

FPT UNIVERSITY

CAPSTONE PROJECT DOCUMENT

AGC101

Report #2 – Software Project Management Plan

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Project Code	AGC101

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1 INTRODUCTION

1.1 Purpose

The purpose of this document is to be used as a guide for AGC software development process, it briefly describes steps of what to be doing first and later. The document will be used by project manager to ensure AGC web application will be completed successfully.

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 1 Definitions and Acronyms

1.3 References

1. *Information Technology Project Management / 7e Kathy Schwalbe textbook.*
2. <http://www.projectmanagementdocs.com/project-documents/quality-checklist.html#axzz49LxmQ8h0>

3. https://en.wikipedia.org/wiki/Rational_Unified_Process
4. *AGC_WorkSchedule.mpp*
5. *AGC_Risk_Register.xlsx*
6. *AGC_Risk_Probability_and_Impact_Matric.xlsx*

2 PROJECT OVERVIEW

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 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

2.3 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.

2.4 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	Completed 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 2 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
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Table 3 Deliverables

3 PROJECT ORGANIZATION

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.

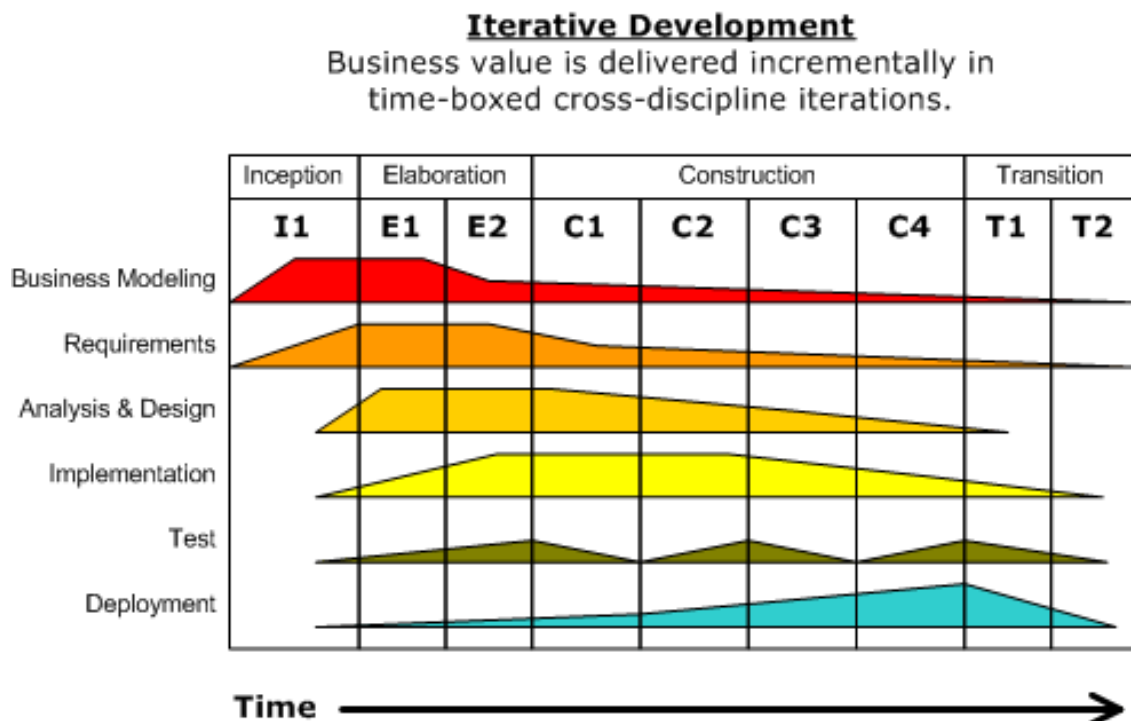


Figure 1: Rational Unified Process Model

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.

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.

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.

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.

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.

