	Mon 8/15/16		Nguyen Hoang
67	✓	Create test documents (Report 5	9 days	Wed 8/3/16	Fri 8/12/16		Nguyen Hoang
74	✓	Execute user interface test	3 days	Wed 8/10/16	Sat 8/13/16	69	Nguyen Hoang
75	✓	Execute functional and data integri	5 days	Wed 8/10/16	Mon 8/15/16	69	Nguyen Hoang
76	✓	Deliver tested codes (Code demo 1	0 days	Fri 8/12/16	Fri 8/12/16	67	Nguyen Hoang
77	✓	Create report no.6 -Software User's Ma	3 days	Fri 8/12/16	Mon 8/15/16	76	Soulivong Phimr
78	✓	Review & update report no.6	2 days	Tue 8/16/16	Wed 8/17/16	77	Soulivong Phimr
79	✓	Submit report no.6 final version	0 days	Wed 8/17/16	Wed 8/17/16	78	Soulivong Phimr
80		Transition	12.63 days	Thu 8/18/16	Wed 8/31/16	56	
81		Preclosing	5.63 days	Thu 8/18/16	Wed 8/24/16		All
82		Conduct project review-lessons lea	1 day	Thu 8/18/16	Thu 8/18/16		All
83		Deploy final product	0 days	Thu 8/18/16	Thu 8/18/16	82	Hoang Van Canl
84		prepare slide for capstone project p	4 days	Fri 8/19/16	Tue 8/23/16	83	Soulivong Phimr
85		Submit all documents and CD sou	0 days	Wed 8/24/16	Wed 8/24/16	84	All
86		Closing	7 days	Wed 8/24/16	Wed 8/31/16		Soulivong Phir
87		Prepare for presentation	7 days	Wed 8/24/16	Wed 8/31/16	85	All
88		Represent capstone project and cl	0 days	Wed 8/31/16	Wed 8/31/16	87	All

Figure 10: AGC_Project_Schedule

See AGC_WorkSchedule.mpp for details.

2.5.2 Meeting Schedule

The meeting will normally held twice a week, In order to plan, and accomplish project's objectives. We have the 2 following kind of meeting

1. **Tra Da with the Advisor:**

The advisor will call for the meeting once in a week on the weekday between 12:20 to 1:00 PM based on day available from 15 April to 12 June 2016. Then, from 13 June to 28 August 2016, the meeting will be hold on every Monday evening from 5:00 PM to 6:00 PM. Agenda includes guiding, reviewing, and giving recommendations from the advisor. Finally, questions from members are asked and answered instantly. The meeting result will be recorded in a note, then this note will be posted on Google Drive group folder.

2. **Team meeting**

This meeting is hold internally within Tra Da members (exclude an advisor). The meeting will be officially hold once a week, PM will create meeting agenda, specifically include reviewing the previous work, plan for incoming tasks and assign members to carry out the tasks. All team meeting result will be posted on Tra Da Facebook group.

Furthermore, we also have many minor meeting via instant messages on Facebook chat group.

2.5.3 Effort Estimation

Task name	Worst case(days)	Best case(days)	Expected case(days)
Inception	25	17	24
Elaboration	40	23	30
Construction	80	60	70
Transition	25	13	20
Total	170	113	144

Table 8 Effort estimation

2.6 RISK MANAGEMENT

2.6.1 Risk Register

See AGC_Risk_Register.xlsx file for detail.

2.6.2 Risk probability and impact matrix

See AGC_Risk_Probablity_and_Impact_Matric.xlsx for detail.

2.7 CODING CONVENTION

2.7.1 Php naming convention

Use meaningful English noun for variables and English verb for method and follow the following naming convention.

- ClassName – PascalCase
- methodName – camelCase
- propertyName – camelCase
- functionName – camelCase
- $variableName – camelCase

2.7.2 File naming convention

Specified a meaningful name started each document with "AGC" and use underscores to separate spaces.

Ex: AGC _Report2_SPMP.docx

PART 3
REQUIREMENTS SPECIFICATION DOCUMENTS

3 REQUIREMENTS SPECIFICATION DOCUMENTS

3.1 USER REQUIREMENTS SPECIFICATION

3.1.1 Introduction

3.1.1.1 Purposes

This is an SRS for the AGC web application. Document describes general function and non-functional requirements of the system which will be used as input for software design document and will be used as a checklist for software test documentation. Meanwhile users and stakeholders can use it to have an overview of the whole system requirements.

3.1.1.2 Definition and Acronyms

Term	Description
Tra Da	group name
AGC	Tra Da project name
AGC101	project code
SRS	software requirement specification
GUI	graphical user interface
API	application program interface
user	anyone who uses the system
admin	A website owner and also a person who is given specific permission for managing and controlling the system.
Customer	a user who have registered on the system
Restaurant owner	Someone who has a restaurant and wants his restaurant to be a part the application, and he/she is also a customer

Guest	anyone who is not a customer
Stakeholder	Any person who has interaction with the system
index page	home page or main page

Table 9 Definition and Acronyms

3.1.2 Overall Description

3.1.2.1 Business Process Overview

AGC is a web application aiming to connect customers and restaurants together. AGC will be available on modern web browers which also compatible on mobile and tablets devices. The site is reliable and convenient which help users to easily access, search for information about the best places to eat, the promotions, the food and the service provided; refer, evaluate the quality of the venue through user reviews and rates features. Besides, AGC provides information of restaurants addresses, food, and table booking service.

3.1.2.2 Product Features

AGC provides huge advantages of helping customers to find their best fits restaurants and menus as well all others basic information needed such as contact information, address, etc.

On the other hand, restaurants owner also have chances to show their products and services on AGC, which will gain their potential customers. Besides, the owners will also able to access some business statistical data such as total amount of booking, etc.

Our main functions are grouped by users as follow:

1. **Admin**
   - ✓ Control users' accounts.
   - ✓ Add/modify restaurants' categories.
   - ✓ Add/modify news.
   - ✓ View statistical information.
   - ✓ View Customers and Restaurant owners information
2. **Customers**
   - ✓ Access to plenty of restaurant basic information and information of the system as a whole.
   - ✓ View specific restaurant information in detail.

- ✓ Reserve tables if needed.
- ✓ Search for interested restaurants or even dishes.
- ✓ View restaurants' list based on interest, address, restaurant category, etc.
- ✓ Interact with social network

3. **Restaurant owners**
   - ✓ Create and publish restaurant information on the websites.
   - ✓ View customers table booking as well as customers' basic information.
   - ✓ Update table booking status for customers.
   - ✓ Interact with social network.
4. **Guests**
   - ✓ View general information in AGC.
   - ✓ Register with AGC.

3.1.2.3 User Characteristic

AGC users are grouped into 4 categories:

1 Admin: is AGC system owner, who have a high knowledge in information technology, specifically internet and web service. In practical admin is a person who have a high understanding of overall system and system in detail. Furthermore admin also have to have ability to make a deal with restaurant owners as clients.

2 Customers: are anyone who have registered on AGC website, but not restaurant owners. They want to know both general and in detail information of what AGC provides, also need a fast service with friendly user interface.

3 Restaurant owners: are anyone who have registered with AGC website as restaurant owner, they want to gain as many customers as possible, also need a clear content manager as well as accurate business statistical data with a cheap prices.

4 Guests: are general users who come to browse on AGC website, they might be interested or not interested in finding restaurants, but if they are interested in the want to have found their desirable one.

3.1.3 Functional Requirements

3.1.3.1 Activate/deactivate user

Access right: Admin

Description: when admin have check all requirement of registration he/she will immediately activate that specific user. On the other hand the admin also have right to deactivate accounts those are unvalid.

3.1.3.2 Activate/deactivate restaurant

Access right: Admin

Description: before any of restaurant information fields to be inserted and display admin will check all requirement and decide whether to activate or not. On the other hand if the restaurant is not valid on the time gone by the admin will also deactivate that account.

3.1.3.3 Rate restaurant

Access right: Admin

Description: Admin will give rating to restaurants based on restaurant reputation calculate from amount of likes, shares, comments, and about of table booking.

3.1.3.4 Delete restaurant

Access right: Admin

Description: if a restaurant have vilolate any rules, those considered to be deleted, admin will use this function to delete or if those account which are no longer exist will be removed as well.

3.1.3.5 Delete user

Access right: Admin

Description: admin will use this function to remove account that no longer exist or invalid and is condered to be removed.

3.1.3.6 View statistical data

Access right: Admin

Description: this is the place where admin is able to view amount of restaurants, customers, booking amount and others.

3.1.3.7 Add/delete category

Access right: Admin

Description: all categories to be used by restaurant will be added by admin.

3.1.3.8 Write/delete/update news

Access right: Admin

Description: admin will use this function to publish news to users, meanwhile the admin can also edit and delete the news as well.

3.1.3.9 View all users

Access right: Admin

Description: Admin will be able to view all users' accounts information.

3.1.3.10 View restaurant information

Access right: Customer/Restaurant owner

Description: this function allow user to view restaurant information basic information and in detail, which will be display as a list of restaurant or can be displayed as specific restaurant index page.

3.1.3.11 View all restaurants' categories

Access right: Admin

Description: Admin will be able to view all categories those have been created in AGC system.

3.1.3.12 View all news

Access right: Admin

Description: Admin will be able to view all news those have been created in AGC system both news that displaying to users and non-displaying news.

3.1.3.13 View all booking

Access right: Admin

Description: Admin will be able to view all table booking from all restaurants.

3.1.3.14 View booking detail

Access right: Admin

Description: Admin will be able to view each table booking detail from all restaurants.

3.1.3.15 Book restaurant

Access right: Customer/Restaurant owner

Description: this function allow customer as well as restaurant owner as a normal users to make a table reservation from any restaurants.

3.1.3.16 View booking history

Access right: Customer/Restaurant owner

Description: this function allow users to view their table booking history, by simply click on View booing history tab on profile information page.

3.1.3.17 View account

Access right: Customer/Restaurant owner

Description: this is a general function allows users to view their profile information

3.1.3.18 Update account

Access right: Customer/Restaurant owner

Description: this is a function that allow users to update their personnel profile information, it will be displayed in the profile pages.

3.1.3.19 Update password

Access right: Customer/Restaurant owner

Description: users have ability to change their personnel password, this by access to Change password tab in the account information page.

3.1.3.20 Add/update/delete restaurant information

Access right: Restaurant owner

Description: this function is strictly used by only restaurant owner, he/she can use this function to add, update, and delete his /her own restaurant information.

3.1.3.21 Add/update/delete restaurant banner

Access right: Restaurant owner

Description: this function allow user to add banner image to his or her restaurant, the users are able to choose images from their computer devices, and then it will be uploaded to AGC server.

3.1.3.22 Set restaurant profile picture

Access right: Restaurant owner

Description: user will choose one image from banner images which are added previously to be used as restaurant profile picture.

3.1.3.23 Add/update/delete food information

Access right: Restaurant owner

Description: this function allows user to add menu/dishes, as well as images, names, description, etc. On the other hand user can also update and deleted as needed.

3.1.3.24 Update booking status

Access right: Restaurant owner

Description: when customer have fulfilled their table booking or cancelled, or invalid, restaurant will come to manage booking tap and update those status, this status will be display in customers booking history as well.

3.1.3.25 Register

Access right: Guest

Description: this is a general function that allow none registered users to be able to register their account with AGC.

3.1.3.26 View general information

Access right: Guest

Description: As a guest, this function allow to none logged in or none account users to view general information from AGC such as home page, about page, user guide page, etc.

3.1.3.27 View restaurant information

Access right: Guest

Description: this function allow user to view restaurant information in depth by clicking on any restaurant profile pictures or any links provided.

3.1.3.28 Log in/log out

Access right: Customer/Restaurant owner/Admin

Description: This is a general function allow logged in users to log out by clicking on log out on the top right corner of the header bar, or by clicking on Log out tab in the account page.

3.1.3.29 Search

Access right: All users

Description: this a functions where users can input keyword on the textbox and click on search button to see restaurants results related to their keyword.

3.1.3.30 Social interaction

Access right: All users

Description: this function use third party software such as Facebook API to allow users to interact with social network on AGC web pages such as like, share, comment, etc.

3.1.4 Non – Functional Requirements

- ✓ **Availability**: the web application must be available 24/7, even if many users are accessing at the same time.
- ✓ **Maintainability**: many functions will be added and upgraded in future versions, therefore the codes must be clear and clean, extendable and reusable.
- ✓ **Reliability**: information display in AGC website must be accurate and reliable.
- ✓ **Portability**: users must be able to access AGC through any of their modern web browsers and any device and AGC website must display the right screen for the right devices.
- ✓ **User interface friendliness**: users must be able to understand general GUI by sense, with giving any directions.

3.2 SOFTWARE REQUIREMENTS SPECIFICATION

3.2.1 Introduction

3.2.1.1 Purposes

This SRS aims at describing functional and non-functional requirement in details. This document will be used by project team and stakeholders to review and check the progress of the project as well as giving direction to development team to know what to be implemented and also to assure the system will correctly perform its intended functionalities.

3.2.1.2 Definition and Acronyms

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

Items	Description
SRS	software requirement specification
Tra Da	group name
AGC	project name
AGC101	project code
Admin	administrator
GUI	graphical user interface
User	anyone who uses the system
admin	A website owner and also a person who is given specific permission for managing and controlling the system.
Customer	a user who have registered on the system
Restaurant owner	Someone who has a restaurant and wants his restaurant to be a part the application
Stakeholder	Any person who has interaction with the system
User	anyone who uses the system
admin	A website owner and also a person who is given specific permission for managing and controlling the system and also be a customer
Customer	a user who have registered on the system
Restaurant owner	Someone who has a restaurant and wants his restaurant to be a part the application, and he/she is also a customer
Guest	anyone who is not a Customer

Stakeholder	Any person who has interaction with the system
index page	home page or main page
http	Hypertext Transfer Protocol
CodeIgniter	Php framework

Table 10 Definition and Acronyms

3.2.2 System Purpose

The purpose of developing AGC web application is divided into 2 main categories:

1. To provide solution for users who are looking for restaurant information before entering to the physical place.
2. To provide a cheap channel for restaurant owner to publish their products and/or services to gain potential customers.

The users can be any people who just have no idea of what/where to be eating, or can be any people just need more information about restaurants, therefore, AGC come into take place. We aim to connect consumers and providers together. Finally, it will benefits all sides.

3.2.3 Scope

- The system aim to develop for web platform which can be accessible from all types of devices with responsive GUI.
- All restaurants to be displayed of AGC website will be inside Hanoi, Vietnam only.
- Language to be used is Vietnamese.
- The functions to be developed are based on 4 types of users:
    - Admin
    - Customer
    - Restaurant owner
    - Guest

3.2.4 Overall Description

3.2.4.1 System overview

AGC system comprises of 3 part: Web server, File server, and database server.

Webserver will be used for managing and displaying information about restaurants and the system as a whole. Every function will be kept in its own module. Admin module will be used by admin, Restaurant owner module will be used by restaurant owner, Customer module will be used by customer, and Guest module will be used by guest.

File server will be used for storing and managing image files.

Database server is where contents and information are stored. Web server will communicate with the database to get data, add, delete and update contents on the website.

3.2.4.2 Product Features

AGC system has following group of main functions and supported functions

Use case No.	Group of function	Function	Description
UC001	Admin management	Activate/deactivate user	allow users who have account to use system or not
		Activate/deactivate restaurant	allow restaurant information to display on AGC website or not
		Rate restaurant	increase or decrease restaurant rating
		Delete restaurant	remove all restaurant data
		Delete user	delete account registered in AGC system
		View statistical data	view total number of restaurant, table booking, etc.
		Add/delete category	add new or delete category to be used by restaurant
		Write/delete/update news	fully modify and publish news
		View all users	view users' accounts
		View all categories	view restaurant' categories those available on AGC system

		View all restaurant	View restaurants' information to decide whether to activate or deactivate
		View all news	Views all news those have been written in AGC system
		View all booking	View all tables booking
		View detail booking	Views each table booking in detail
UC002	Customer management	login	general function used for login to the system
		logout	general function used for logout of the system
		View restaurant information	view index page of the restaurant
		Book restaurant	book tables in a restaurant
		View booking history	view all his/her own tables booking details
		View account	view information related to personnel information
		Update password	change password
UC003	Restaurant owner management	Add/update/delete restaurant information	fully modify his/her own restaurant information
		Add/update/delete restaurant banner	fully modify his/her own restaurant banner images
		Set restaurant profile picture	choose image from banner images to use us restaurant profile picture

		Add/update/delete food information	fully modify dishes/menu in his/her own restaurant
		Update booking status	change table booking status for customers
UC004	Guest management	register	become a member or customer of AGG website
		View general information	view all general information which is not reserved for only specific users
		View restaurant information	view restaurant information in detail in restaurant index page
		Search	general function used for search restaurant based on users keyword
		Like	Like a restaurant using Facebook account
		Comment	comment a restaurant using Facebook account
		Share	share a restaurant using Facebook account
Note: Admin and Restaurant owners are able to perform all functionalities those customers are able to, Customer can perform all functionalities those Guest is able to except register			

Table 11 AGC product features

3.2.4.3 User Characteristics

There are 4 types of users in AGC system: Admin, Customer, Restaurant owner, and Guest. Each type of users is able to perform only his own functionalities which is clearly described in product features and other parts in this document. The users only need internet connection and a web browsers to access AGC system.

