



CAPSTONE PROJECT 1

CMU-SE-450

Proposal Document

v 2.2

Green Big5 Information System

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Name

Signature

Date

Binh, Thanh Nguyen _____ 31 - Nov- 2021

A handwritten signature in blue ink, appearing to read 'Binh, Thanh Nguyen', placed over a horizontal line.

PROJECT INFORMATION

| Project acronym | GB5 | | | | | |
|--|---|------------------|---------------------------------|-------------|--|--|
| Project Title | GreenBig5 | | | | | |
| Start Date | 19 Aug 2021 | End Date | | 28 Dec 2021 | | |
| Lead Institution | International School, Duy Tan University | | | | | |
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REVISION HISTORY

| Version | Date | Comments | Author | Approval |
|----------------|----------------|----------------------------------|-----------------|-----------------|
| 1.0 | 19- Aug - 2021 | Initiate proposal | Chinh, Thai Huu | X |
| 1.1 | 31-Aug-2021 | Update content & format | Chinh, Thai Huu | X |
| 1.2 | 01-Sep-2021 | Update content & format | Chinh, Thai Huu | X |
| 2.0 | 28-Sep-2021 | Update new function and system | Chinh, Thai Huu | X |
| 2.1 | 10-Nov-2021 | Update new function and system | Chinh, Thai Huu | X |
| 2.2 | 15-Nov-2021 | Update background and conceptual | Chinh, Thai Huu | X |

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1. Introduction

1.1 Propose of this document

- Define the business need and problem in detail.
- Provide solutions for business needs.
- Provide an overview of the resources, schedule, solution, and budget for the project.

The proposal merely introduces the project to the student development teams and provides the up-front information necessary for the team to develop a specification.

1.2 Background

1.2.a Environmental state

Nowadays, the environmental problem is the most concerning problem not only in Viet Nam but the World as well [11]. This problem is the main cause of human development as well as civilization. For example, air pollution from the factory's emissions are one of the main reasons for many dermatology diseases, or the biggest destruction from air pollution is the ozone layer that was punctured the first time on September 9th, 2000, and it has been punctured a lot since then [9]. There is increasing awareness of the subject of environmentalism around the world. According to research in the United States, public awareness of climate change has increased in the last decade [14]. Almost 97% of people are aware of global warming and environmental problems [15]. According to Gifford (2008)[13], climate change is affecting many people and places with global warming, pollution, and severe weather patterns; this trend will continue unless changes are made to protect the environment [10].

1.2.b Big5 model

Big5 model, known as O.C.E.A.N model [8], is a psychological model researched and developed by many scientists around the world. Five factors of the Big5 model are: Openness to knowledge/experience (O), conscientiousness (C), extraversion (E), agreeableness, and neuroticism (N) as illustrated in figure 1-1 [6, 8,10].This model is believed that each personality has five factors(Big5 traits) and it determines the expression level of each of these factors [8] . The big5 models of personality traits have shown to be reliable in predicting many areas of a person's life [10]. For example, positive and negative affect, life and marital satisfaction, career achievement, and life span are correlated with big five traits [8].