3.3 Organizational Chart

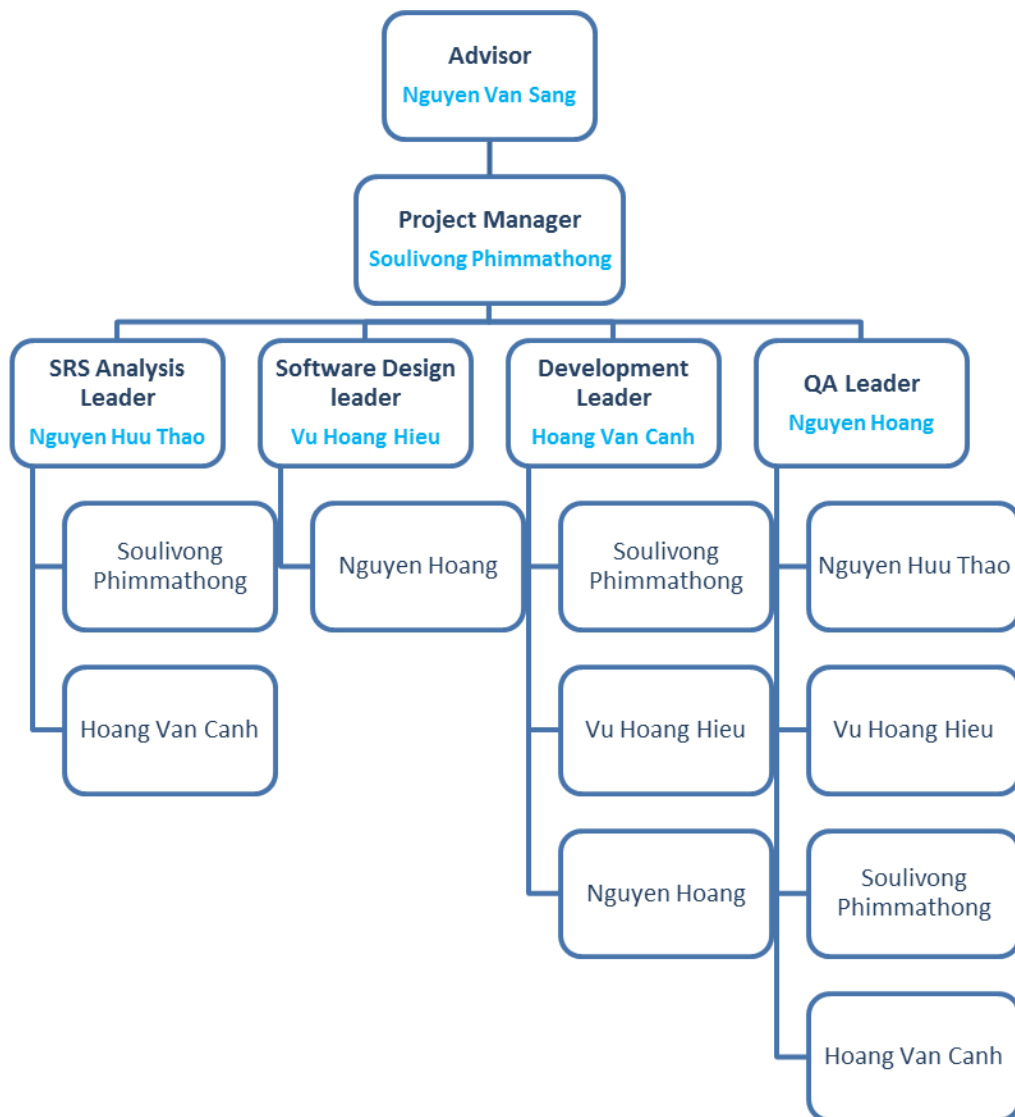


Figure 2: AGC101 Organizational Chart

3.4 Roles and Responsibilities

Full Name	Roles	Responsibilities
Nguyen Van Sang	Team Advisor	<ul style="list-style-type: none"> ▪ Give team direction. ▪ Give team consultation. ▪ Approve all deliverables. ▪ Approve project success or fail.

Soulivong Phimmathong	Project Manager	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ Lead collecting and analyzing software requirements. ▪ Complete SRS documentation.
Soulivong Phimmathong	SRS Analysis member	<ul style="list-style-type: none"> ▪ Work closely with the SRS analysis leader.
Software Design		
Vu Hoang Hieu	Software design Leader	<ul style="list-style-type: none"> ▪ Lead and design the look and feel of AGC web application. ▪ Complete SDD documentation.
Nguyen Hoang	Software design member	<ul style="list-style-type: none"> ▪ Work closely with the Software design leader.
Development		
Hoang Van Canh	Development Leader	<ul style="list-style-type: none"> ▪ Lead coding team. ▪ Demonstrate the completed sytem.
Soulivong Phimmathong	Development member	<ul style="list-style-type: none"> ▪ Work closely with the Development leader.
Vu Hoang Hieu	Development member	<ul style="list-style-type: none"> ▪ Work closely with the Development leader.