3.2.4.4 User Documentation

In AGC website there will be a user guide tap for users, which will be displayed on the top of the navigation bar. The contents will instruct users to have more understanding about AGC systems. This includes: instruction for restaurant owner to manage contents, Answers to users for those that might have, and many more.

3.2.4.5 Assumption

AGC has made the following assumption in developing this system

- The functionalities provided will be enough for restaurant owners to manage their basic restaurant contents
- Restaurant owner will visit the website daily or hourly to check if there is a table booking
- Users have electronic devices those can connect to the internet.
- General data inserted by users which is cannot be checked by the system will be accurate
- Users will have prior social network account such as Facebook and Email to perform social network interaction functions

3.2.5 Entity Relation Model

3.2.5.1 Entity-Relationship Diagram

Figure 11 AGC entity relationship diagram

3.2.5.2 Entity Detail

Entity name	Description	Occurrence
Address	Users' specific address	Each address is occupied by a user
Booking	Making reservation or book tables in restaurants	Each booking is made by a customer
News	news that posted in a website	News is information that admin want to send to users

Users	All people who visit AGC website	There are admin, customer, restaurant owner and guest as users
Images	A general term describes all images	Each image will be added by a user
Food	a term describes menu or dishes	Food is a menu in a restaurant
Restaurants	A general term describes all restaurants	Each restaurant has one restaurant owner
categoriesofrestaurant	Restaurants category	categoriesofrestaurant Is a type of restaurant
Ward	A term describes a villages	A ward is an address of users
District	A general term describes all districts	A district is an address of users
Province	A general term describes all provinces	A province is an address of users

Table 12: entity data dictionary

3.2.6 Functional Specification

3.2.6.1 UC001 Admin management

3.2.6.1.1 Use Case Diagram

Figure 12 AGC admin management use case diagram

3.2.6.1.2 Use Case Specification

3.2.6.1.2.1 UC001 – 01 Write news

Use Case ID	UC001-01	**Version**	1.0
Use Name	Write news		
Actor	Admin		
Description	The function allows admin to create new news in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Tin tức” → “Thêm mới”		
Trigger	Click button “Cập nhật”		

Post-Condition		Message "Cập nhật thành công" appear and redirect to list news screen.
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Tin tức” → “Thêm mới”
8	AGC	Display create news screen
9	Admin	Enter new data for news.
10	Admin	Click button “Cập nhật”
11	AGC	Display success update status
12	AGC	Go to list news screen
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button “Quay về”	
Step	**Actor**	**Action**
10.1	Admin	Click button “Quay về”
11.1	AGC	Go to list news screen
Alternative flows		
AT2	At step 10 in the main flows**,** if admin do not full information	
Step	**Actor**	**Action**
11.2	AGC	Error message appear.

12.2	Admin	Enter full information
13.2	Admin	Click button “Cập nhật”
14.2	AGC	Display success update status
15.2	AGC	Go to list news screen

3.2.6.1.2.2 UC001 – 02 Create category

Use Case ID	UC001-02	**Version**	1.0
Use Name	Create category		
Actor	Admin		
Description	The function allows admin to create new categories in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Danh mục” → “Thêm mới”		
Trigger	Click button “Lưu”		
Post-Condition	Redirect to list categories screen		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the “Quản trị” Tab from the menu panel.	
6	AGC	Display Admin screen	
7	Admin	Click “Danh mục” → “Thêm mới”	
8	AGC	Display create category screen	
9	Admin	Enter new data for category.	

10	Admin	Click button “Lưu”
11	AGC	Go to list categories screen
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button “Quay về”	
Step	**Actor**	**Action**
10.1	Admin	Click button “Quay về”
11.1	AGC	Go to list category screen
Alternative flows		
AT2	At step 10 in the main flows**,** if admin do not full information	
Step	**Actor**	**Action**
11.2	AGC	Error message appear.
12.2	Admin	Enter full information
13.2	Admin	Click button “Lưu”
14.2	AGC	Display success update status
15.2	AGC	Go to list category screen

3.2.6.1.2.3 UC001 – 03 Update news

Use Case ID	UC001-03	**Version**	1.0
Use Name	Update News		
Actor	Admin		
Description	The function allows admin to edit new news in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Tin tức” → “Xem”		
Trigger	Click button “Cập nhật”		
Post-Condition	Message "Cập nhật thành công" appear and redirect to list news screen.		

Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the "Quản trị" Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click "Tin tức"
8	AGC	Display list news screen
9	Admin	Click "Xem" to view and edit a news.
10	AGC	Display information of news.
11	Admin	Edit data in news.
12	Admin	Click button "Cập nhật"
13	AGC	Display success update status
14	AGC	Go to list news screen
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button "Quay về"	
Step	**Actor**	**Action**
10.1	Admin	Click button "Quay về"
11.1	AGC	Go to list category screen

3.2.6.1.2.4 UC001 – 04 Update category

Use Case ID	UC001-04	**Version**	1.0
Use Name	Update category		

Actor		Admin
Description		The function allows admin to update category in AGC.
Precondition		After admin login AGC, choose "Quản trị" → "Danh mục" → "Sửa"
Trigger		Click button "Lưu"
Post-Condition		Redirect to list categories screen
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the "Quản trị" Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click "Danh mục"
8	AGC	Display list categories screen
9	Admin	Update new data for category.
10	Admin	Click button "Lưu"
11	AGC	Go to list categories screen
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button "Quay về"	
Step	**Actor**	**Action**
10.1	Admin	Click button "Quay về"

11.1	AGC	Go to list categories screen

3.2.6.1.2.5 UC001 – 05 Delete news

Use Case ID	UC001-05	**Version**	1.0
Use Name	Delete News		
Actor	Admin		
Description	The function allows admin to delete news in AGC.		
Precondition	After admin login AGC, choose "Quản trị" → "Tin tức"		
Trigger	Click button "Xóa"		
Post-Condition	Refresh list news screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the "Quản trị" Tab from the menu panel.	
6	AGC	Display Admin screen	
7	Admin	Click "Tin tức"	
8	AGC	Display list news screen	
9	Admin	Click "Xóa" to delete a news.	
10	AGC	Display dialog with message "Xóa XXX".	
11	Admin	Click button "OK".	
12	AGC	Refresh list news screen.	
Alternative flows			
AT1	At step 9 in the main flows**,** if admin click button "Hủy"		

Step	Actor	Action
9.1	Admin	Click button “Hủy”
10.1	AGC	Return list news screen

3.2.6.1.2.6 UC001 – 06 Delete category

Use Case ID	UC001-06	**Version**	1.0
Use Name	Delete category		
Actor	Admin		
Description	The function allows admin to delete category in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Danh mục”		
Trigger	Click button “Xóa”.		
Post-Condition	Refresh list news screen.		
Main flows			

Step	Actor	Action
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Danh mục”
8	AGC	Display list categoríe screen
9	Admin	Click “Xóa” to delete a category.
10	AGC	Display dialog with message “Xóa XXX”.
11	Admin	Click button “OK”.

12	AGC	Refresh list categories screen.
Alternative flows		
AT1	At step 9 in the main flows**,** if admin click button “Hủy”	
Step	**Actor**	**Action**
9.1	Admin	Click button “Hủy”
10.1	AGC	Return list categories screen

3.2.6.1.2.7 UC001 – 07 Activate/deactivate restaurant

Use Case ID	UC001-07	**Version**	1.0
Use Name	Activate/deactivate restaurant		
Actor	Admin		
Description	The function allows admin to active/deactive for restaurant in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Nhà hàng” → “Sửa”		
Trigger	Click button “Lưu”.		
Post-Condition	Message "Cập nhật thành công" appear and redirect to list restaurant screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the “Quản trị” Tab from the menu panel.	
6	AGC	Display Admin screen	

7	Admin	Click “Nhà hàng” → “Sửa”
8	AGC	Display detail restaurant screen
9	Admin	Tick “Kích hoạt” to active/deactive user.
10	Admin	Click button “Lưu”.
11	AGC	Display success update status
12	AGC	Go to list restaurant screen.
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button “Quay về”	
Step	**Actor**	**Action**
10.1	Admin	Click button “Quay về”
11.1	AGC	Return list restaurant screen.

3.2.6.1.2.8 UC001 – 08 Delete restaurant

Use Case ID	UC001-08	**Version**	1.0
Use Name	Delete restaurant		
Actor	Admin		
Description	The function allows admin to delete restaurant in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Nhà hàng”		
Trigger	Click button “Xóa”.		
Post-Condition	Refresh list restaurant screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	

4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Nhà hàng”
8	AGC	Display list restaurant screen
9	Admin	Click “Xóa” to delete a restaurant.
10	AGC	Display dialog with message “Xóa XXX”.
11	Admin	Click button “OK”.
12	AGC	Refresh list restaurant screen.
Alternative flows		
AT1	At step 9 in the main flows**,** if admin click button “Hủy”	
Step	**Actor**	**Action**
9.1	Admin	Click button “Hủy”
10.1	AGC	Return list restaurant screen

3.2.6.1.2.9 UC001 – 09 Rate restaurant

Use Case ID	UC001 - 09	**Version**	1.0
Use Name	Rate restaurant		
Actor	Admin		
Description	The function allows admin to rate restaurant in AGC.		
Precondition	After admin login AGC, choose “Quản trị” → “Nhà hàng” → “Sửa”		
Trigger	Click button “Lưu”.		
Post-Condition	Message "Cập nhật thành công" appear and redirect to list restaurant screen.		

Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the "Quản trị" Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click "Nhà hàng" → "Sửa"
8	AGC	Display detail restaurant screen
9	Admin	Choose value in "Đánh giá chất lượng" to rate restaurant.
10	Admin	Click button "Lưu".
11	AGC	Display success update status
12	AGC	Go to list restaurant screen.
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button "Quay về"	
Step	**Actor**	**Action**
10.1	Admin	Click button "Quay về"
11.1	AGC	Return list restaurant screen.

3.2.6.1.2.10UC001 – 10 Delete user

Use Case ID	UC001-10	**Version**	1.0
Use Name	Delete user		
Actor	Admin		
Description	The function allows admin to delete user in AGC.		

Precondition		After admin login AGC, choose “Quản trị” → “Tài khoản”
Trigger		Click button “Xóa”.
Post-Condition		Refresh list user screen.
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Tài khoản”
8	AGC	Display list user screen
9	Admin	Click “Xóa” to delete a user.
10	AGC	Display dialog with message “Xóa XXX”.
11	Admin	Click button “OK”.
12	AGC	Refresh list user screen.
Alternative flows		
AT1	At step 9 in the main flows**,** if admin click button “Hủy”	
Step	**Actor**	**Action**
9.1	Admin	Click button “Hủy”
10.1	AGC	Return list user screen

3.2.6.1.2.11 UC001 – 11 Activate/deactivate user

Use Case ID	UC001-11	**Version**	1.0

Use Name	Activate/deactivate user	
Actor	Admin	
Description	The function allows admin to deactive/active in AGC.	
Precondition	After admin login AGC, choose “Quản trị” → “Tài khoản”	
Trigger	Click button “Cập nhật”.	
Post-Condition	Redirect to list user screen.	
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Tài khoản” → “Sửa”
8	AGC	Display detail restaurant screen
9	Admin	Tick “Duyệt” to deactive/active user.
10	Admin	Click button “Cập nhật”.
11	AGC	Display success update status
12	AGC	Go to list user screen.
Alternative flows		
AT1	At step 10 in the main flows**,** if admin click button “Quay về”	
Step	**Actor**	**Action**
10.1	Admin	Click button “Quay về”

11.1	AGC	Return list user screen.

3.2.6.1.2.12UC001 – 12 View all news

Use Case ID	UC001-12	**Version**	1.0
Use Name	View all news		
Actor	Admin		
Description	The function allows admin to view all news in AGC.		
Precondition	After admin login AGC, choose "Quản trị" → "Tin tức"		
Trigger	Click button "Tất cả"		
Post-Condition	Display list news screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the "Quản trị" Tab from the menu panel.	
6	AGC	Display Admin screen	
7	Admin	Click "Tin tức" → "Tất cả"	
8	AGC	Display list news screen.	

3.2.6.1.2.13UC001 – 13 View all categories

Use Case ID	UC001-13	**Version**	1.0
Use Name	View all categories		
Actor	Admin		
Description	The function allows admin to view all categories in AGC.		

Precondition		After admin login AGC, choose “Quản trị” → “Danh mục”
Trigger		Click button “Tất cả”
Post-Condition		Display list categories screen.
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Danh mục” → “Tất cả”
8	AGC	Display list categories screen.

3.2.6.1.2.14UC001 – 14 View all restaurants

Use Case ID	UC001-14	**Version**	1.0
Use Name	View all restaurants		
Actor	Admin		
Description	The function allows admin to view all restaurants in AGC.		
Precondition	After admin login AGC, choose “Quản trị”		
Trigger	Click button “Nhà hàng”		
Post-Condition	Display list restaurants screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	

2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the "Quản trị" Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click "Nhà hàng"
8	AGC	Display list restaurants screen.

3.2.6.1.2.15UC001 – 15 View all users

Use Case ID	UC001-15	**Version**	1.0
Use Name	View all users		
Actor	Admin		
Description	The function allows admin to view all users in AGC.		
Precondition	After admin login AGC, choose "Quản trị"		
Trigger	Click button "Tài khoản"		
Post-Condition	Display list users screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the "Quản trị" Tab from the menu panel.	
6	AGC	Display Admin screen	
7	Admin	Click "Tài khoản"	
8	AGC	Display list users screen.	

3.2.6.1.2.16 UC001 – 16 View all booking

Use Case ID	UC001-16	**Version**	1.0
Use Name	View all booking		
Actor	Admin		
Description	The function allows admin to view all booking in AGC.		
Precondition	After admin login AGC, choose "Quản trị"		
Trigger	Click button "Đặt chỗ"		
Post-Condition	Display list booking screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	
3	Admin	Enter the username and password into the login panel.	
4	AGC	Display Home screen	
5	Admin	Click the "Quản trị" Tab from the menu panel.	
6	AGC	Display Admin screen	
7	Admin	Click "Đặt chỗ"	
8	AGC	Display list booking screen.	

3.2.6.1.2.17 UC001 – 17 View detail booking

Use Case ID	UC001-17	**Version**	1.0
Use Name	View detail booking		
Actor	Admin		
Description	The function allows admin to view detail booking in AGC.		
Precondition	After admin login AGC, choose "Quản trị" → "Đặt chỗ"		

Trigger		Click button “Xem”
Post-Condition		Display detail booking screen.
Main flows		
Step	**Actor**	**Action**
1	Admin	User types the URL into internet browser and then enters**.**
2	AGC	The system displays Login screen
3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the “Quản trị” Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click “Đặt chỗ” → “Xem”
8	AGC	Display detail booking screen.

3.2.6.1.2.18UC001 – 18 Report statistics

Use Case ID	UC001-18	**Version**	1.0
Use Name	Report statistics		
Actor	Admin		
Description	The function allows admin to report statistics in AGC.		
Precondition	After admin login AGC, choose “Quản trị”		
Trigger	Click button “Báo cáo”		
Post-Condition	Display report statistics screen.		
Main flows			
Step	**Actor**	**Action**	
1	Admin	User types the URL into internet browser and then enters**.**	
2	AGC	The system displays Login screen	

3	Admin	Enter the username and password into the login panel.
4	AGC	Display Home screen
5	Admin	Click the "Quản trị" Tab from the menu panel.
6	AGC	Display Admin screen
7	Admin	Click "Báo cáo"
8	AGC	Display report statistics screen.

3.2.6.2 UC002 Customer management

3.2.6.2.1 Use Case Diagram

Figure 13 AGC customer use case diagram

3.2.6.2.2 Use Case Specification

3.2.6.2.2.1 UC002 – 01 Login

Use Case ID	UC002 - 01	**Version**	1.0
Use Name	Login		
Actor	Admin or Restaurant owner or Customer		
Description	The function allows a user to login in the software when he/she have registered an account and his/her account is still active.		
Precondition	Enter http://angivn.top/ in web browsers and click on login button in the top right of the header bar		
Trigger	Logging in dialog is displayed		
Post-Condition	User login to his/her account successful		
Main flows			
Step	**Actor**	**Action**	
1	Customer	Enter user name & password into User Name & Password fields on the Login screen, then click on Login button.	
2	AGC	Validate the entered user name & password and then display Home screen	
Alternative flows			
AT1	on step 2 in the main flows**,** if AGC failed to validate user name & password		
Step	**Actor**	**Action**	
1	AGC	Display dialog with message "Tên đăng nhập không đúng"	
2	Customer	Click “ok” button	
3	AGC	Return to login dialog	
Business Rules: - User name is required - Password is required			

3.2.6.2.2.2 UC002 – 02 Logout

Use Case ID	UC002 - 02	**Version**	1.0
Use Name	Logout		
Actor	Admin or Restaurant owner or Customer		
Description	The function allows a user to logout of the system		
Precondition	users have logged in		
Trigger	log out button is clicked		
Post-Condition	home page is display with login button in the navigation bar		
Main flows			
Step	**Actor**	**Action**	
1	Customer	Click on logout button	
2	AGC	display home page with login button in the navigation bar	
Alternative flows			
AT1	N/A		

3.2.6.2.2.3 UC002 – 03 View account

Use Case ID	UC002 – 03	**Version**	1.0
Use Name	View account		
Actor	Customer		
Description	The function allows a user to view when he/she have registered an account and his/her account is still active.		
Precondition	User login AGC website by registered account		
Trigger	Clicks on Thông tin cá nhân		
Post-Condition	Show information of Customer in Account management screen		
Main flows			

Step	Actor	Action
1	Customer	Clicks on Thông tin cá nhân in AGC Dashboard
2	AGC	Display View Customer screen with the following fields: - Left menu: avatar, ID AGC, User name, Account Information, Booking History, Password Change, Logout. - Tên - Email - Ngày sinh - Giới tính - Cập nhật button
3	Customer	View all their information.