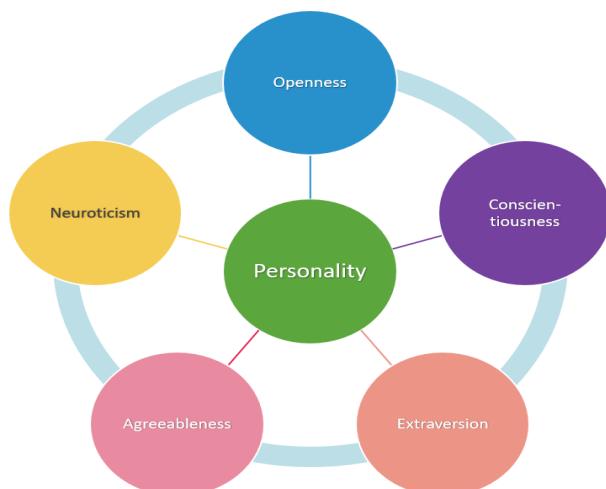


Figure 1-1.4: Big five personality model

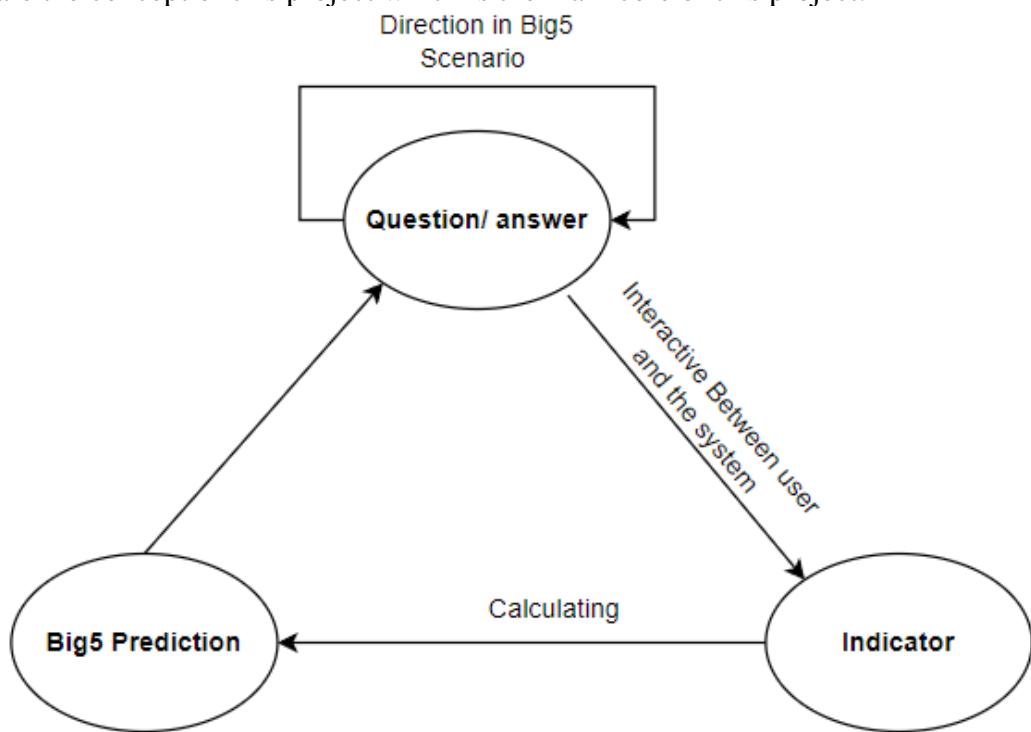
1.2.c Big5 trait and environment impact

According to [10], Big5 personality traits and environment have an engagement. Following a study, they found that there is a positive correlation between environmental concern and the personality traits of agreeableness and openness. They also found the traits of neuroticism and conscientiousness to be correlated, but not as strongly. In this study, they determined if concern and attitudes were also related to performing pro-environmental behaviors. The purpose of this study was to explore if there was a positive relationship between one or more personality traits of the big five and proenvironmental attitudes and behaviors[6].

From [6], we started our GreenBig5 (GB5) project to collect user personality traits, from that to find their effect on the environment and have solutions for each type of Big5 personality trait. This could help the government and the enterprise know about their customers and have a strategy for them to reduce their harmful effect on the environment [6,10].

1.3 Conceptual description

Below are the concept of this project which is the main core of this project:



Question/ Answer(1): Interact with the user by sending questions and receiving answers directed by the Scenario. Following the Scenario and (3), the system continues to interact with the user to have a specific view of the user's personality traits.

Indicator(2) (Big5 Indicators[*]): From Question/Answer, the system can extract information according to the app-user's answers to calculate indicators.