Nguyen Hoang	Development member	<ul style="list-style-type: none"> Work closely with the Development leader.
Testing		
Nguyen Hoang	QA Leader	<ul style="list-style-type: none"> Lead Testing team. Complete STD.
Nguyen Huu Thao	QA member	<ul style="list-style-type: none"> Work closely with the testing leader.
Vu Hoang Hieu	QA member	<ul style="list-style-type: none"> Work closely with the testing leader.
Soulivong Phimmathong	QA member	<ul style="list-style-type: none"> Work closely with the testing leader.
Hoang Van Canh	QA member	<ul style="list-style-type: none"> Work closely with the testing leader.

Table 4: Roles and Responsibilities

4 TOOLS AND INFRASTRUCTURES

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 5 Hardware tool

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 6 Software tools

5 SCHEDULE

5.1 Detailed Schedule

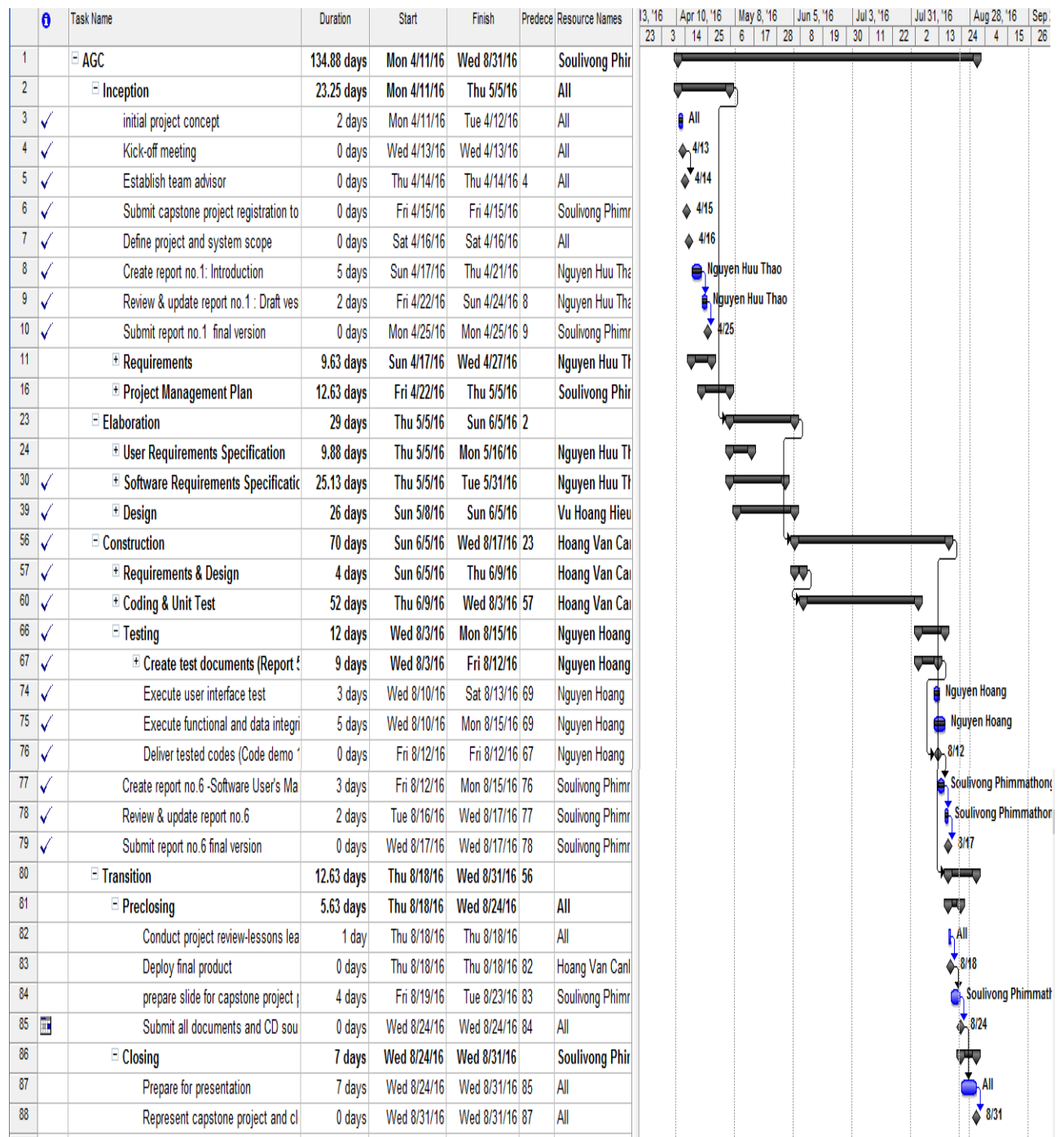


Figure 3: AGC_Project_Schedule

See AGC_WorkSchedule.mpp for details.