3.2.6.2.2.4 UC002 – 04 Update account

Use Case ID	UC002 - 04	**Version**	1.0
Use Name	Update account		
Actor	Customer		
Description	The function allows user to update his/her account information when he/she have registered an account and his/her account is still active.		
Precondition	User is staying in Account management screen		
Trigger	user profile page is displayed		
Post-Condition	Show new information of Customer in Account management screen		
Main flows			
Step	**Actor**	**Action**	
1	Customer	Update his/ her account information:	

		- Tên - Email - Ngày sinh - Giới tính and clicks on Cập nhật button
2	Customer	New Account information of Customer will be updated into AGC system. Successful confirmation message "Cập nhật thông tin thành công" will be shown.

3.2.6.2.2.5 UC002 – 05 Update password

Use Case ID	UC002 – 05	**Version**	1.0
Use Name	Update password		
Actor	Customer		
Description	The function allows a user to update his/her new password when he/she have registered an account and his/her account is still active.		
Precondition	User is staying in Account management screen and selects Đổi mật khẩu on left menu		
Trigger	password page is displayed		
Post-Condition	Customer new password will be updated into AGC System and successful confirmation message will be shown		
Main flows			
Step	**Actor**	**Action**	
1	Customer	Selects Đổi mật khẩu on left menu from Thông tin cá nhân screen	
2	AGC	Display Update Password dialog with the following fields: - Mật khẩu cũ	

		- Mật khẩu mới - Gõ lại
3	AGC Customer	Enters old password, new password & new password again into three fields on the Change password screen then clicks on Cập nhật button.
4	AGC	Validate data and update new password for customer into AGC system. Successful notification about password update and Login screen will be showed.
Alternative flows		
AT1	At step 3 in the main flows**,** if AGC failed to validate password	
Step	**Actor**	**Action**
1	AGC	Display dialog with message "Mật khẩu cũ không khớp"
2	Customer	Retypes again and clicks on Cập nhật button
AT2	At step 3 in the main flows**,** if AGC failed to match new password	
Step	**Actor**	**Action**
3	AGC	Display dialog with message "Mật khẩu nhập lại khớp"
4	Customer	Retypes again and clicks on Cập nhật button

3.2.6.2.2.6 UC002 – 06 Book restaurant

Use Case ID	UC002 - 06	**Version**	1.0
Use Name	Book restaurant		
Actor	Customer		
Description	Book tables on general restaurants		
Precondition	Logged in as customer, in restaurant index page		
Trigger	Restaurant index page is displayed		

Post-Condition		Restaurant receives booking tables detail
Main flows		
Step	**Actor**	**Action**
1	Customer	Fill out input fields
2	Customer	Click on “lưu” button
3	AGC	display message “Cập nhật thông tin thành công”
Alternative flows		
AT1	on step 3 in the main flows**,** if AGC failed to validate	
Step	**Actor**	**Action**
1	AGC	display error message
Business rule: - (*) fields cannot be empty - Restaurant owner must input accurate information		

3.2.6.2.2.7 UC002 – 07 View booking history

Use Case ID	UC002 - 07	**Version**	1.0
Use Name	View booking history		
Actor	Customer		
Description	The function allows users to view their booking history		
Precondition	Logged in as customer, in “lịch sử đặt chỗ” page		
Trigger	Click on “lịch sử đặt chỗ” tab		
Post-Condition			
Main flows			
Step	**Actor**	**Action**	
1	AGC	Display “lịch sử đặt chỗ” page	

3.2.6.2.2.8 UC002 – 08 Upload avatar

Use Case ID	UC002-08	**Version**	1.0
Use Name	Update avatar		
Actor	Admin or Restaurant owner or Customer		
Description	The function allows a user change his/her avatar		
Precondition	Logged in system and stay in profile page		
Trigger	Logged in system and stay in profile page, click 'chon anh'		
Post-Condition	Changed avatar		
Main flows			
Step	**Actor**	**Action**	
1	Customer	Click on 'chon anh'	
2	AGC	Use CK editor to load upload file-browser UI	
3	Customer	Upload a picture by using CK editor API	
4	Customer	Chose a picture	
5	AGC	Display profile with new avatar with 'Luu' button after	
6	Customer	Click 'save'	
7	AGC	Change avatar	
Alternative flows			
AT1	On step 3 in the main flows**,** if user don't upload image and chose an image in user's library, skip step 3		

3.2.6.3 UC003 Restaurant owner management

3.2.6.3.1 Use Case Diagram

Figure 14 AGC restaurant owner use case diagram

3.2.6.3.2 Use Case Specification

3.2.6.3.2.1 UC003 - 01 Add restaurant information

Use Case ID	UC003 - 01	**Version**	1.0
Use Name	Add restaurant information		
Actor	Restaurant owner		
Description	Add new restaurant information		
Precondition	Logged in as restaurant owner, view “Thông tin nhà hàng” page		

Trigger		Logged in as restaurant owner, view "Thông tin nhà hàng" page , and "Thông tin nhà hang" page is displayed
Post-Condition		New restaurant information will be added
Main flows		
Step	**Actor**	**Action**
1	restaurant owner	Add new information
2	restaurant owner	Click on "lưu" button
3	ACG	Validate data and saved to database
4	AGC	Display message "Cập nhật thông tin thành công"
Alternative flows		
AT1	On step 3 in the main flows**,** if AGC failed to validate	
Step	**Actor**	**Action**
1	AGC	Display error message
Business rule: - (*) Fields cannot be empty - Restaurant owner must input accurate information		

3.2.6.3.2.2 UC003 - 02 Update restaurant info

Use Case ID	UC003 - 02	**Version**	1.0
Use Name	Update restaurant info		
Actor	Restaurant owner		
Description	Update general information related to restaurant information		
Precondition	Logged in as restaurant owner, added restaurant information, view "Thông tin nhà hàng" page		

Trigger		Logged in as restaurant owner, added restaurant information, view "Thông tin nhà hàng" page , and "Thông tin nhà hang" page is displayed
Post-Condition		Restaurant information will be updated
Main flows		
Step	**Actor**	**Action**
1	restaurant owner	Modify information as need
2	restaurant owner	Click on "lưu" button
3	AGC	Validate information and save to database
4	AGC	Display message "Cập nhật thông tin thành công"
Alternative flows		
AT1	On step 3 in the main flows**,** if AGC failed to validate	
Step	**Actor**	**Action**
1	AGC	display error message
Business rule: - (*) Fields cannot be empty - Restaurant owner must input accurate information		

3.2.6.3.2.3 UC003 – 03 Add restaurant banner

Use Case ID	UC003 - 03	**Version**	1.0
Use Name	Add restaurant banner		
Actor	Restaurant owner		
Description	The function helps restaurant owners to add new banner, only 6 images are allowed		
Precondition	Logged in as restaurant owner, view "Banner nhà hàng" page		

Trigger		Logged in as restaurant owner, view “Banner nhà hàng” page , and “Banner nhà hàng” page is displayed
Post-Condition		New restaurant banner will be added
Main flows		
Step	**Actor**	**Action**
1	Restaurant owner	Click on image icon
2	AGC	Display file choosing dialog
3	Restaurant owner	Choose an image, and click ok or choose
4	Restaurant owner	Click on ‘lưu’ button
Alternative flows		
AT1	N/A	
Business Rules: - Add a proper image height, width, and size		

3.2.6.3.2.4 UC003 – 04 Set restaurant profile picture

Use Case ID	UC003 - 04	**Version**	1.0
Use Name	Set restaurant profile picture		
Actor	Restaurant owner		
Description	This is a profile picture of a restaurant		
Precondition	Logged in as restaurant owner, view user_profile page		
Trigger	Logged in as restaurant owner, view user_profile page, click on “Chọn ảnh” button		
Post-Condition	Restaurant profile picture will be set		
Main flows			
Step	**Actor**	**Action**	

1	Restaurant owner	Click on “Chọn ảnh” button
2	AGC	Display file choosing dialog
3	Restaurant owner	Click on upload button, and choose image file from his/her device then click OK button
4	Restaurant owner	Move to images folder, then click on Choose button
5	AGC	Redirect to user_profile page
6	Restaurant owner	Click on “Lưu” button
Alternative flows		
AT1	N/A	

3.2.6.3.2.5 UC003 – 05 Delete restaurant banner

Use Case ID	UC003 - 05	**Version**	1.0
Use Name	Delete restaurant banner		
Actor	Restaurant owner		
Description	Delete banner image(s)		
Precondition	Logged in as restaurant owner, added banner, and view “Banner nhà hàng” page		
Trigger	Logged in as restaurant owner, added banner, view “Banner nhà hàng” page , and “Banner nhà hàng” page is displayed		
Post-Condition	Restaurant banner picture will be removed		
Main flows			
Step	**Actor**	**Action**	
1	Restaurant owner	Click on “X” sign on the right corner of the picture(s)	
2	AGC	Display confirmation dialog	
3	Restaurant owner	Click on yes button	
4	AGC	Remove banner picture(s)	

Alternative flows		
AT1	On step 2 in the main flows**,** if restaurant owner click on No	
Step	**Actor**	**Action**
1	AGC	Does not make any changes

3.2.6.3.2.6 UC003 – 06 Add food

Use Case ID	UC003 - 06	**Version**	1.0
Use Name	Add food		
Actor	Restaurant owner		
Description	The function help owner add new food to his/her restaurant menu		
Precondition	Logged in as restaurant owner and view 'môn ăn' tab on restaurant info page		
Trigger	Logged in as restaurant owner, view 'món ăn' tab on restaurant info page, and click 'Thêm món ăn' button		
Post-Condition	A new food will be added		
Main flows			
Step	**Actor**	**Action**	
1	AGC	Display add food dialog	
2	Restaurant owner	Add correct info to the input fields	
3	Restaurant owner	Click on cập nhập món ăn button	
4	AGC	Validate input and add food to database	
Alternative flows			
AT1	At step 3 in the main flows**,** if users click on Đóng button		
Step	**Actor**	**Action**	
1	AGC	Close food dialog	
AT2	At step 4 in the main flows**,** if the system fail to validate data		

Step	Actor	Action
1	AGC	Display error message
Business Rules: - 'Tên' is required - 'Giá' is required - if user type un-number character to 'Giá' field, add 0 to price in database. - if user don't up picture, use default food picture.		

3.2.6.3.2.7 UC003 – 07 Update food information

Use Case ID	UC003 - 07	**Version**	1.0
Use Name	Update food information		
Actor	Restaurant owner		
Description	Update information for food		
Precondition	Logged in as restaurant owner and view 'món ăn' tab on restaurant info page		
Trigger	Logged in as restaurant owner and in 'món ăn' tab on restaurant info page, and click 'sửa món ăn' button		
Post-Condition	Food information will be updated		
Main flows			
Step	**Actor**	**Action**	
1	AGC	Display add food dialog	
2	Restaurant owner	Modify information as needed	
3	Restaurant owner	Click on cập nhập món ăn button	
4	AGC	Validate input and add food to database	
Alternative flows			
AT1	At step 3 in the main flows**,** if users click on Đóng button		

Step	**Actor**	**Action**
1	AGC	Close food dialog
AT2	At step 4 in the main flows**,** if the system fail to validate data	
Step	**Actor**	**Action**
1	AGC	Display error message
Business Rules: - (*) Fields cannot be empty - Restaurant owner must input accurate information		

3.2.6.3.2.8 UC003 – 08 Update booking status

Use Case ID	UC003 - 08	**Version**	1.0
Use Name	Update booking status		
Actor	Restaurant owner		
Description	Update booking status for customers		
Precondition	Logged in as restaurant owner and view 'Quản lý đặt chỗ' page		
Trigger	Logged in as restaurant owner and in 'Quản lý đặt chỗ' page, and view click on book status tap		
Post-Condition	Booking status will be updated		
Main flows			
Step	**Actor**	**Action**	
1	Restaurant owner	Change booking status	
2	Restaurant owner	Click on "cập nhật" button	
3	AGC	Update booking status	

3.2.6.4 UC004 Guest management

3.2.6.4.1 Use Case Diagram

Figure 15 AGC guest use case diagram

3.2.6.4.2 Use Case Specification

3.2.6.4.2.1 UC004 – 01 Register

Use Case ID	UC004 - 01	**Version**	1.0
Use Name	Register		
Actor	Guest		
Description	The function allows a user to register new account		
Precondition	User is staying on Home page		
Trigger	Click on register button		

Post-Condition		User has an account in AGC
Main flows		
Step	**Actor**	**Action**
1	Guest	Click on register button in the top right of home page
2	AGC	Display register page with the following fields: - Tên đầy đủ(*) - Tên đăng nhập(*) - Mật khẩu(*) - Mật khẩu(Re) (*) - Tỉnh/Thành phố(*) - Quận/Huyện - Xã/Phường - Địa chỉ - Ngày sinh - Giới tính - Loại
3	Guest	Enter information to input form
4	AGC	Validate the entered information and then go to success page
Alternative flows		
AT1	At step 4 in the main flows**,** if AGC failed to validate	
Step	**Actor**	**Action**
1	AGC	Back to register page with all error message
2	Guest	Input good information
3	AGC	Validate the entered information and then go to success page
Business Rules: - (*) field is required - “Mật khẩu” have to match “Mật khẩu(Re)”		

3.2.6.4.2.2 UC004 – 02 View news by category

Use Case ID	UC004 - 02	**Version**	1.0
Use Name	View news by category		
Actor	Guest		
Description	The function allows a user to find all news base on category		
Precondition	User is staying on Home page		
Trigger	Choose link on new category		
Post-Condition	Stay in news page with chosen category		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Click on news button in the top menu	
2	AGC	Display drop down dialog with all category:	
3	Guest	Click on one of category	
4	AGC	Move to News page list all items that match this category	
Business rule - News page has pagination, each “child” page has maximum 20 items(news) - Category items is loaded from database dynamically			

3.2.6.4.2.3 UC004 – 03 View news detail

Use Case ID	UC004 - 03	**Version**	1.0
Use Name	View news detail		
Actor	Guest		
Description	The function allows a user read info of a news		
Precondition	User saw news in News page or at the bottom of home page		
Trigger	Click on news tab		
Post-Condition	Stay in new detail page that show all info about this new		

Main flows		
Step	**Actor**	**Action**
1	Guest	Click on news avatar
2	AGC	Move to new detail of this new

3.2.6.4.2.4 UC004 – 04 View user guide

Use Case ID	UC004 - 04	**Version**	1.0
Use Name	View user guide		
Actor	Guest		
Description	The function allows a user read guide for this website		
Precondition	User is staying in home page		
Trigger	Click on user guide link		
Post-Condition	Move to guide page		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Click on “Hướng dẫn” link in the top menu	
2	AGC	Move to user guide page	

3.2.6.4.2.5 UC004 – 05 View about as

Use Case ID	UC004 - 05	**Version**	1.0
Use Name	View about us		
Actor	Guest		
Description	The function allows a user read more info about website		
Precondition	User is staying in home page		
Trigger	Click on about us link		

Post-Condition	Show info page	
Main flows		
Step	**Actor**	**Action**
1	Guest	Click on "Hướng dẫn" link in the top menu
2	AGC	Show drop box has 2 link "Về chúng tôi" and "Đối tác"
3	Guest	Click on "Về chúng tôi"
4	AGC	Show info in about us page
Alternative flows		
AT1	At step 2 in the main flows, if user clink on "Đối tác"	
Step	**Actor**	**Action**
1	AGC	Move to partner info page

3.2.6.4.2.6 UC004 – 06 Filter restaurant by category

Use Case ID	UC004 - 06	**Version**	1.0
Use Name	Filter restaurant by category		
Actor	Guest		
Description	The function show all restaurant in a category		
Precondition	User stay in home page of AGC website		
Trigger	Click on a category		
Post-Condition	Show search result page with list of restaurant suitable with category		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Point to "Ẩm thực" on the top menu	
2	AGC	Drop dialog to show all categories	

3	Guest	Click on a category
4	AGC	Move to category page and show restaurant

3.2.6.4.2.7 UC004 – 07 View restaurant information

Use Case ID	UC004 - 07	**Version**	1.0
Use Name	View restaurant information		
Actor	Guest		
Description	This function help user view detail of a restaurant		
Precondition	Can view, find restaurants (stay in home, search result, category page)		
Trigger	Click on restaurant avatar		
Post-Condition	Show restaurant detail page		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Click on a restaurant avatar	
2	AGC	Move to restaurant detail page	
3	Guest	Click on tab “Bảng giá” under restaurant name	
4	AGC	Show tap “Bảng giá” that have more info about menu and price	

3.2.6.4.2.8 UC004 – 08 View restaurant detail

Use Case ID	UC007 - 08	**Version**	1.0
Use Name	View restaurant detail		
Actor	Guest		
Description	The function allows a user to login in the software when he/she have registered an account and his/her account is still active.		
Precondition	User is staying on Home page		

Trigger		Click on login button
Post-Condition		User login to his/her account successful
Main flows		
Step	**Actor**	**Action**
1	Guest	Click on login button in the top right of home page
2	AGC	Display Login dialog with the following fields: - User Name - Password - Login and Close button
3	Guest	Enter user name & password into User Name & Password fields on the Login screen, then click on Login button.
4	AGC	Validate the entered user name & password and then display Home screen
Alternative flows		
AT1	At step 4 in the main flows**,** if AGC failed to validate user name & password	
Step	**Actor**	**Action**
4.1	AGC	Display dialog with message "Tên đăng nhập không đúng"
4.2	Guest	Click “ok” button
4.3	AGC	Return to login dialog

3.2.6.4.2.9 UC004 – 09 Search

Use Case ID	UC004 - 09	**Version**	1.0
Use Name	Search		
Actor	Guest		
Description	The function allows a user to find restaurant		

Precondition		User staying in home pages
Trigger		search icon is clicked
Post-Condition		Show search result page with list of restaurant suitable with keyword
Main flows		
Step	**Actor**	**Action**
1	Guest	Input keyword to search box
2	Guest	Click on search icon next to search box
3	AGC	Move to search result page
4	Guest	Click on filter link on left navigation
5	AGC	Filter result base on user's choice
Alternative flows		
AT1	At step 2 in the main flows**,** if user clink on "Đối tác"	
Step	**Actor**	**Action**
1	AGC	Show all restaurant in result page
Business rule: - Result will show restaurants have name or description include keyword - Left navigation will filter result by category and location		

3.2.6.4.2.10 UC004 – 10 Like/unlike

Use Case ID	UC004-10	**Version**	1.0
Use Name	Like/unlike		
Actor	Guest		
Description	The function allows a user to like a restaurant by using Facebook API.		