Big5 Prediction(3): Based on the calculated indicators, the user's personality traits can be predicted.

This repeatable life cycle can be performed multiple times to train and test the system based on the Q&A package and its workflows. As a result, the user's personality can be classified.

1.4 Project goal

The aim of this project is to build a GreenBig 5 information system (GB5), i.e. GB5 App, database and GB5 Dashboard:

GB5 App: User data can be collected and used to predict her/his personality by sending questions and receiving answers(1).

GB5 Dashboard: Support for creating question packages which used to direct the user follow the environment theme. With each question, users can be distributed by Indicator (2). Finally, by using a prediction method to predict the user's personality traits(3).

As a result, government authorities, enterprises, as well as users would have an overview of the environment and have a better solution to change user behaviour and to reduce and prevent it from the bad effect.

2. Problem Definition

2.1 Non-functional requirement

Below are the non-functional requirement that are being offered for this system:

- **Security:** Users can use the system without the fear of revealing personal information.
- **Usability:** with a friendly and flexible user-interface, users can have a great experience when using the system.
- **Portability and compatibility:** The system is operated on the Fullter framework and has the ability to run on any Operating system such as Android or IOS.

2.2 Functional requirement

Below are the functional requirement that are being offered for this system, which are the main purpose of this project:

- **GB5 Application**
 - Login/Sign in: Users can login to the BG5 Application to use it if they already have an account, or they can register if they don't.
 - View the question: Users can see the question in the BG5 Application.
 - Answer the question: Users can answer the question in the application.
- **GB5 data management system**
 - Store user information.
 - Store Big5 indicator, so that the Model can receive to predict Big5 traits.
 - Store user's Answer.
 - Interact with the GB5 App to show the question.
 - Send the big5 questions based on the big5 scenario [**].
 - Show data into a dashboard to manage the data.
- **GB5 Dashboard**
 - Visualize User trait data, sent question and the answer
 - Visualize User trait point
 - Send question to user setted by Big5 Scenario [**].
 - Store question, Big5 Indicator [*].
 - Modify the question package.

2.3 Some definition in this project

In this project, you would see some strange words or theoretical definitions, this could explain shortly about them:

Big5 indicator [*]

The Big5 indicators are the characteristics, a sign of presence or absence of one or many Big5 traits.

As we know Big5 divides into 5 different traits (O.C.E.A.N) [6,7,8,10]. Based on that the Big5 indicator will be retrieved and calculated from these traits. Some example of the big5 indicator are:

- Logic game: Calculated when the users answer the question about their hobbit with the logical game.
- Do something during an argument or business: Calculated when users answer the question about their behavior when they have a fight or an argument.
- Detail-oriented: Calculated when users answer the question about the behavior about their daily life/work.

By using the Big5 indicator, we can calculate the Big5 trait of the user based on their answer on the GB5 Application. This support will set-up a data-set for machine learning.

Big5 Scenario []**

The Big5 scenario provided a questions/answers route for the GB5 Application based on many types of users such as: the new user, the user who has been using the Application,... Not only that, this set-up rule sends the question to a specific user's group. This would help the system have a specific for classfile user personality trait.

Pro-Environmental behaviors: Behaviors that are aimed at reducing climate change or consequences of climate change (Gifford, 2008).[6]

Pro-Environmental concern: Values, attitudes, and beliefs that a person has that leads them to be ecologically conscientious (Jimenez-Sanchez, & Lafuente, 2008). There is also a belief that all people have a relationship with the environment (Jimenez-Sanchez & Lafuente, 2008). Often these attitudes will lead to behaviors or actions to protect the environment. The terms concern and attitude may be used interchangeably.[6]

3. Current Status of Art

These are some research had been made to find the connection between Big-five personality trait and environmental behavior:

[6] is research created by Tara Rae Wuertz from Walden University, Minneapolis, Minnesota. USA in 2015. By surveying the student, they have found the correlation with a person's pro-environmental behavior and the big5 personality traits. [<https://www.proquest.com/openview/f425c164f6b1921a0de75c9ef707de98/1?pq-origsite=gscholar&cbl=18750>]

[7] is a project operated by Doctor. Habil. Binh, Thanh Nguyen and partner to find the user's personality trait by using their mobile log data. [https://link.springer.com/chapter/10.1007/978-981-32-9186-7_25].