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.

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 7 Effort estimation

6 RISK MANAGEMENT

6.1 Risk Register

See AGC_Risk_Register.xlsx file for detail.

6.2 Risk probability and impact matrix

See AGC_Risk_Probability_and_Impact_Matric.xlsx for detail.

7 QUALITY MANAGEMENT

7.1 Quality Checklist

Quality Checklist

Project: AGC101				Date: 20 Aug 2016
	Verification			
Quality Item	Yes	No	N/A	Comments
Does the project have an approved quality management plan?	Yes			
Has the quality management plan been reviewed by all stakeholders?	Yes			
Do all stakeholders have access to the quality management plan?	Yes			
Is the quality management plan consistent with the rest of the overall project plan?	Yes			
Have product quality metrics been established, reviewed, and agreed upon?	Yes			
Have process quality metrics been established, reviewed, and agreed upon?	Yes			
Is the project team familiar with the project's quality review process?		no		QA still new to team members

Does the project have an appropriate number of resources assigned for quality assurance and control?	Yes			
Has the project team established a repository for all quality documentation?	Yes			
Do all team members have access to the quality documentation repository?	Yes			
Have all appropriate team members been notified of their required participation in quality reviews?	Yes			
Have quality responsibilities been assigned and documented and the applicable personnel notified?	Yes			
Have product and process quality standards been established, documented, and communicated?	Yes			
Have quality thresholds and limits been established, documented, and communicated?	Yes			
Does the change control process accommodate project changes based on quality improvements?	Yes			
Has a project quality manager been assigned?		no		all members follow test cases

Table 8 Quality checklist

7.2 Quality Assurance

- ✓ Test coverage $\geq 90\%$
- ✓ 0 severity bug found, less than 10 bugs those are less harmful found.
- ✓ Passed unit test
- ✓ Passed integration test

- ✓ Accepted by the AGC advisor

7.3 Quality Control

- ✓ Perform software testing level: Unit testing, Integration testing, System testing,
- ✓ Benchmarking by compare with the current website such as <http://pasgo.vn/>
- ❖ Use Check sheet to control defects as the template below:

Defect	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Defect #1								
Defect #2								
Defect #3								
Defect #4								
Defect #5								

Table 9 Defect check sheet

- ❖ Use scatter diagram for user satisfaction and age of respondent as the template below:

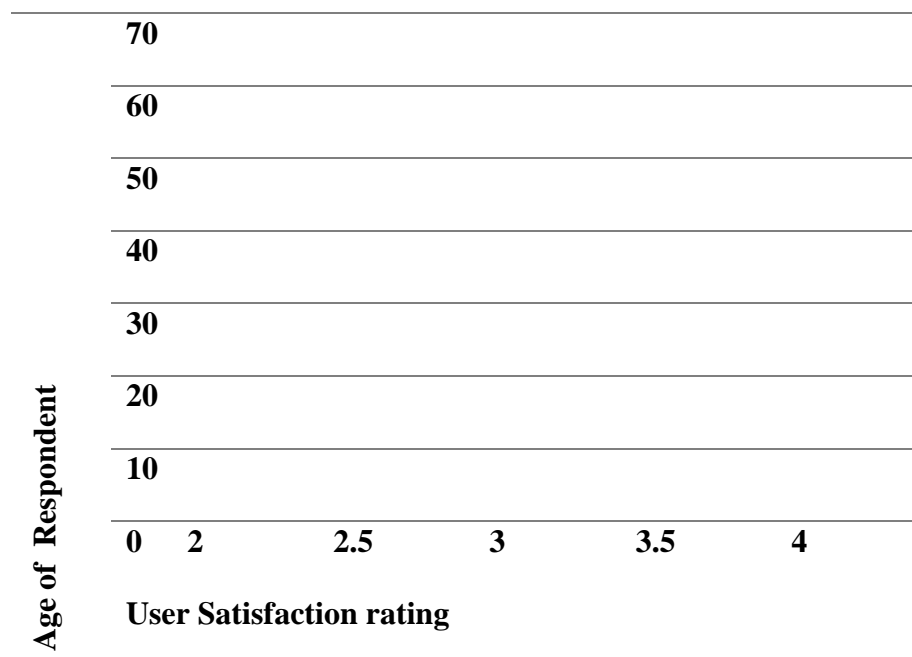


Figure 4 QC scatter diagram

8 CODING CONVENTION

8.1 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

8.2 File naming convention

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

Ex: AGC _Report2_SPMP.docx