Precondition		User is staying on Restaurant Detail page and logged in to his/her Facebook account.
Trigger		Click on like/unlike icon
Post-Condition		increase/decrease like on the page
Main flows		
Step	**Actor**	**Action**
1	Guest	Click on like icon in the bottom of restaurant detail
2	AGC	Using Facebook API to increase/decrease new like to this restaurant detail page and update like number and change 'Like' button to like/unlike

3.2.6.4.2.11 UC004 – 11 Comment

Use Case ID	UC004-11	**Version**	1.0
Use Name	Comment		
Actor	Guest		
Description	The function allows a user to comment about a restaurant.		
Precondition	User is staying on Restaurant Detail page and logged in to his/her Facebook account.		
Trigger	Click on 'Post' icon		
Post-Condition	User add comment to this restaurant.		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Click on Comment box of Facebook at the bottom of restaurant Detail	
2	AGC	Using Facebook API to enable Post button	

3	Guest	Write comment to box and click 'Post' button
4	AGC	Using Facebook API to add his/her comment to this restaurant detail page

3.2.6.4.2.12UC004 – 12 Share

Use Case ID	UC004 - 11	**Version**	1.0
Use Name	Share		
Actor	Guest		
Description	The function allows a user to share a restaurant by using Facebook API.		
Precondition	User is staying on Restaurant Detail page and logged in to his/her Facebook account.		
Trigger	Click on 'Share' icon		
Post-Condition	User share this restaurant to his/her Facebook page		
Main flows			
Step	**Actor**	**Action**	
1	Guest	Click on share icon in the bottom of restaurant detail	
2	AGC	Using Facebook API to share this restaurant link to Actor's Facebook profile	

3.2.7 Non-functional Specification

3.2.7.1 Reliability

- Errors should occurs no more than10 times a year
- The mean time among failures should not more than one month

3.2.7.2 Performance Requirements

3.2.7.2.1 Availability

The system must be available to the users 24 hours a day, 7 days a week (not consider network failure) and also available for all smart phones, tablets and computers.

3.2.7.2.2 Response time

The maximum response time for any processes must be no longer than 10 seconds. However, it also depends on the internet bandwidth the network coverage's condition.

3.2.7.3 User Interface

3.2.7.3.1 Arrangement

There are 3 main parts in a web page:

- herder/navigation bar: shows main topics tabs
- body: shows main contents
- footer: shows additional information about AGC system

In some pages there might also be a sidebar.

3.2.7.3.2 Color

Background color is white, red color theme to attract users

3.2.7.3.3 Text

Vietnamese font format.

3.2.7.4 Design Constraints

- Tra Da team must to follow MVC design pattern in CodeIgniter framework.
- GUI must not confuse users, developing team have to use the most familiar design to users.
- The system should not disclose too much information but rich enough for users need.
- Since the system is a data centric system, database management is crucially important, both primary key and foreign key constraints are carefully identified, as well as Entity, data types, relationship, attributes and null able values.

3.2.7.5 Security Requirements

The system should prevent all SQL injections, and keep users information securely by encrypt password using MD5 technology, and only authorized user can access his/her own private information.

3.2.7.6 Software Requirements

All data is stored on the server, therefore users need to have only electronic devices those have a web browser and internet connection.

PART 4
SOFTWARE DESIGN DOCUMENTS

4 SOFTWARE DESIGN DOCUMENTS

4.1 ARCHITECTURE DESIGN

4.1.1 Choice of Architecture Design

In this project we follow Model View Viewmodel (MVVM) architecture and use CodeIgniter framework to implement the system.

4.1.1.1 Introduction to CodeIgniter

CodeIgniter is an Application Development Framework - a toolkit - for people who build web sites using PHP. Its goal is to enable you to develop projects much faster than you could if you were writing code from scratch, by providing a rich set of libraries for commonly needed tasks, as well as a simple interface and logical structure to access these libraries. CodeIgniter lets you creatively focus on your project by minimizing the amount of code needed for a given task.

Figure 16 CodeIgniter flow chart

4.1.1.2 Model-View-Controller in CodeIgniter

CodeIgniter is based on the Model-View-Controller development pattern. MVC is a software approach that separates application logic from presentation. In practice, it permits your web pages to contain minimal scripting since the presentation is separate from the PHP scripting.

- The Model represents your data structures. Typically your model classes will contain functions that help you retrieve, insert, and update information in your database.
- The View is the information that is being presented to a user. A View will normally be a web page, but in CodeIgniter, a view can also be a page fragment like a header or footer. It can also be an RSS page, or any other type of “page”.

- The Controller serves as an intermediary between the Model, the View, and any other resources needed to process the HTTP request and generate a web page.

CodeIgniter has a fairly loose approach to MVC since Models are not required. If you don't need the added separation, or find that maintaining models requires more complexity than you want, you can ignore them and build your application minimally using Controllers and Views. CodeIgniter also enables you to incorporate your own existing scripts, or even develop core libraries for the system, enabling you to work in a way that makes the most sense to you.

4.1.2 Architectural Presentation

Figure 17 AGC101 System overview

Package Design

Figure 18 AGC Package Diagram

4.2 DETAILED DESIGN

4.2.1 Class Description

4.2.1.1 Admin

Class	**Admin**			
Description	Include all functions and display screen of administrator.			
Base Class	CI_Controller			
Constructor	__construct			
Prototype	N/A			
Source File	Admin.php			
Namespace	N/A			
Attributes	N/A			
Methods	**Name**	**Input**	**Output**	**Description**
	index	N/A	Null	Display main screen of administrator.
	news	offset	Null	Display list news screen.
	add_news	N/A	Null	Display screen to add new news and insert into database
	edit_news	newsID	Null	Display screen to update a news and update into database

	delete_news	newsID	Null	Delete a news in database
	restaurant	offset	Null	Display list restaurants screen
	validateRestaurant	data, error	String	Check input data.
	edit_restaurant	restaurantID	Null	Display screen to active and rate a restaurant and update into database
	delete_restaurant	restaurantID	Null	Delete a restaurant in database
	info_food	foodID	Null	Display informations foods of restaurant
	returnError	msg	String	Return error message
	returnSuccess	msg	String	Return success message
	getDistrictByProvinceId	provinceID	Null	Get information of district by province's id
	getWardByDistrictId	districtID	Null	Get information of ward by district's id
	eater	level, offset	Null	Display list accounts of eaters and restaurants
	edit_eater	eaterID	Null	Display screen to active accounts of

				eaters or restaurants and update into database
	delete_eater	eaterID,level	Null	Delete a account in database
	categories	N/A	Null	Display list categories screen.
	add_category	N/A	Null	Display screen to add a category and insert into database
	edit_category	categoryID	Null	Display screen to edit a category and update into database
	booking	offset	Null	Display list booking of restaurants screen.
	show_booking	bookingID	Null	Display detail booking screen.
	report_statistics	N/A	Null	Display statistics report of website screen.
	getConfig	N/A	Array	Paging for website
	setting	N/A	Null	Setting website
	check_id	id,uri	Null	Check account's id
	Error	value	String	Display error on screen.

Table 13: Admin class description

4.2.1.2 Home

Class	**Home**			
Description	Include all functions and display screen of the homepage.			
Base Class	CI_Controller			
Constructor	__construct			
Prototype	N/A			
Source File	Home.php			
Namespace	N/A			
Attributes	N/A			
Methods	**Name**	**Input**	**Output**	**Description**
	getConfig	N/A	Array	Paging for website
	index	N/A	Null	Display home screen of website.
	search	categoryID, districtID, keyword, offset	Null	Display all restaurants by searched keyword.
	category	categoryID, offset	Null	Display all restaurants by category
	home_view_all	title, type, offset	Null	Display all restaurants sort by rating or discount.
	news	categoryID, offset	Null	Display all news in website

	newsDetails	newsID	Null	Display news detail.
	login	N/A	Null	Display login dialog.
	logout	N/A	Null	Logout account.
	signup	N/A	Null	Dislay signup screen and insert account into database.
	getDistrictByProvinceId	provinceID	Null	Get information of district by province's id
	getWardByDistrictId	districtID	Null	Get information of ward by district's id
	returnError	msg	Array	Return error message.
	returnSuccess	msg	Array	Return success message.
	GetNameOfTypeNews	categoryID	String	Return type of news.

Table 14: Home class description

4.2.1.3 Restaurant

Class	**Restaurant**
Description	Include all functions and display screen of restaurant.
Base Class	CI_Controller
Constructor	__construct
Prototype	N/A

Source File	Restaurant.php			
Namespace	N/A			
Attributes	N/A			
Methods	**Name**	**Input**	**Output**	**Description**
	view	restaurantID	Null	Display restaurant detail screen
	sendBooking	N/A	String	Send table booking to restaurant and insert into database.
	returnError	msg	Array	Return error message.
	returnSuccess	msg	Array	Return success message.

Table 15: Restaurant class description

4.2.1.4 User_profile

Class	**User_profile**
Description	Include all functions and display screen of user profile.
Base Class	CI_Controller
Constructor	__construct
Prototype	N/A
Source File	User_profile.php
Namespace	N/A
Attributes	N/A

Methods	**Name**	**Input**	**Output**	**Description**
	getConfig	N/A	Array	Paging for website
	index	N/A	Null	Display profile screen of user.
	restaurant_add	N/A	Null	Display information of restaurant for restaurant account to add new information and insert into database.
	restaurant_edit	N/A	Null	Display information of restaurant for restaurant account to edit and update information restaurant into database
	add_food	N/A	Null	Display screen to add food for restaurant and insert into database.
	info_food	foodID	Null	Display food's information screen.
	delete_food	foodID	Null	Delete food in restaurant and delete food in database.
	edit_food	foodID	Null	Display food's information screen, edit and update

				information of food in database.
	addoredit_food	foodID	Null	Check action add or edit food.
	validateRestaurant	data, error	String	Check input data of restaurant and return warning message.
	change_Password	N/A	Null	Display screen to change password and update into database.
	changeAvatar	N/A	Null	Change avatar for account.
	Restaurant_Banner	offset	Null	Display screen to change banner for restaurant account
	delete_restaurant_banner	bannerID	Null	Delete banner of restaurant.
	add_restaurant_banner	N/A	Null	Add banner for restaurant
	restaurant_manage_booking	offset	Null	Display screen to manage booking of customer for restaurant account.
	user_manage_booking	offset	Null	Display history of booking for customer
	edit_booking	bookingID	Null	Display screen to edit information of

				booking and update into database for restaurant account.
	info_booking	bookingID	Null	Display booking's information screen.
	check_id	id, uri	Null	Check id is number.
	Success	value	String	Return success message with html.
	Error	value	String	Return error message with html.
	returnError	msg	Array	Return error message without html.
	returnSuccess	msg	Array	Return error message without html.

Table 16: User_profile class description

4.2.1.5 Ckfinder

Class	**Ckfinder**
Description	Include all commands of ckfinder, which is tool to upload image.
Base Class	N/A
Constructor	N/A
Prototype	N/A
Source File	Ckfinder.php
Namespace	N/A

Attributes	N/A			
Methods	**Name**	**Input**	**Output**	**Description**
	setProjectPath	path	Null	Create name of project.
	setCkfinderSourcePath	path	Null	Create link into folder
	setAuthentication	status	Null	Check authentication.
	setConnectorPath	path	Null	Create connection.
	setFolderUpload	path	Null	Create folder to upload and save image
	startConnector	N/A	Null	Start connector.
	getHTML	N/A	Null	Get html code of ckfinder.

Table 17: Ckfinder class description

4.2.2 UC001: Admin Management

4.2.2.1 Class diagram

Figure 19 Admin class diagram

4.2.2.2 UC001 – 01 Write news

4.2.2.2.1 Screen Design

Figure 20 Write new screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Image	Image	Image	Yes	N/A	Image of news
2	Loại tin	Type of news	Text-box	Yes	N/A	Type of news
3	Tiêu đề	Title	Text-box	Yes	N/A	Title of news
4	Nội dung	Content	Text-box	Yes	N/A	Content of news
5	Trạng thái	Status	Combobox	Yes	N/A	Status of news

6	Cập nhật	Update	Button	Yes	N/A	Click to add a news
7	Quay về	Back	Button	Yes	N/A	Return to list news

Table 18: Write new screen description

4.2.2.2.2 Sequence Diagram

Figure 21 Write news sequence diagram

4.2.2.3 UC001 – 02 Create category

4.2.2.3.1 Screen Design

Table 19: Create category screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tên	Name	Text-box	Yes	N/A	Name of category
2	Mô tả	Description	Text-box	Yes	N/A	Content of category
3	Kích hoạt	Active	Check-box	Yes	N/A	Status of category
4	Lưu	Save	Button	Yes	N/A	Click to add a category
5	Quay về	Back	Button	Yes	N/A	Return to list category

Table 20: Create category description

4.2.2.3.2 Sequence Diagram

Figure 22 Create category sequence diagram

4.2.2.4 UC001 – 03 Update news

4.2.2.4.1 Screen Design

Figure 23 Update new screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Image	Image	Image	Yes	N/A	Image of news
2	Loại tin	Type of news	Text-box	Yes	N/A	Type of news
3	Tiêu đề	Title	Text-box	Yes	N/A	Title of news
4	Nội dung	Content	Text-area	Yes	N/A	Content of news
5	Trạng thái	Status	Check-box	Yes	N/A	Status of news

6	Cập nhật	Update	Button	Yes	N/A	Click to update news
7	Quay về	Back	Button	Yes	N/A	Return to list news

Table 21: Update new description

4.2.2.4.2 Sequence Diagram

Figure 24 update news sequence diagram

4.2.2.5 UC001 – 04 Update category

4.2.2.5.1 Screen Design

Figure 25 Update category screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tên	Name	Text-box	Yes	N/A	Name of category
2	Mô tả	Description	Text-box	Yes	N/A	Content of category
3	Kích hoạt	Active	Check-box	Yes	N/A	Status of category
4	Lưu	Save	Button	Yes	N/A	Click to update category
5	Quay về	Back	Button	Yes	N/A	Return to list category

Table 22: Update category

4.2.2.5.2 Sequence Diagram

Figure 26 Update category sequence diagram

4.2.2.6 UC001 – 05 Delete category

4.2.2.6.1 Screen Design

Figure 27 Delete category screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	ID	ID	Integer	Yes	N/A	Id of category
2	Tên	Name	Text	Yes	N/A	Name of category
3	Trạng thái	Status	Text	Yes	N/A	Status of category
4	Xóa	Delete	Button	Yes	N/A	Click to delete category

Table 23: Delete category

4.2.2.6.2 Sequence Diagram

Figure 28 Delete category sequence diagram

4.2.2.7 UC001 – 06 Delete news

4.2.2.7.1 Screen Design

Figure 29 Detele news

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	ID	ID	Integer	Yes	N/A	Id of category