[8] is a website to find user's big-five traits by using a specific survey call - big5 survey. This also has a lot of research about big-five, and the big-five's usability [<https://bigfive.vn/>].

It can be seen that Big-five personality traits have been used in many different ways such as finding jobs, directing users to use suitable services.... But now, we are facing the consequences of what we do to the environment. By using Big5 personality traits this would help the government and the enterprise and any organization who has interest in the environment problem. Although Big5 models have been applied in many software products to help people in making decisions, there wasn't any help in making decisions to protect the environment [6,10]. This is the reason we built this system called Big Green 5 (GB5), which includes a BigGreen Application to collect user data, the BigGreen Dashboard to generate the question and calculation to predict the personality of the user based on the answer and the indicator. With the BigGreen system - the first system to help governments and organizations in protecting the environment in the market, we can find out the user's personality, after that we find the impact of the user to the environment to have a better solution to limit bad effects to the environment.

4. Engineering Approach (including solution alternatives)

4.1 System Overview

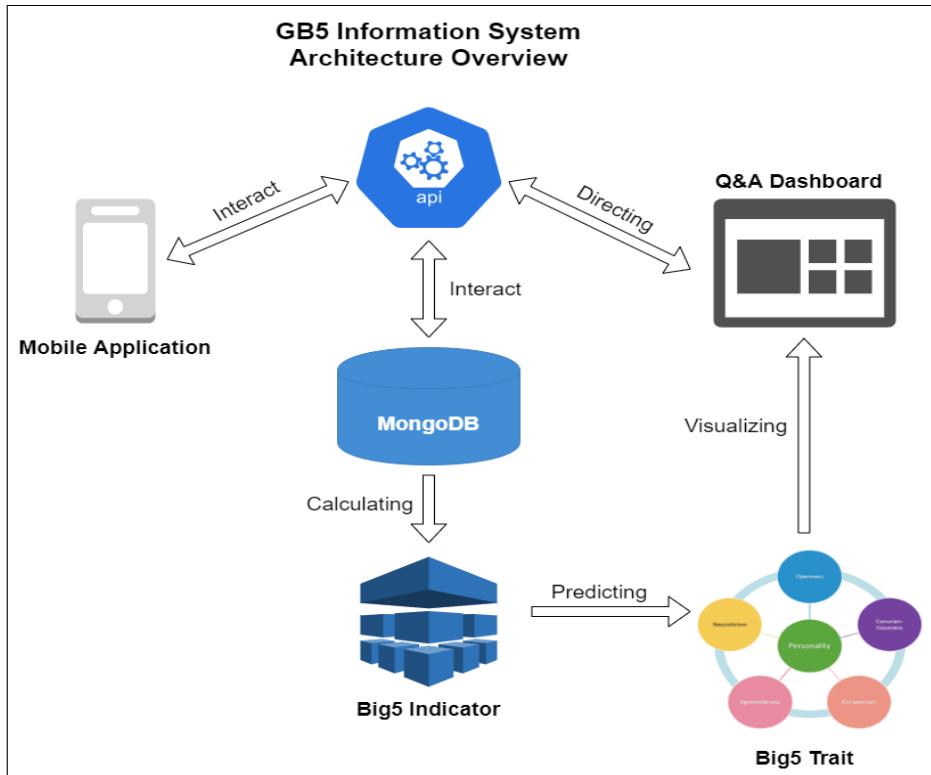


Figure 1-4.1: The overview of GreenBig5 System

In this system, The GB5 Application is used to collect user data based on the Big-five questions that have been answered, which have been stored in the database.