2	Ảnh	Image	Image	Yes	N/A	Image of news
3	Loại	Category	Text	Yes	N/A	Category of news
4	Tiêu đề	Title	Text	Yes	N/A	Title of news
5	Trạng thái	Status	Text	Yes	N/A	Status of news
6	Xóa	Delete	Button	Yes	N/A	Click to delete news

Table 24: Delete news

4.2.2.7.2 Sequence Diagram

Figure 30 Delete news sequence diagram

4.2.2.8 UC001 – 07, 09 Activate/deactivate and rate restaurant

4.2.2.8.1 Screen Design

Figure 31 Activate/deactivate and rate restaurant

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Đánh giá nhà hàng	Rate for restaurant	Combo -box	Yes	N/A	Rate for restaurant
2	Kích hoạt	Active/Deactive	Check-box	Yes	N/A	Active/Deactive for restaurant
3	Loại	Category	Integer	Yes	N/A	Category of restaurant
4	Lưu	Save	Button	Yes	N/A	Click to update restaurant
5	Quay về	Back	Button	Yes	N/A	Return to list restaurant

Table 25: Activate/deactivate and rate restaurant

4.2.2.8.2 Sequence Diagram

Figure 32 Activate/deactivate and rate restaurant sequence diagram

4.2.2.9 UC001 – 08 Delete restaurant

4.2.2.9.1 Screen Design

Table 26: Delete restaurant

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	ID	ID	Integer	Yes	N/A	Id of category
2	Loại hình ẩm thực	Categories of restaurant	Text	Yes	N/A	Categories of restaurant
3	Tên nhà hàng	Name of restaurant	Text	Yes	N/A	Name of restaurant
4	Điện thoại	Phone of restaurant	Integer	Yes	N/A	Phone of restaurant
5	Địa chỉ	Address of restaurant	Text	Yes	N/A	Address of restaurant
6	Trạng thái	Status	Text	Yes	N/A	Status of restaurant
7	Xóa	Delete	Button	Yes	N/A	Click to delete restaurant

Table 27: Delete restaurant

4.2.2.9.2 Sequence Diagram

Figure 33 Delete restaurant sequence diagram

4.2.2.10 UC001 – 10 Delete user

4.2.2.10.1 Screen Design

Figure 34 Delete user screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	ID	ID	Integer	Yes	N/A	Id of category
2	Tên đăng nhập	Name	Text	Yes	N/A	Name of user use to login
3	Tên đầy đủ	Fullname	Text	Yes	N/A	Fullname of user
4	Email	Email	Text	Yes	N/A	Email of user
5	Địa chỉ	Address	Text	Yes	N/A	Address of user
6	Trạng thái	Status	Text	Yes	N/A	Status of user
7	Xóa	Delete	Button	Yes	N/A	Click to delete users

Table 28: Delete user description

4.2.2.10.2 Sequence Diagram

Figure 35 Delete user sequence diagram

4.2.2.11 UC001 – 11 Activate/deactivate user

4.2.2.11.1 Screen Design

Figure 36 Activate/deactivate user screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
2	Duyệt	Active/Deactive	Check -box	Yes	N/A	Active/Deactive for user
4	Cập nhật	Update	Button	Yes	N/A	Click to update user
5	Quay về	Back	Button	Yes	N/A	Return to list users

Table 29: Activate/deactivate user description

4.2.2.11.2 Sequence Diagram

Figure 37 Activate/deactivate sequence diagram

4.2.2.12 UC001 – 12 View all news

4.2.2.12.1 Screen Design

Figure 38 View all news screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tin tức	News	Button	Yes	N/A	Click to view all news

Table 30: View all news

4.2.2.12.2 Sequence Diagram

Figure 39 View all news sequence diagram

4.2.2.13 UC001 – 13 View all categories

4.2.2.13.1 Screen Design

Figure 40 View all categories screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Danh mục	Categories	Button	Yes	N/A	Click to view all categories

Table 31: View all categories

4.2.2.13.2 Sequence Diagram

Figure 41 View all categories sequence diagram

4.2.2.14 UC001 – 14 View all restaurants

4.2.2.14.1 Screen Design

Figure 42 View all restaurants screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Nhà hàng	Restaurant	Button	Yes	N/A	Click to view all restaurants

Table 32: View all restaurants description

4.2.2.14.2 Sequence Diagram

Figure 43 View all restaurants sequence diagram

4.2.2.15 UC001 – 15 View all users

4.2.2.15.1 Screen Design

Table 33: View all users

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tài khoản	User	Button	Yes	N/A	Click to view all users

Table 34: View all users description

4.2.2.15.2 Sequence Diagram

Figure 44 View all users sequence diagram

4.2.2.16 UC001 – 16 View all booking

4.2.2.16.1 Screen Design

Figure 45 View all booking screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Đặt chỗ	Booking	Button	Yes	N/A	Click to view all booking

Table 35: View all booking description

4.2.2.16.2 Sequence Diagram

Figure 46 View all booking sequence diagram

4.2.2.17 UC001 – 17 View detail booking

4.2.2.17.1 Screen Design

Figure 47 View detail booking

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Quay về	Back	Button	Yes	N/A	Click to return all booking

Table 36: View detail booking description

4.2.2.17.2 Sequence Diagram

Figure 48 View detail booking sequence diagram

4.2.2.18 UC001 – 18 Report statistics

4.2.2.18.1 Screen Design

Figure 49 Report statistics screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Báo cáo	Back	Button	Yes	N/A	Click to view report statistics

Table 37: Report statistics description

4.2.2.18.2 Sequence Diagram

Figure 50 Report statistics sequence diagram

4.2.3 UC002 Customer Management

4.2.3.1 Class Diagram

Figure 51 Customer management class diagram

4.2.3.2 UC002 – 01 Login

4.2.3.2.1 Screen Design

Figure 52 Login screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tên đăng nhập/ Email	Username/Email	Text-box	Yes	N/A	Input username/ email
2	Mật khẩu	Password	Password	Yes	N/A	Input password
3	Đăng nhập	Login	Button	Yes	N/A	Click to login website

Table 38: Login screen description

4.2.3.2.2 Sequence diagram

Figure 53 Login sequence diagram

4.2.3.3 UC002 – 02 Log out

4.2.3.3.1 Screen Design

Figure 54 Log out screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Đăng xuất	Logout	Button	Yes	N/A	Click to logout website

Table 39: Log out description

4.2.3.3.2 Sequence diagram

Figure 55 Log out sequence

4.2.3.4 UC002 – 03 View account

4.2.3.4.1 Screen Design

Figure 56 View account screen

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Thông tin tài khoản	Account profile	Button	Yes	N/A	Click to redirect account profile screen
2	Tên	Name	Textbox	Yes	N/A	Name of user
3	Email	Email	Textbox	Yes	N/A	Email of user
4	Ngày sinh	Date of birth	Date-picker	Yes	N/A	Date of birth of user
5	Giới tính	Gender	Combox	Yes	N/A	Gender of user
6	Cập nhật	Update	Button	Yes	N/A	Click to update information of user

Table 40: View account description

4.2.3.4.2 Sequence diagram

Figure 57 View account sequence

4.2.3.5 UC002 – 04 Update account

4.2.3.5.1 Screen Design

Figure 58 Update account

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Thông tin tài khoản	Account profile	Button	Yes	N/A	Click to redirect account profile screen
2	Tên	Name	Textbox	Yes	N/A	Name of user
3	Email	Email	Textbox	Yes	N/A	Email of user
4	Ngày sinh	Date of birth	Date-picker	Yes	N/A	Date of birth of user
5	Giới tính	Gender	Combox	Yes	N/A	Gender of user
6	Cập nhật	Update	Button	Yes	N/A	Click to update information of user

Figure 59 Update accountSequence diagram

4.2.3.5.2 Sequence diagram

Figure 60 Book restaurant

4.2.3.6 UC002 – 05 Update password

4.2.3.6.1 Screen Design

Figure 61 Update password

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Đổi mật khẩu	Change password	Button	Yes	N/A	Click to redirect change password screen
2	Mật khẩu cũ	Old password	Text-box	Yes	N/A	Old password of user
3	Mật khẩu mới	New password	Text-box	Yes	>= 6 character	New password of user
4	Nhập lại	Confirm password	Date-picker	Yes	N/A	Confirm password
5	Cập nhật	Update	Button	Yes	N/A	Click to change password of user

Table 41: Update password description

4.2.3.6.2 Sequence diagram

Figure 62 Update password sequence diagram

4.2.3.7 UC002 – 06 Book restaurant

4.2.3.7.1 Screen Design

Figure 63 Book restaurant

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Số người đến	Number of customer	Textbox	Yes	N/A	Input number of customer
2	Ngày	Date	Textbox	Yes	N/A	Date of booking
3	Giờ	Time	Textbox	Yes	N/A	Time of booking
4	Đặt chỗ ngay	Booking now	Button	Yes	N/A	Click to send booking

Table 42: Book restaurant

4.2.3.7.2 Sequence diagram

Figure 64 Booking restaurant sequence diagram

4.2.3.8 UC002 – 07 Upload avatar

4.2.3.8.1 Screen Design

Figure 65 Select image

Figure 66 Upload and select image

Figure 67 Save new avatar

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Chọn ảnh	Choose image	Button	Yes	N/A	Click to change avatar
2	Lưu	Save	Button	Yes	N/A	Click to save new avatar

Table 43: Update avatar

4.2.3.8.2 Sequence diagram

Figure 68 Upload avatar sequence diagram

4.2.3.9 UC002 – 08 View booking history

4.2.3.9.1 Screen Design

Figure 69 View booking history

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Lịch sử đặt chỗ	History of booking	Button	Yes	N/A	Click to redirect history of booking screen
2	Xem	View	Button	Yes	N/A	Click to view booking detail

Table 44: View booking history

4.2.3.9.2 Sequence diagram

Figure 70 View booking history sequence diagram

4.2.4 UC003 Restaurant Owner Management

4.2.4.1 Class Diagram

Figure 71 Restaurant Owner management

4.2.4.2 UC003 – 01 Add restaurant information

4.2.4.2.1 Screen Design

Figure 72 Add restaurant information

Figure 73 Add average price

Figure 74 Add restaurant address

Figure 75 Add description for restaurant

Figure 76 Add foods

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Thông tin nhà hàng	Restaurant information	Button	Yes	N/A	Click to redirect restaurant information screen
2	Danh mục nhà hàng	Categories of restaurant	Combo-box	Yes	N/A	Select categories of restaurant
3	Tên nhà hàng	Name of restaurant	Textbox	Yes	N/A	Input name of restaurant
4	Điện thoại	Phone	Textbox	Yes	N/A	Input phone of restaurant
5	Món ăn nổi bật	Favourite foods	Textbox	Yes	N/A	Input favourite foods of restaurant

6	Không gian nhà hàng	Restaurant space	Textbox	Yes	N/A	Input restaurant space
7	Chỗ đỗ xe	Parking	Combo-box	Yes	N/A	Select parking of restaurant
8	Điểm đặc trưng khác	Others	Textbox	No	N/A	Input others of restaurant
9	Giờ mở cửa	Open time	Textbox	Yes	N/A	Input open time of restaurant
10	Giờ đóng cửa	Close time	Textbox	Yes	N/A	Input close time of restaurant
11	Giá tiền (thấp - cao)	Price (min-max)	Textbox	Yes	N/A	Input price of restaurant
12	Giảm giá	Discount	Textbox	Yes	N/A	Input discount of restaurant
13	Tỉnh/ thành phố	Province	Combo-box	Yes	N/A	Select province of restaurant
14	Quận/ huyện	District	Combo-box	Yes	N/A	Select district of restaurant
15	Xã/ phường	Ward	Combo-box	Yes	N/A	Select ward of restaurant
16	Địa chỉ	Address	Textbox	Yes	N/A	Input address of restaurant

17	Bản đồ	Map	Textbox	Yes	N/A	Input latitude and longitude of restaurant
18	Mô tả	Description	TextArea	Yes	N/A	Input description of restaurant
19	Lưu	Save	Button	Yes	N/A	Click to add restaurant

Table 45: Add restaurant information

4.2.4.2.2 Sequence diagram

Figure 77 Add restaurant information sequence diagram

4.2.4.3 UC003 – 02 Update restaurant info

4.2.4.3.1 Screen Design

Figure 78 Update restaurant information

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Thông tin nhà hàng	Restaurant information	Button	Yes	N/A	Click to redirect restaurant information screen
2	Danh mục nhà hàng	Categories of restaurant	Combo -box	Yes	N/A	Select categories of restaurant
3	Tên nhà hàng	Name of restaurant	Textbo x	Yes	N/A	Input name of restaurant
4	Điện thoại	Phone	Textbo x	Yes	N/A	Input phone of restaurant
5	Món ăn nổi bật	Favourite foods	Textbo x	Yes	N/A	Input favourite

						foods of restaurant
6	Không gian nhà hàng	Restaurant space	Textbox	Yes	N/A	Input restaurant space
7	Chỗ đỗ xe	Parking	Combo-box	Yes	N/A	Select parking of restaurant
8	Điểm đặc trưng khác	Others	Textbox	No	N/A	Input others of restaurant
9	Giờ mở cửa	Open time	Textbox	Yes	N/A	Input open time of restaurant
10	Giờ đóng cửa	Close time	Textbox	Yes	N/A	Input close time of restaurant
11	Giá tiền (thấp - cao)	Price (min-max)	Textbox	Yes	N/A	Input price of restaurant
12	Giảm giá	Discount	Textbox	Yes	N/A	Input discount of restaurant
13	Tỉnh/ thành phố	Province	Combo-box	Yes	N/A	Select province of restaurant
14	Quận/ huyện	District	Combo-box	Yes	N/A	Select district of restaurant
15	Xã/ phường	Ward	Combo-box	Yes	N/A	Select ward of restaurant

16	Địa chỉ	Address	Textbox	Yes	N/A	Input address of restaurant
17	Bản đồ	Map	Textbox	Yes	N/A	Input latitude and longitude of restaurant
18	Mô tả	Description	TextArea	Yes	N/A	Input description of restaurant
19	Lưu	Save	Button	Yes	N/A	Click to add restaurant

Table 46: Update restaurant information

4.2.4.3.2 Sequence diagram

Figure 79 Update restaurant information sequence diagram

4.2.4.4 UC003 – 03 Add restaurant banner

4.2.4.4.1 Screen Design

Table 47: Add restaurant banner

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Banner nhà hàng	Banner of restaurant	Button	Yes	N/A	Click to view all banners of restaurant
2	Image	Image	Button	Yes	N/A	Click to add banner of restaurant

Table 48: Add restaurant banner

4.2.4.4.2 Sequence diagram

Figure 80 Add restaurant banner sequence diagram

4.2.4.5 UC003 – 04 Delete restaurant banner

4.2.4.5.1 Screen Design

Figure 81 Delete restaurant banner

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Delete (X)	Delete (X)	Button	Yes	N/A	Click to delete banners of restaurant

Table 49: Delete restaurant banner

4.2.4.5.2 Sequence diagram

Figure 82 Delete restaurant banner

4.2.4.6 UC003 – 05 Add food

4.2.4.6.1 Screen Design

Figure 83 List of foods

Figure 84 Add new food

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Ảnh món ăn	Image	Button	Yes	N/A	Click to add image of food
2	Tên	Name	Textbox	Yes	N/A	Input name of food
3	Giá	Price	Textbox	Yes	N/A	Input price of food
4	Loại	Category	Combo-box	Yes	N/A	Select category of food
5	Mô tả	Description	Textbox	No	N/A	Input description of food
6	Kích hoạt	Active	Check-box	Yes	N/A	Select to active/deactive food
7	Cập nhật món ăn	Update food	Button	Yes	N/A	Click to add food

8	Đóng	Close	Button	Yes	N/A	Click to return list foods screen

Table 50: Add new food

4.2.4.6.2 Sequence diagram

Figure 85 Add new food sequence diagram

4.2.4.7 UC003 – 06 Update food information

4.2.4.7.1 Screen Design

Figure 86 Update food's information

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Ảnh món ăn	Image	Button	Yes	N/A	Click to add image of food
2	Tên	Name	Textbox	Yes	N/A	Input name of food
3	Giá	Price	Textbox	Yes	N/A	Input price of food
4	Loại	Category	Combo-box	Yes	N/A	Select category of food
5	Mô tả	Description	Textbox	No	N/A	Input description of food
6	Kích hoạt	Active	Check-box	Yes	N/A	Select to active/deactive food

7	Cập nhật món ăn	Update food	Button	Yes	N/A	Click to add food
8	Đóng	Close	Button	Yes	N/A	Click to return list foods screen

Table 51: Update food's information

4.2.4.7.2 Sequence diagram

Figure 87 Update food's information sequence diagram

4.2.4.8 UC003 – 07 Update booking status

4.2.4.8.1 Screen Design

Figure 88 Update booking status

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Trạng thái	Status	Combo -box	Yes	N/A	Select status of booking
2	Ghi chú	Note	TextArea	No	N/A	Input note of booking
3	Cập nhật trạng thái	Update status	Button	Yes	N/A	Click to update booking

Table 52: Update booking status

4.2.4.8.2 Sequence diagram

Figure 89 Update booking status sequence diagram

4.2.4.9 UC002 – 08 View booking history

4.2.4.9.1 Screen Design

Figure 90 View booking history

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Quản lý đặt chỗ	Booking manager	Button	Yes	N/A	Click to display list booking of restaurant

Table 53: View booking history

4.2.4.9.2 Sequence diagram

Figure 91 View booking history sequence diagram

4.2.5 UC004 Guest

4.2.5.1 Class Diagram

Figure 92 Guest class diagram

4.2.5.2 UC004 – 01 Register

4.2.5.2.1 Screen Design

Figure 93 Register

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tên đầy đủ	Full name	Textbox	Yes	N/A	Input full name
2	Tên đăng nhập	Username	Textbox	Yes	>=6 characters	Input username
3	Email	Email	Textbox	Yes	N/A	Input email
4	Mật khẩu	Password	Textbox	Yes	>=6 characters	Input password
5	Mật khẩu(Re)	Confirm password	Textbox	Yes	N/A	Input confirm password
6	Tỉnh/ thành phố	Province	Combo-box	No	N/A	Select province
7	Quận/ huyện	District	Combo-box	No	N/A	Select district

8	Xã/ phường	Ward	Conbo-box	No	N/A	Select ward
9	Ngày sinh	Date of birth	Date-picker	No	N/A	Select date of birth
10	Giới tính	Gender	Combo -box	No	N/A	Select gender
11	Loai tài khoản	Type of account	Combo -box	No	N/A	Select type of account
12	Đăng ký	Register	Button	Yes	N/A	Click to register

Table 54: Register

4.2.5.2.2 Sequence diagram

Figure 94 Register diagram

4.2.5.3 UC004 – 02 View news by category

4.2.5.3.1 Screen Design

Figure 95 View news by category

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Tin tức	News	Button	Yes	N/A	Click to display categories of news

Table 55: View news by category

4.2.5.3.2 Sequence diagram

Figure 96 View news by category sequence diagram

4.2.5.4 UC004 – 03 View news detail

4.2.5.4.1 Screen Design

Đặt bàn trước khi đi ăn – "Thước đo văn hóa" tương lai của người Việt

Những dịp lễ lớn trong năm như: 8/3, 20/10, hay những ngày cuối tuần, lượng khách đến ăn tại nhà hàng luôn tăng đột biến từ 10-30% và câu chuyện "cháy chỗ" lại là đề tài muôn thuở. Chưa đặt trước, hết chỗ khi tới, nhiều "thượng đế" đã dùng lời lẽ rất khó nghe, thậm chí buông tục, chửi bới nhân viên phục vụ cho hả giận.

1. Người Việt Nam: Đặt bàn làm gì? Đi ăn, thích lúc nào thì đi lúc đó!

Các quán ăn, nhà hàng trên phố vào dịp cuối tuần luôn tấp nập người ra vào. Phóng viên chúng tôi dừng lại ở nhà hàng Quán Ăn Ngon – một nhà hàng khá nổi tiếng – để thực hiện một cuộc khảo sát nhỏ thì phát hiện một đoàn người đang đứng trước quán và buông ra những lời lẽ rất khó nghe trong khi nhân viên phục vụ mặt tái mét và ra sức xin lỗi khách.

Qua tìm hiểu, chúng tôi mới biết rằng đoàn khách đó không đặt bàn trước tại quán, lại đến đúng vào giờ cao điểm, nhà hàng không còn chỗ trống nên buộc lòng phải từ chối khách để đảm bảo chất lượng phục vụ.

Dù tôi rất thông cảm với sự khó chịu khi đã đến tận nhà hàng mà lại không được phục vụ, nhưng thiết nghĩ, tại sao khách hàng lại không bớt chút thời gian, dành ra chỉ khoảng 1 phút đồng hồ để gọi một cuộc điện thoại đặt bàn trước, chẳng phải như thế nhất định sẽ nhận được sự tiếp đón và chuẩn bị tốt nhất của nhà hàng hay sao? Hay nói đi cũng phải nói lại, vẫn là do văn hóa đặt bàn, đặt chỗ trước vẫn chưa được phổ cập đến một bộ phận không nhỏ người Việt?

Table 56: View news detail

4.2.5.4.2 Sequence diagram

Figure 97 View news detail sequence diagram

4.2.5.5 UC004 – 04 Filter restaurant by category

4.2.5.5.1 Screen Design

Figure 98 Filter restaurant by category

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Ẩm thực	Cuisine	Button	Yes	N/A	Click to display categories of restaurant

Table 57: Filter restaurant by category

4.2.5.5.2 Sequence diagram

Figure 99 Filter restaurant by category sequence diagram

4.2.5.6 UC004 – 05 View restaurant detail

4.2.5.6.1 Screen Design

Figure 100 View restaurant detail

4.2.5.6.2 Sequence diagram

Figure 101 View restaurant detail sequence diagram

4.2.5.7 UC004 – 06 Like/Unlike

4.2.5.7.1 Screen Design

Figure 102 Like/unlike by Facebook

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Like	Like	Button	Yes	N/A	Click to like/unlike restaurant

Table 58: Like/unlike by Facebook

4.2.5.7.2 Sequence diagram

Figure 103 Like/unlike sequence diagram

4.2.5.8 UC004 – 07 Comment

4.2.5.8.1 Screen Design

Figure 104 Comment by Facebook

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Add a comment	Add a comment	Textbox	Yes	N/A	Input comment of guest

Table 59: Comment by Facebook

4.2.5.8.2 Sequence diagram

Figure 105 Comment sequence diagram

4.2.5.9 UC004 – 08 Share

4.2.5.9.1 Screen Design

Figure 106 Social network share

No	Object/ Control Name	Object/ Control Name in English	Type	Required	Length	Description
1	Share	Share	Button	Yes	N/A	Click to share restaurant

Table 60: Social network share

4.2.5.9.2 Sequence diagram

Figure 107 Social network share sequence diagram

4.3 DATABASE DESIGN

4.3.1 Database Diagram

Figure 108 AGC database diagram

4.3.2 Table Descriptions

4.3.2.1 Table address

No	Attribute	Type	Size	Nullable	Constraints	Description
1	addressID	int		no	primary key	unique value identifies address, auto increment
2	address	nvarchar	100	no		specific address
3	provinceID	nvarchar	5	no	foreign key constraint, referral table province	unique value identifies province
4	districtID	nvarchar	5	no	foreign key constraint, referral table district	unique value identifies district
5	wardID	nvarchar	5	no	foreign key constraint, referral table ward	unique value identifies ward

Table 61: Address table

4.3.2.2 Table booking

No	Attribute	Type	Size	Null able	Constraints	Description
1	bookingID	int		no	primary key	unique value identifies booking, auto increment
2	dateCreateBo	date		yes		the date that customers make reservation
3	dateBooking	dateTime		no		date and time that customers will visit restaurant
4	quantityMember	int		no		number of people

5	commentBo	nvarchar	300	yes		other feedback or request
6	restaurantID	int		no	foreign key constraint, referral table restaurants	unique value identifies restaurant
7	userID	int		no	foreign key constraint, referral table users	unique value identifies user

Table 62: Booking table

4.3.2.3 Table categoriesofrestaurant

No.	Attribute	Type	Size	Null able	Constraints	Description
1	categoryOfResID	int		no	primary key	unique value identifies restaurant category, auto increment
2	nameCOR	nvarchar	300	no		restaurant category name

Table 63: CategoriesofRestaurant

4.3.2.4 Table district

No	Attribute	Type	Size	Nullable	Constraints	Description
1	districtID	nvarchar	5	no	primary key	unique value identifies district
2	nameDis	nvarchar	100	no		district name

3	typeDis	nvarchar	30	no		type of districts in Vietnam
4	locationDis	nvarchar	30	yes		latitude and longitude of the district

Table 64: Distric table

4.3.2.5 Table food

No	Attribute	Type	Size	Null able	Constraints	Description
1	foodID	int		no	primary key	unique value identifies food, auto increment
2	nameFo	nvarchar	30	no		food name
3	descriptionFo	nvarchar	2000	yes		description of food
4	priceFo	float		yes		food price
5	typeFo	int		yes		type of food 0 to be “tráng miêng”, 1 to be “ăn nhanh” 2 to be “bữa chính”
6	imageID	int		no	foreign key constraint, referral table images	unique value identifies food’s image,
7	restaurantID	int		no	foreign key constraint, referral table restaurants	unique value identifies restaurant

Table 65: Food table

4.3.2.6 Table images

No	Attribute	Type	Size	Null able	Constraints	Description
1	imageID	int		no	primary key	unique value identifies image, auto increment
2	nameImage	nvarchar	100	no		image name
3	typeImage	int		no		type of image
4	addressImage	nvarchar	200	no		url or path to images' files

Table 66: Image table

4.3.2.7 Table memberships

No	Attribute	Type	Size	Null able	Constraints	Description
1	memID	int		no	primary key	unique value identifies membership, auto increment
2	userID	int		no	foreign key constraint, referral table users	unique value identifies user
3	memName	nvarchar	40	no		membership name
4	addressID	int		no	foreign key constraint, referral table address	unique value identifies address

5	imageID	int		no	foreign key constraint, referral table images	unique value identifies image
6	memGender	enum('2', '1', '0')		no		gender 2 to be male 1 to be female and 0 to be other

Table 67: Membership table

4.3.2.8 Table news

No	Attribute	Type	Size	Null able	Constraints	Description
1	newsID	int		no	primary key	unique value identifies news, auto increment
2	userID	int		no	foreign key constraint, referral table users	unique value identifies user
3	titleNews	nvarchar	100	no		news title
4	contentNews	nvarchar	10000	no		content of news
5	imageNews	nvarchar		yes		images used in news content
6	typeNews	int		yes		type of news 0 is "tin cập nhật" 1 is "sự kiện" 2 is "khuyền mãi" 3 is "trải nhiệm"

Table 68: News table

4.3.2.9 Table province

No.	Attribute	Type	Size	Null able	Constraints	Description
1	provinceID	nvarchar	5	no	primary key	unique value identifies province, auto increment
2	namePro	nvarchar	40	no		province name
3	typePro	nvarchar	30	no		province type

Table 69: Province table

4.3.2.10 Table restaurantcategories

No	Attribute	Type	Size	Null able	Constraints	Description
1	restaurantID	int		no	foreign key constraint, ,referral table restaurants	unique value identifies restaurant
2	categoryOfResID	int		no	foreign key constraint, referral table categoriesofrestaurant	unique value identifies restaurant category

Table 70: Restaurantcategory table

4.3.2.11 Table restaurantImage

No	Attribute	Type	Size	Null able	Constraints	Description
1	restaurantImageID	int		no	primary key	unique value identifies restaurant image, auto increment

2	restaurantID	int		no	foreign key constraint, referral table restaurants	unique value identifies restaurant
3	imageUrl	nvarchar	200	no		url or path to the images' files
4	imageMain	bit		yes		is the image is as restaurant profile 1 is used 0 is not

Table 71: RestaurantImage table

4.3.2.12 Table restaurants

No.	Attribute	Type	Size	Null able	Constraints	Description
1	restaurantID	int		no	primary key	unique value identifies restaurant, auto increment
2	nameRe	nvarchar	40	no		name of the restaurant
3	descriptionRes	nvarchar	1000	yes		restaurant description
4	phoneRe	nvarchar	15	no		phone number
5	favouriteFood	nvarchar	40	yes		special of famous dishes
6	spaceRes	nvarchar	300	yes		how big the restaurant is

7	carparkingRes	int		yes		is there a car parking 0 is yes 1 is no
8	openTimeRe	time		yes		restaurant opening time
9	closeTimeRe	time		yes		restaurant closing time
10	latitudeRe	float		yes		latitude of the restaurant
11	longitudeRe	float		yes		longitude of the restaurant
12	rateRe	int		no		restaurant rating
13	minPrice	float		yes		minimum price per meal
14	maxPrice	float		yes		max price per meal
15	discount	float		yes		restaurant discount for customer
16	quantityBooking	int		no		number of booking times
17	dateCreateRe	date		no		date restaurant register on the system
18	addressID	int		no	foreign key constraint, referral table address	unique value identifies address

19	userID	int		no	foreign key constraint, referral table users	unique value identifies user
20	statusRes	bit		no		is restaurant is active or not 0 is active 1 is inactive

Table 72: Restaurants table

4.3.2.13 Table users

No.	Attribute	Type	Size	Null able	Constraints	Description
1	userID	int		no	primary key	unique value identifies user
2	userName	nvarchar	40	no		unique user name
3	userMail	nvarchar	40	no		user email
4	userPass	nvarchar	40	no		user password
5	userPassRe	nvarchar	40	no		user confirm password
6	userLevel	enum(‘2’,’1’,’0’)		no		level of user 2 is admin 1 is restaurant owner 0 is customer
7	userActived	bit		no		is user is active or not 0 is yes 1 is not

Table 73: User table

4.3.2.14 Table ward

No	Attribute	Type	Size	Null able	Constraints	Description
1	wardID	nvarchar	5	no	primary key	unique value identifies district
2	nameWard	nvarchar	40	no		village name
3	typeWard	nvarchar	40	yes		type of villages in Vietnam
4	locationWard	nvarchar	40	no		latitude and longitude
5	districtID	nvarchar	5	no	foreign key constraint, referral table district	unique value identifies district

Table 74: Ward table

PART 5
SOFTWARE TEST DOCUMENTS

5 SOFTWARE TEST DOCUMENTS

5.1 INTRODUCTION

5.1.1 Purposes

This document aims to describe testing strategies, methodologies, and activities used to perform software testing for AGC system. Also helps in estimating the testing effort required, test coverage, requirement tracking/tracing, etc.

5.1.2 System Overview

AGC is a web application aiming to connect customers and restaurants together. AGC will be available on modern web browsers which is also compatible for mobile and tablets devices. The site is reliable and convenient which help users to easily access, search for information about the most suitable restaurants, promotions, food and services provided. Besides, AGC provides information of restaurants addresses, food, and table booking service.

5.2 TEST PLAN

5.2.1 Scope of Testing

- Perform three levels of testing, unit testing, integration testing and system testing.
- Perform functional testing, user interface testing and data integrity testing.
- Test all functions defined in software requirement specification of AGC101, as well as others scenarios those not existed in SRS.

5.2.2 Requirements for Testing

5.2.2.1 Test Items

The following functions must be tested and also check their user interface

Use case No	Group of function	Function	Description
UC001	Admin management	Activate/deactivate user	allow users who have account to use system or not
		Activate/deactivate restaurant	allow restaurant information to display on AGC website or not
		Rate restaurant	increase or decrease restaurant rating
		Delete restaurant	remove all restaurant data
		Delete user	delete account registered in AGC system
		View statistical data	view total number of restaurant, table booking, etc.
		Add/delete category	add new or delete category to be used by restaurant
		Write/delete/update news	fully modify and publish news
		View all users	view users' accounts
		View all categories	view restaurant' categories those available on AGC system

		View all restaurant	View restaurants' information to decide whether to activate or deactivate
		View all news	Views all news those have been written in AGC system
		View all booking	View all tables booking
		View detail booking	Views each table booking in detail
UC002	Customer management	login	general function used for login to the system
		logout	general function used for logout of the system
		View restaurant information	view index page of the restaurant
		Book restaurant	book tables in a restaurant
		View booking history	view all his/her own tables booking details
		View account	view information related to personnel information
		Update password	change password
UC003	Restaurant owner management	Add/update/delete restaurant information	fully modify his/her own restaurant information
		Add/update/delete restaurant banner	fully modify his/her own restaurant banner images
		Set restaurant profile picture	choose image from banner images to use us restaurant profile picture

		Add/update/delete food information	fully modify dishes/menu in his/her own restaurant
		Update booking status	change table booking status for customers
UC004	Guest management	register	become a member or customer of AGG website
		View general information	view all general information which is not reserved for only specific users
		View restaurant information	view restaurant information in detail in restaurant index page
		Search	general function used for search restaurant based on users keyword
		Like	Like a restaurant using Facebook account
		Comment	comment a restaurant using Facebook account
		Share	share a restaurant using Facebook account
Note: Admin and Restaurant owners are able to perform all functionalities those customers are able to, Customer can perform all functionalities those Guest is able to except register			

Table 75: Testing items

5.2.2.2 Acceptance Test Criteria

AGC system is developed for thesis defence in FPT University. Therefore, there is no actual end users, acceptance testing will be omitted.

5.2.2.3 Test Completion Criteria

Testing processes will be completed if it meets all of the following criteria.

- ✓ Test coverage >= 90%
- ✓ 0 severity bug found, less than 10 bugs those are less harmful found.
- ✓ Passed unit test
- ✓ Passed integration test
- ✓ Accepted by the AGC advisor

However, testing processes will be stopped if the testing deadline has met.

5.2.2.4 Testing Risks

- There might be undiscovered bugs.
- Disclosed bugs those have not enough time to fix.
- Testing devices/environment might not enough to implement testing operation.
- Personnel work slower than expected.