Besides, the GB5 database will store Big5 indicators, and questions, as well as store user's data and their personality traits. also store the question pack on each trait for the user, who has been using the application. Based on the big5 scenario[**], the GB5 database can send questions to the GB5 Application for the user to view and answer. This would help the system send the question to the user without intruding on the user's private life.

Finally, the GB5 Dashboard creates the question package and visualizes answer data. So that the system will classify the user into a temper group (O,C,E,A,N) based on the Big5 Indicator[*]. The Admin will resend a question to those group following by the rule from Big5 Scenario[**]. The system will re-filter the user to get a specific view of user personality. By collecting the user's answer data the system will find the user's trait point which will be set-up for the machine learning. For example:

User A answer the question package, the system calculate he/ she have trait point base on the Big5 Indicator[*] set $\{O,C,E,A,N\} = \{80,65,55,40,40\}$ can be set as $\{H,M,M,L,L\}$ at this moment user A will be set in the O team. After that, the Content Manager will send a question with the Big5 indicator showing $\{O,C,E,A,N\} = \{O\}$ has high point (H) to the O team. Also, if C and A are medium points (M) in the Big5 indicator [*] the system sends this question to the C and A team as well.

4.2 System Detail

4.2.a GB5 App

- Interact with user using the system
- Allow user to use these function:
 - Login/Sign up.
 - View the question.
 - Answer the question.
 - Logout
 - Edit user information
- Interact with GB5 Database to store data.
- Collect user information: Phone number.
- Show Big-five questions for the user to answer.

4.2.b GB5 Database

- Storage user data, user personality trait, Big-five question and indicator.
- Interact with GB5 Application to send questions based on the Big-five scenario [**].
- Receive a question in the dashboard and send it to the user.

4.2.c GB5 Dashboard

- Visualize User trait data, sent question and the answer
- Visualize User trait points.
- Send question to user set based on Big5 Scenario [**].
- Store question, Big5 Indicator [*].

4.3 Technical to develop

Main programming language: JavaScript, Dart.

4.3.a GB5 Application:

- Programming Language: Dart, Flutter.
- Tool: Android studio.

4.3.b GB5 Database:

- Programming Language: NodeJs
- Database: MongoDB
- Tool: Visual studio code.

4.3.c GB5 Dashboard:

- Programming Language: NodeJs
- Tool: Visual studio code.
-

4.3.d Communication, Management, Design tool

- Communication: Skype, Mail, Slack.
- Management: Github, Trello.

5. Tasks and Deliverables

5.1 Tasks

| Task Number | Task title |
|-------------|--|
| 1 | Preparation. |
| 2 | Collecting Big-five data. |
| 3 | Collecting Big-five indicators[*] and building Big-five questions from the indicator and finding from other sources. |
| 4 | Inspecting Big-five indicators[*] and questions. |
| 5 | Build the question/answer scenario[**] based on Big-five trait |
| 6 | Build UI for GB5 Application. |
| 7 | Physical database design. |
| 8 | Build a demo of the GB5 Application with the scenario. |
| 9 | Build GB5 database. |
| 10 | Import Big-five indicator[*] and Big-five questions into the GB5 database. |
| 11 | Design GB5 Dashboard UI |
| 12 | Develop GB5 Dashboard |
| 13 | Visualize User data into the Dashboard |
| 14 | Send question function testing |
| 15 | Release. |