5.2.3 Test Strategies

5.2.3.1 Test Policies

- Try to generate as many bugs as possible.
- Identify and document all bugs found.
- Test all possible scenarios.
- Test with real devices, no simulation.
- All AGC team members much involve in testing phased.
- Test much be involved in every stage of software development life cycle (SDLC).

5.2.3.2 Test Model (change v-model image to default)

AGC system used Verification and Validation model (V – model) to implement all testing process.

Figure 109 V-model

- **Unit Testing:** Unit tests designed in the module design phase are executed on the code during this validation phase. Tra Da members who will carry out this task consist of Soulivong Phimmathong, Hoang Van Canh, Vu Hoang Hieu, and Nguyen Hoang, which will use White Box testing technique.

- **Integration Testing:** Integration testing is associated with the architectural design phase. All Tra Da members will carry out this task and the techniques to be used are both black box and white box testing.

- **System Testing:** System testing is directly associated with the System design phase. System tests check the entire system functionality and the communication of the system under development with external systems. All Tra Da members will carry out this task.

- **Acceptance Testing:** Acceptance testing is associated with the business requirement analysis phase and involves testing the product in user environment. However, AGC system is develop for thesis defense in FPT University Therefore, there is no actual end users, as the result, acceptance testing will be omitted.

5.2.3.3 Types of Testing

There are 3 types of testing in AGC system: user interface, functional testing and data and data integrity testing.

5.2.3.3.1 User Interface Testing

This type of testing is to check physical appearance of the whole system. Element to be tested will be everything that are visible to users specifically fonts, layouts, buttons, images, colours, textboxes, checkboxes, radio buttons, etc. This testing is applied to 3 type of devices: smart phone, tablet and computer.

Test objective	To ensure every element in the system will be displayed as expected
Testing process	• Testers will go through all screens then check all elements and overall looking and feel of pages • Enter both right and wrong data into the input fields to check notification and error messages • Every defect found will be recorded in Defect Log section in this documentation and send to development team to fix, then this testing will be performed again until it meets testing completion or stopping criteria
Technique	use white box testing, based on number of pages in the system
completion criteria	passed all test cases

Table 76: User interface testing strategy

5.2.3.3.2 Functional testing

Functional testing is to check whether users can perform functions as needed or not, this test mainly focuses on the changes after perform specific functions as well as interaction between pages.

Test objective	To ensure every function work correctly
Testing process	• Testers will test all test cases specified in AGC software requirement specification • Enter both right and wrong data into the input fields to check whether function handle errors correctly or not • Every defect found will be recorded in Defect Log section in this document and send to development team to fix, then this testing will be performed again until it meets completion or stopping criteria
Technique	use both black box and white box testing, based on use case specification
Completion criteria	passed all test cases

Table 77: Functional testing strategy

5.2.3.3.3 Data and data integrity testing

This is Relational Database Management System (RDBMS) test which will check all data in the database, this test should be performed together with functional test since most of the processes has interaction with database. However, pure database test is also carried out to check data integrity.

Test objective	To check data integrity and to ensure the system reads, inserts, updates, and deletes data in the database correctly

Testing process	• while performing system test, developer team will also check data in the database • check data being displayed on AGC system if it matches with data in the database • check primary key, foreign key, null able values • Every defect found will be recorded in Defect Log section in this document and send to development team to fix, then this testing will be performed again until it meets completion or stopping criteria
Technique	use RDBMS development environment tool
Completion criteria	passed all test cases

Table 78: data and data integrity testing strategy

5.2.3.4 Test Stages

Common tests are carried out as in the table below:

Type of Tests	**Stage of Test**		
	Unit	**Integration**	**System**
Function Test	x	x	x
User Interface test	x		x
Data and Data integrity test	x		

Table 79: common test stages

5.2.3.5 Tools

5.2.3.5.1 Hardware

Name	Purpose
Laptop computers	test all activities in laptop computers
Android phones	test if the system work correctly in android system, with responsive screen
iPad mini 2, iPad 4	test if the system work correctly in iPad/tablet system, with responsive screens
iPhone 5	test if the system work correctly in IOS system, with responsive screens

Table 80: testing devices

5.2.3.5.2 Software

Name	version	Purpose
Microsoft word	2013	write test plan and keep tracking defects
Microsoft excel	2013	write test case, checklist, and test report
MySQL workbench	6.3 CE	perform database testing
Google chrome	52.0.2743.116 m	web browser testing
Firefox	48.0	web browser testing
Safari	5.0.6	Apple web browser testing
Coc Coc	41.0.2272.119	Vietnamese web browser testing

Table 81: testing software

5.2.3.6 Resources

Member	Position	Responsibilities
Nguyen Hoang	Test leader	○ creates and views overall testing plan ○ assigns and keep track of testing tasks ○ approve testing completion
Nguyen Huu Thao	Tester	○ creates and executes test cases ○ records defects in defect logs section in this documentation
Vu Hoang Hieu	Tester	○ creates and executes test cases ○ records defects in defect logs section in this documentation
Hoang Van Canh	Tester	○ creates and executes test cases ○ records defects in defect logs section in this documentation
Soulivong Phimmathong	Tester	○ creates and executes test cases ○ records defects in defect logs section in this documentation

Table 82: human resources testing planning

5.3 TEST CASES

See AGC_Test_Cases_V1.0.xlsx for detail.

5.4 CHECKLISTS

5.4.1 Functionalities checklists

No.	Question	Yes	No	N/A
1	Do all links take users to the right pages or position?			
2	Have all form validation and submission tested?			
3	Have all searching and filtering functions tested?			
4	Have all Viewing function tested?			
5	Have others functions tested?			

Table 83: Functionalities checklists

5.4.2 User interface checklists

5.4.2.1 Colour

No.	Question	Yes	No	N/A
1	Are hyperlink colours standard?			
2	Are the field backgrounds the correct colour?			
3	Are the field prompts the correct colour?			
4	Are the screen and field colours adjusted correctly for non-editable mode?			
5	Are all the buttons are in standard format and size			
6	Is the general screen background the correct colour?			

Table 84: UI color checklists

5.4.2.2 Content

No.	Question	Yes	No	N/A
1	Are contents displayed to the correct types of users?			
2	All fonts to be the same?			
3	Are all the screen prompts specified in the correct screen font?			
4	Does content remain if you need to go back to a previous page, or if you move forward to another new page?			
5	Is all text properly aligned?			
6	Is the text in all fields specified in the correct screen font?			
7	Is all the heading are left aligned?			

Table 85: UI content checklists

5.4.2.3 Images

No.	Question	Yes	No	N/A
1	Are all graphics properly aligned?			
2	Are graphics being used the most efficient use of file size?			
3	Banner style & size & display exact same as existing windows			
4	Does text wrap properly around pictures/graphics?			
5	Are font-awesome and glyphicon correctly displayed?			

Table 86: UI images checklists

5.4.2.4 Instructions

No.	Question	Yes	No	N/A
1	Is all the error message text spelt correctly on screens?			
2	Is all notification message text spelt correctly on screens?			

Table 87: UI instruction checklists

5.4.2.5 Navigation

No.	Question	Yes	No	N/A
1	Are all disabled fields avoided in the TAB sequence?			
2	Can all screens accessible via buttons from previous screen be accessed correctly?			
3	Does a scrollbar appear if required?			
4	Is there a link to home on every single page?			

Table 88: UI navigation checklists

5.4.2.6 Usability

No.	Question	Yes	No	N/A
1	Are some English text displayed understandable by Vietnamese people?			
2	Are fonts too large or too small to read?			
3	Are names in command button & option box names are not abbreviations.			
4	Assure that option boxes, option buttons, and command buttons are logically grouped together in clearly demarcated areas "Group Box"			
5	Can the typical user run the system without frustration?			
6	Do pages print legibly without cutting off text?			
7	Does AGC system convey a clear sense of its intended audience?			
8	Does the site have a consistent, clearly recognizable "look-&-feel"?			
9	Does AGC system correctly displayed on smartphone, iPad/tablet, and computer			

10	Is all terminology understandable for all of the AGC system's intended users?			

Table 89: UI usability checklists

5.5 TEST LOGS

5.5.1 Defect Logs

See AGC_Defect_Logs.xlsx for detail.

5.5.2 Test Reports

Project Name	AGC	**Creator**	Nguyen Hoang
Project Code	AGC101	**Reviewer/Approver**	Nguyen Van Sang
Document Code	AGC_Report5_STD	**Issue Date**	22 Aug 2016

No	**Module code**	**Pass**	**Fail**	**Untested**	**N/A**	**Number of test cases**
Admin Management Module						
1	Login	5	0	0	0	5
2	write news	9	0	0	0	9
3	create category	5	0	0	0	5
4	update news	2	0	0	0	2
5	update category	2	0	0	0	2
6	delete news	2	0	0	0	2
7	delete category	2	0	0	0	2
8	activate/deactivate restaurant	4	0	0	0	4

9	delete restaurant	2	0	0	0	2
10	rate restaurant	1	0	0	0	1
11	delete user	2	0	0	0	2
12	activate/deactivate user	4	0	0	0	4
13	view all news	2	0	0	0	2
14	view all categories	2	0	0	0	2
15	view all restaurants	2	0	0	0	2
16	view all users	2	0	0	0	2
17	view all booking	1	0	0	0	1
18	view detail booking	1	0	0	0	1
19	report statistics	1	0	0	0	1
20	Logout	2	0	0	0	2
Customer Management Module						
21	login	5	0	0	0	5
22	Logout	2	0	0	0	2
23	View account	2	0	0	0	8
24	update account	8	0	0	0	8
25	update password	6	0	0	0	6
26	book restaurant	5	0	0	0	5
27	view booking history	2	0	0	0	2
28	update avatar	3	0	0	0	3
Restaurant Owner Management Module						
29	Login	5	0	0	0	5

30	Logout	2	0	0	0	2
31	add restaurant	8	0	0	0	8
32	update restaurant	1	0	0	0	1
33	add restaurant banner	2	0	0	0	2
34	Set restaurant profile picture	1	0	0	0	1
35	delete restaurant banner	1	0	0	0	1
36	add food	6	0	0	0	6
37	update food	1	0	0	0	1
38	update booking status	1	0	0	0	1
Guest Management Module						
39	Home screen	10	0	0	0	10
40	register	15	0	0	0	15
41	view news by category	2	0	0	0	2
42	view news detail	1	0	0	0	1
43	view user guide	2	0	0	0	2
44	view about as	1	0	0	0	1
45	restaurant by category	1	0	0	0	1
46	restaurant detail	2	0	0	0	2
47	social	6	0	0	0	6
48	search	3	0	0	0	3
Total		152	0	0	0	152
Test coverage		100%				
Test successful coverage		100%				

PART 6
SOFTWARE USER'S MANUALS

6 SOFTWARE USER'S MANUALS

6.1 INSTALLATION GUIDE

6.1.1 Purposes

This part contains guidelines for admin to deploy and manage site on web host.

6.1.2 Environments

- Operating System: Windows XP or higher

- Application server: AGC application system requires an application server running on Linux

- Browsers: Firefox 48, Chrome 50 or higher.

- Database: MySQL 5.6 or higher

- PHP 5.6 or higher

6.1.3 Application Installation

6.1.3.1 Upload application to host

Note: We assume that you already have a host sever with a domain name.

- After login to your host account you can see host manage page as bellow (different host may has different UI but main Item that will be used in this guide is the same)

Figure 110 Host management page

- From here, click on 'File manager' in Files group

Figure 111: File Manager

- Then go to 'public_html' folder

Figure 112: 'public_html' folder

- After that, go to AGC project folder and compressed this folder to .zip format (can be done by using some compressed software like Winrar, 7zip …)

Figure 113: Compressed project

- Then comeback to 'public_html' in browser and click on 'upload' in menu bar to upload .zip project.

Figure 114: Upload in menu

Figure 115: Upload form

- After upload, go 'pubcic_html' click on file that you uploaded and extract it

Figure 116: Extract project

6.1.3.2 Configure database script file and project

- You can modify database file and change project to adapt with new database
- You can find Database script file in our project at "…\AngiProject\ database.sql" then try to open it with Notepad++.

```sql
-- Server version: 5.6.30
-- PHP Version: 5.4.31

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8 */;

--
-- Database: `hobe817_angi`
--
DROP DATABASE IF EXISTS `angiproject`;
CREATE DATABASE IF NOT EXISTS `angiproject` DEFAULT CHARACTER SET latin1 COLLATE latin1_swedish_ci;
USE `angiproject`;

-- --------------------------------------------------------

--
-- Table structure for table `address`
--

DROP TABLE IF EXISTS `address`;
CREATE TABLE IF NOT EXISTS `address` (
  `addressID` int(11) NOT NULL AUTO_INCREMENT,
  `address` varchar(1000) CHARACTER SET utf8 DEFAULT NULL,
  `provinceID` varchar(5) COLLATE utf8_unicode_ci NOT NULL DEFAULT '01',
  `districtID` varchar(5) COLLATE utf8_unicode_ci NOT NULL DEFAULT '001',
  `wardID` varchar(5) COLLATE utf8_unicode_ci NOT NULL DEFAULT '00001',
  `statusAdd` int(11) DEFAULT '0',
  PRIMARY KEY (`addressID`),
```

Figure 117: Database script

- From there, you can change database name (here is 'angiproject'), the script bellow is the script define structure of database, you can modify for future update application.

- After that, you have to configure database connection at '…\AngiProject\application\config\database.php'. After open it by Notepad++ you can configure to match with your database and your host

```
$db['default'] = array(
    'dsn'    => '',
    'hostname' => 'localhost',
    'username' => 'angiproject',
    'password' => 'Angi123@#',
    'database' => 'angiproject',
    'dbdriver' => 'mysqli',
    'dbprefix' => '',
    'pconnect' => TRUE,
    'db_debug' => (ENVIRONMENT !== 'production'),
    'cache_on' => FALSE,
    'cachedir' => '',
    'char_set' => 'utf8',
    'dbcollat' => 'utf8_unicode_ci',
    'swap_pre' => '',
    'encrypt' => FALSE,
    'compress' => FALSE,
    'stricton' => FALSE,
    'failover' => array(),
    'save_queries' => TRUE
);
```

Your host name

Database account

Database's name

Figure 118: Database.php file

- Then open config.php file at '..AngiProject\application\config.php' and configure base Url to your website domain

```
| If you need to allow multiple domains, remember that th
| a PHP script and you can easily do that on your own.
|
*/
$config['base_url'] = 'http://www.angivn.top/';

/*
|-------------------------------------------------------------
| Index File
|-------------------------------------------------------------
```

Figure 119: Base url

- After that,open file '…\AngiProject\resource\ckeditor\config.js' to change link to your website domain

```
            '/',
            { name: 'others', groups: ['others'] },
            { name: 'about', groups: ['about'] }
    ];

    var link = 'http://www.angivn.top/';

    config.filebrowserBrowseUrl = link + 'resource/ckfinder/ckfi
    config.filebrowserImageBrowseUrl = link + 'resource/ckfinder
    config.filebrowserFlashBrowseUrl = link + 'resource/ckfinder
    config.filebrowserUploadUrl = link + 'resource/ckfinder/core
    config.filebrowserImageUploadUrl = link + 'resource/ckfinder
    config.filebrowserFlashUploadUrl = link + 'resource/ckfinder
```

Figure 120: Ckeditor file

6.1.3.3 Installing database

- In host manager page, find and click on 'phpMyAdmin' in Databases group

Figure 121: phpMyAdmin icon

- After that, a new phpMyAdmin page will be displayed in your browser. From there click on SQL tab (1) then copy Database script content that we provide (can be found in project folder: \AngiProject\ database.sql) to input form (2) and click Go to create database (3).

Figure 122: Create database

- After this step, you can use Application normally by access to your domain.

Figure 123: Web application

6.1.3.4 Manage Admin account

- After install application, the default admin account is:

  User name: admin

  Password: 123456

- You can login to admin and go to profile page (login guide can be found below in user guide)

- After that go to admin profile by 'Thông tin cá nhân' link

Figure 124: Profile link

- In admin's profile page go to tab 'Đổi mật khẩu' to change password:

Figure 125: Change password form

- From there change password to make admin account become private for use in the future.

6.2 USER's GUIDE

6.2.1 Purposes

This document is created to instruct users of how to use main function in AGC system in computers, especially for restaurant owner to manage his/her content.

6.2.2 Functional Description

Users need only a device that has intenet connection and a web browser to access and perform general function in AGC system. Meanwhile, AGC also reserves functions for

specific types of users, means that they can access and manage theirs own privilege functionalilies while others cannot. The only requirement is users need to register on AGC system and are approved by admin (Admin account is manually created by Tra Da developing team).

6.2.3 Detailed Guidelines

6.2.3.1 Guide line for Admin management

6.2.3.1.1 How to access admin page

1. Login as admin (similar with Login – customer guide)
2. Hover mouse over "Xin chào Quản trị viên" text on the top right of the navigation bar, then click on "Quản trị" link

Figure 126: Profile link

6.2.3.1.2 Step by step to write a new

- Access admin page then click on “Tin tức”, then “Thêm mới” and enter data as needed and click “Cập nhật” button

Figure 127: Add new

6.2.3.1.3 Way to update or edit your news

1. Access admin page, then click on “Tin tức”, then “Tất cả”, and click on “Xem” button

Figure 128: Admin view new

2. Modify information as needed and click on “Cập nhật” button. You can also show/hide news by change status to active/ deactive.