Table 5.1: Tasks

5.2 Deliverables

| No | Active(s) | Deliverables |
|----|------------------|--------------------------------|
| 1 | Project proposal | Project proposal document v2.2 |
| 2 | Project Plan | Project plan document v2.4 |
| 3 | User Story | User Story document v.1.3 |

| | | |
|----|---------------------------------|--------------------------------------|
| 4 | Sprint backlog & Burndown Chart | Sprint backlog & Burndown Chart v1.4 |
| 5 | Architecture Document | Architecture Document v1.3 |
| 6 | Database Design | Database Design Document v1.1 |
| 7 | Interface Design | Interface Design Document v1.1 |
| 8 | Test plan | Test plan document v1.0 |
| 9 | Test case | Test case document v1.0 |
| 10 | Acceptance Criteria | Acceptance criteria v1.0 |
| 11 | Team Reflection | Team reflection v1.0 |
| 12 | Technology stack | Technology stack document v1.0 |
| 13 | Description of requirement | Description of requirement v1.0 |

Table 5.2: Deliverables

6. Project Management

6.1 Human resources

| Full name | Phone | Email | Position |
|--------------------|--------------|---------------------------------|--------------------------|
| Binh, Nguyen Thanh | 0905 881 881 | binh.iiasa@gmail.com | Mentor, Stakeholder |
| Chinh, Thai Huu | 0962 545 506 | huuchinhdev@gmail.com | Content management |
| Chung, Hoang Bao | 0889 192 932 | baochungal@gmail.com | Back-end Developer |
| Loc, Nguyen Tien | 0932478789 | nguyentienloc18122000@gmail.com | Back-end Database |
| Hau, Phuc Bui | 0906 518 281 | bphau121020@gmail.com | Application developer |

Table 6.1: Human Resources

6.2 Cost/Budget for Project

| Sprint | Duration(hour) | Cost(\$) |
|--------------|----------------|---------------|
| 1 | 376 | \$752 |
| 2 | 356 | \$712 |
| 3 | 387 | \$774 |
| 4 | 498 | \$1996 |
| Total | 1617 | \$4234 |

Table 6.2: Cost/Budget for Project

6.3 Tentative Schedule

| No | Task name | Duration | Start | Finish |
|----------|--------------------------|----------------|--------------------|--------------------|
| 1 | Pre-study | 16 days | 15-Aug-2021 | 04-Sep-2021 |
| 1.1 | Gathering requirement | 2 days | 15-Aug-2021 | 17-Aug-2021 |
| 1.2 | Create proposal document | 6 days | 17-Aug-2021 | 22-Aug-2021 |
| 1.3 | Project Kick-off Meeting | 1 days | 23-Aug-2021 | 23-Aug-2021 |
| 1.4 | Submit proposal | 3 days | 24-Aug-2021 | 27-Aug-2021 |
| 1.5 | Present proposal | 5 days | 29-Aug-2021 | 04-Sep-2021 |
| 2 | Development | 84 days | 06-Sep-2021 | 12-Dec-2021 |
| 2.1 | Sprint 1 | 28 days | 06-Sep-2021 | 03-Oct-2021 |
| 2.2 | Sprint 2 | 28 days | 04-Oct-2021 | 31-Oct-2021 |
| 2.3 | Sprint 3 | 28 days | 01-Nov-2021 | 28-Nov-2021 |
| 3 | Retrospective | 1 days | 15-Dec-2021 | 15-Dec-2021 |
| 4 | Final Release | 3 days | 16-Dec-2021 | 18-Dec-2021 |

Table 6.3: Master plan

6.4 About Scrum

Scrum is an agile method, so it follows the principles of Agile Manifesto (<http://hanoiscrum.net/hnsrum/learning/97-manifesto>). In addition, Scrum operates on three core values, also known as Script Scripps, including Scrutiny, Inspection and Adaptation.