Figure 129: Edit new

6.2.3.1.4 Plan to add category to website

- Access admin page, click on “Danh mục” tab, “Thêm mới” tab, then insert information as needed and click “Lưu” button

Figure 130: Add category

6.2.3.1.5 Update category

1. Access admin page, click on “Danh mục” tab, “Tất cả” tab, and then “Sửa” button

Figure 131: Edit category

2. Modify information as needed and click on “Lưu” button

Figure 132: Save change

6.2.3.1.6 How to activate or deactivate user

1. Access admin page then click on “Tài khoàn”, click on “Tất cả” tab

Figure 133 View user

2. Choose your desired restaurant and click on “Sửa” button

Figure 134: Edit restaurant

3. Click on “Duyện” check box to activate or deactivate user

Figure 135: Active user

6.2.3.1.7 Activate or deactivate restaurant guide

1. Access admin page and click on “Tài khoản” click on “Nhà hàng” tab

Figure 136: Manage restaurant

2. Choose your desired restaurant and click on “Sửa” button

Figure 137: Edit restaurant

3. Click on “Kích hoạt” checkbox to activate or deactivate restaurant

Figure 138: Active restaurant

6.2.3.1.8 How to rate a restaurant

- Follow steps similar to UC004 – 07: activate or deactivate restaurant, but instead of clicking on “Kích thoát” checkbox click on “Đánh giá nhà hàng” dropdownlist.

Figure 139: Rate restaurant

6.2.3.1.9 Delete a restaurant or user

- Delete restaurant follow steps similar to activate or deactivate restaurant, but instead of clicking on "Sửa" button click on "Xóa" button, then click on "OK" button in the dialog box

Figure 140: Delete restaurant

- To delete user, change to tab 'Tài khoản' and click delete corresponding to user then click ok in dialog to confirm that similar to delete restaurant

Figure 141: Delete user

6.2.3.1.10 How to manage all booking in your website

- In admin page move to 'Đặt chỗ' tab in left navigation to view list of booking

Figure 142: View booking

- Then you can click on 'xem' to view more detail about booking

Figure 143: Booking detail

- After that, you can click on 'Quay ve' to come back to booking list

6.2.3.1.11 View website statistic

- In admin page, click on 'Báo cáo' tab to view more information

Figure 144: Report

6.2.3.2 Guide line for Customer

6.2.3.2.1 How to login to your account?

1. Hover mouse over "Đăng nhập" text on the top right of the navigation bar

Figure 145: Login location

2. Click on “Đăng nhập button”

Figure 146: Login button

3. Enter user name or email and password into test boxes and click on “Đăng nhập button”

Figure 147: Login form

6.2.3.2.2 Logout from your account

Method 1**:** Hover mouse over "Xin chào" - your username/email text on the top right of the navigation bar, then click on "Đăng Xuất link"

Figure 148: Logout 1

Method **2:**

- Hover mouse over "Xin chào your username/email" text on the top right of the navigation bar, then click on "Thông tin cá nhân" link

Figure 149: Profile link

- Click on “Thoát” tab

Figure 150: Logout 2

6.2.3.2.3 View your account/profile

- Logged in as customer by
- Hover mouse over “Xin chào your username/email” text on the top right of the navigation bar, then click on “Thông tin cá nhân” link

Figure 151: Profile link

6.2.3.2.4 After that, you can update account

- In user's profile page, customer can edit information and click 'Cập nhật' to update account

Figure 152: Update profile

6.2.3.2.5 You can update password by following

1. On profile click on 'Đổi mật khẩu'.
2. Type old password, new pass word and re-new password that match new pass word
3. Click 'Cập nhật'.

Figure 153: Change password

6.2.3.2.6 Step by step to book restaurant

- On restaurant detail page, type booking detail (1) on the booking form on the right panel and then click on 'Đặt chỗ ngay' .

Figure 154: Booking

6.2.3.2.7 After that, you can view your booking history b

- Method 1: Hover mouse over name text on the top right of the navigation bar and click on 'Lịch sử đặt chỗ'

Figure 155: Manage booking

- Method 2: In profile page click on ‘Lịch sử đặt chỗ’ link

Figure 156: View booking

6.2.3.2.8 Step by step to upload your picture as avatar

- In user profile click on ‘Chọn ảnh’

Figure 157: Chose image

- Click Upload to upload a picture then double click on a picture to choose as avatar

Figure 158: Upload image

- Click 'Lưu' to save change

Figure 159: Save change

6.2.3.3 Guide line for restaurant management

6.2.3.3.1 How to add and update your restaurant

- After login to your restaurant owner account(similar to customer), click on 'Quản lí nhà hàng' in the menu

Figure 160: manage restaurant

- In the profile user can see restaurant information, if this is a new restaurant, all field will be blank. Then user can add or modify information. There are 4 tab to put information.

Figure 161: Restaurant description

Figure 162: Restaurant info

Figure 163: Menu

Figure 164: Address

- After type all information to form, user can click 'lưu' to save/update all restaurant information in bellows tabs.

Figure 165: Save change

6.2.3.3.2 Step by step to add or delete restaurant banner

Note: Restaurant must be activated to add or delete banner, user has maximum 6 banner.

- After go to profile (similar to UC 003_01). Click on 'Banner nhà hàng'

- Click on ‘Image’ picture to add and choose an image (similar to up avatar)

Figure 166: Add banner

- After double click on a picture, it will be add to restaurant banner
- Click on cross mark in the top of a banner to delete it

Figure 167: Delete banner

6.2.3.3.3 Set restaurant profile picture

- Similar to upload avatar in customer case. With owner, avatar is also restaurant profile picture.

6.2.3.3.4 How to add food to your restaurant

- In restaurant info page, click on tab ‘Món ăn’ then click ‘Thêm món ăn’

Figure 168: Add food

- An input form will be displayed, then insert food information to form, you can also upload image for food like upload avatar

Figure 169: Type food info and save

- Check or uncheck ‘Kích hoạt’ to active/deactivate food
- After all click on ‘Cập nhật món ăn’ to save change

6.2.3.3.5 View – Update food

- On food panel, click on 'sửa' button corresponding to food then a new edit form will be displayed with old information.

Figure 170: Update food

- Now you can modify info, change avatar and click 'Cập nhật món ăn' to save change

6.2.3.3.6 Delete food

- In food panel, click on delete button next to a food, then a confirm dialog will be display, click ok to remove food from restaurant

Figure 171: Delete food

6.2.3.3.7 Guide for manage booking

- On profile, click on 'Quản lí đặt chỗ' then click 'xem' to view a booking detail

Figure 172: Manage booking

- Change booking status and click ‘Cập nhật trạng thái’ to save change

Figure 173: Update booking status

6.2.3.4 Guide line for Guest

6.2.3.4.1 How to access to our website?

- On the browser, type ‘http://angivn.top/’ and press enter then website home page will be displayed on your screen.

Figure 174: Access to system

- From here you can borrow many restaurants. We also filter some restaurants by top sale, top rate for you to find easier. To view more click 'Xem tất cả'

Figure 175: View home content

6.2.3.4.2 List all restaurant in a category by

- Hover mouse over "Ẩm thực" text on the top menu then chose a category

Figure 176: Chose category

- After that website will move to category page as bellow

Figure 177: View result

- Then you can filter restaurant by left navigation panel.

6.2.3.4.3 Find restaurant by using search box and filter result

- Click on search box at the top right of website and type search key word in this

Figure 178: Search box

- Then click on magnifying glass icon to start searching, after that website will display search result page as bellow

Figure 179: Search result

- After that look at left navigation, by click on this you can filter result base on location or category.

6.2.3.4.4 How to read restaurant detail page

- To view a restaurant detail, click on restaurant avatar that you see by using search or filter function, then website will move to restaurant page as bellow

Figure 180: Restaurant detail page

- Click to ‘Bảng giá’ tab to view more about restaurant’s menu

Figure 181: Menu tab

6.2.3.4.5 Step by step to view website’s new

Method 1: View news by category

- Hover mouse over “Tin tức” text on the top menu then chose a category

Figure 182: News category

- Click on a category bellow to go to view category page

Figure 183: News by category

- Then click on a new to read detail

Đặt bàn trước khi đi ăn – "Thước đo văn hóa" tương lai của người Việt

Những dịp lễ lớn trong năm như: 8/3, 20/10, hay những ngày cuối tuần, lượng khách đến ăn tại nhà hàng luôn tăng đột biến từ 10-30% và câu chuyện "cháy chỗ" lại là đề tài muôn thuở. Chưa đặt trước, hết chỗ khi tới, nhiều "thượng đế" đã dùng lời lẽ rất khó nghe, thậm chí buông tục, chửi bới nhân viên phục vụ cho hả giận.

1. Người Việt Nam: Đặt bàn làm gì? Đi ăn, thích lúc nào thì đi lúc đó!

Các quán ăn, nhà hàng trên phố vào dịp cuối tuần luôn tấp nập người ra vào. Phóng viên chúng tôi dừng lại ở nhà hàng Quán Ăn Ngon – một nhà hàng khá nổi tiếng – để thực hiện một cuộc khảo sát nhỏ thì phát hiện một đoàn người đang đứng trước quán và buông ra những lời lẽ rất khó nghe trong khi nhân viên phục vụ mặt tái mét và ra sức xin lỗi khách.

Qua tìm hiểu, chúng tôi mới biết rằng đoàn khách đó không đặt bàn trước tại quán, lại đến đúng vào giờ cao điểm, nhà hàng không còn chỗ trống nên buộc lòng phải từ chối khách để đảm bảo chất lượng phục vụ.

Dù tôi rất thông cảm với sự khó chịu khi đã đến tận nhà hàng mà lại không được phục vụ, nhưng thiết nghĩ, tại sao khách hàng lại không bớt chút thời gian, dành ra chỉ khoảng 1 phút đồng hồ để gọi một cuộc điện thoại đặt bàn trước, chẳng phải như thế nhất định sẽ nhận được sự tiếp đón và chuẩn bị tốt nhất của nhà hàng hay sao? Hay nói đi cũng phải nói lại, vẫn là do văn hóa đặt bàn, đặt chỗ trước vẫn chưa được phổ cập đến một bộ phận không nhỏ người Việt?

Figure 184: Read new

- Method 2: View newest news by go to the button of home page to view

Figure 185: New at footer

6.2.3.4.6 How to Like, share, comment a restaurant

Note: We use Facebook API for this function so you have to log in to Facebook.

- In restaurant detail page go to button you will see social group here

Figure 186: Facebook function

- From here you can like/unlike, share by click on corresponding button
- You can comment to restaurant by Facebook post form
- You can also like, reply another's comment,… and another Facebook function here.

6.2.3.4.7 Step by step to register an account

- Hover mouse over "Đăng nhập" text on the top right of the navigation bar, then click on "Đăng ký" link

Figure 187: Register link

- Then website will go to register page like bellow

Figure 188: Register form

Note:

_ (*) field is required.

_ Password length is at least 6 characters.

_ Email must following format xxxx@xxx.xxx.

_ Password must match re-Password

6.3 PROJECT RESULT REPORT

6.3.1 Product Judging

6.3.1.1 Advantages of AGC web application

AGC system is developed based on the understanding of internet and computing devices. Both of them are used everywhere and in every field in life which have made our day to day tasks become easier and simpler. Therefore, AGC system provides users functionalities to access information anytime and anywhere.

5. **Admin**
   - ✓ Admin is a website site owner which he/she/they can gain profit generated by AGC system.
   - ✓ Able to control users' account and check the system status.
6. **Customers**
   - ✓ Check menu in restaurants.
   - ✓ Check restaurants' addresses.
   - ✓ Check which restaurants has top rating.
   - ✓ Check which restaurants has the highest discount.
   - ✓ Make an online table booking.
   - ✓ View others restaurants' information in detail.
   - ✓ View restaurants' list based on interest, address, restaurant category, etc.
   - ✓ Have a quick search for any interested information.
   - ✓ Interact with social network.
7. **Restaurant owners**
   - ✓ Help restaurant owners to have more channel to communicate their products or services to their potential customers.
   - ✓ Manage table booking online.
   - ✓ Check business status by viewing statistical data in the system.
   - ✓ Restaurant owner account can be used as customer account which he/she can perform all functionalities those customer is able to.
8. **Guests**
   - ✓ View all restaurants' information.
   - ✓ View all general information in AGC system.

6.3.1.2 Current limitations of AGC web application

- Functions for restaurant owners cover only basic functions.
- Users cannot directly rate restaurants and give reviews.
- Like and Comment functionalities still rely on social network.
- Images management still rely on third party web server.
- Customers cannot have a live chat with restaurant owners.
- No live notification service for users.
- Numbers of registered restaurants cover only Hanoi, Vietnam.
- Some graphical user interfaces do not provide understandable look and feel to users enough.
- Language used is only Vietnamese.

6.3.1.3 Expectation in the future

- Develop more functionalities for restaurant management.
- Manage images purely in AGC system without using third party server.
- Develop live chat functionality between Customers and restaurant owners.
- Develop live notification service for users.
- Expands area of registered restaurants while maintain original areas.
- Develop functionality for users to be able to swap between English and Vietnamese languages.

6.3.2 Project Summary

Project title		AGC	
Project advisor		Mr Nguyen Van Sang	
committers: 5			
1	Project manager	Soulivong Phimmathong	soulivongse03451@fpt.edu.vn
2	Requirement analysis leader	Nguyen Huu Thao	thaonhse03334@fpt.edu.vn
3	Software design leader	Vu Hoang Hieu	hieuvhse03030@fpt.edu.vn

4	Development leader	Hoang Van Canh	canhhvse03271@fpt.edu.vn
5	Quality assurance leader	Nguyen Hoang	hoangnse03193@fpt.edu.vn
Main objective		develop a web application that connect customers to restaurant owners	
Purpose		provides a convenient way for users to access restaurants' information	
Items		**Plan**	**Actual**
Release date		24 August 2016	24 August 2016
Release version		1.0	1.0
Days			144
Weeks			20 weeks and 4 days
Months		4	4 months and 22 days
Test cases + checklists			191
Documentation pages			257
Lines of code			Approximately 12470

Figure 189: AGC project summary

6.3.3 Lessons Learnt

6.3.3.1 Project management skill

✓ **Work schedule:** we know how to create a plan for daily, weekly and even monthly to ensure the project will reach its goal. All steps of working processes are preliminary planned, and then assigned tasks to members which are given deadlines.

✓ **Time management:** Even though, we have created a clear schedule. But coding and documenting processes took longer time than they supposed to be. Therefore, in the last phase of development we had a very frequent meeting, working hard all day, and a little more at night in order to bring the work on schedule.

✓ **Human management:** from this project we have learnt that team work is the most important component in software development and in all others working field. We have

more understanding of each member habit, his/her strengths and weaknesses. With this we can ensure that everyone will get the right work load that is suitable to his/her abilities, and he/she will engage to the tasks with satisfaction.

- ✓ **Integration management:** We know how to put many complex components in software system together and successfully deploy AGC system.

6.3.3.2 Soft skill

- ✓ **Communication Skill:** we have known what tools to be used and when to be used in order to communicate effectively.
- ✓ **Team work:** before join AGC project we do not know each other before, but suddenly we are grouped together. During 4 months working together, spent a lot of time together, helping each other to solve problems. Most of the time we have conflicts with each other, but those things could be passed because we understand each other and have the same goal which is to accomplish the project successfully.

6.3.3.3 Technical skill

- ✓ Documentation: a lot of technical documents were created, we have learnt how to write software documentations and used a lot of tools in software documenting.
- ✓ Programming languages: Php CodeIgniter framework, MySQL, HTML, CSS, bootstrap, JavaScript, Juery, etc.
- ✓ We know to publish website on the internet using host and domain
- ✓ Have more understanding of software architecture
- ✓ Have more understanding of software testing
- ✓ Know how to use Github and Tortoise Git.

7 REFERENCES

- Foody.vn Hà Nội, viewed 23/5/2016 www.facebook.com/FoodyHaNoi/?fref=nf
- Foody.vn website, viewed 23/5/2016 www.foody.vn/ha-noi
- Lozi.vn website, viewed 23/5/2016 lozi.vn/a/ha-noi
- Information Technology Project Management | 7e Kathy Schwalbe textbook.
- www.projectmanagementdocs.com/project-documents/quality-checklist.html#axzz49LxmQ8h0

- en.wikipedia.org/wiki/Rational_Unified_Process

- AGC_WorkSchedule.mpp

- AGC_Risk_Register.xlsx

- AGC_Risk_Probablity_and_Impact_Matric.xlsx

- www.codeigniter.com

- www.tutorialspoint.com/sdlc/sdlc_v_model.html

- AGC_Test_Cases_V1.0.xlsx

- AGC_Defect_Logs_V1.0.xlsx

- www.tutorialspoint.com/sdlc/sdlc_v_model.html

- www.sqaforums.com/attachments/437212-WebApplicationTesting.doc

- AGC_Test_Cases_V1.0.xlsx

- AGC_Defect_Logs_V1.0.xlsx