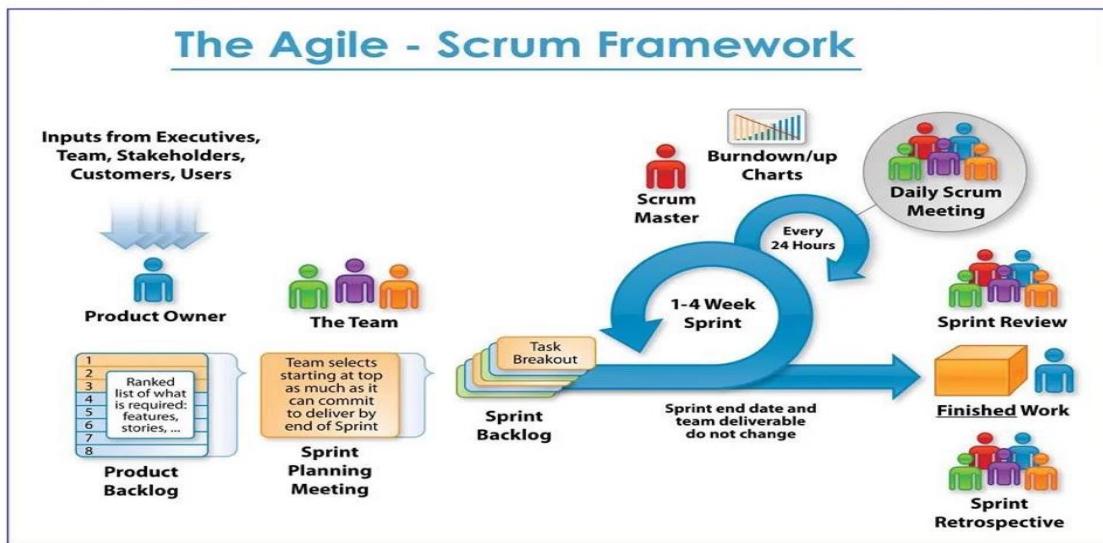


Figure1-6.3 The Agile-scrum framework

Based on the empirical process control theory, Scrum uses iterative and incremental algorithms to optimize efficiency and control risk. Scrum is simple, easy to learn, and has wide applicability. To be able to use Scrum, we need to understand and apply the elements that makeup Scrum include the core values (also known as the "three legs", or the three pillars of Scrum), roles, Events, and Scrum-specific artifacts.

6.5 The reason we use Scrum

- Team have 4 members
- The project will be continuously horizontally scaled up.
- There is only a short amount of time to finish the project.

So for these reasons, we believe using Scrum as a life cycle is a good choice for this project.

7. Project Constraints

| Constraint | Constraints Description | Guidelines for Acceptance |
|-----------------|---|--|
| Economic | In terms of cost, because it is a system for collecting data for classification purposes, the main problem lies in the cost of research, implementation of a fully automatic system and intelligent user interface. There is also the cost of server rental and | Human resource cost: Must be around \$600. Maintenance cost: Should be around \$500. Operation cost: Should be under \$1200 Installation costs each intersection around \$1000. |

| | | |
|---|---|--|
| | server deployment, advertising, ... | |
| Environmental | This supports organizations to reduce and have solutions to protect the environment. As well raise awareness to users about their behavior impacting the environment. | Support for reducing bad affect of human to environment |
| Public health, safety, and welfare | By raising awareness about the user's personality to the environment, this could increase user health. | Reduce all health problem course by environment problem |
| Social and Global | Benefit: Help organizations and governments to help people in protecting the environment. Risks: It can be affected in the user lifestyle while the government or the organization apply solutions based on what we provide. | Addresses aspects such as benefits, risks, the man-machine interface, the acceptance of products by the intended user or by society at large, global and socially responsible engineering. |
| Sustainability | It is necessary to maintain the continuous operation of the system, so that system can update user data frequently | Development and maintenance work must be ensured to take place continuously, when issues are reported, it is necessary to focus on maintenance immediately. Server the operation also needs to be ensured not to be interrupted. |

Table 7: Constraints

8. Conclusion

This project will be finished in 17 weeks and divided into 4 sprints. It promises to be convenient and friendly not only for the government, organization ... and also those environmental lovers who want to protect it. This will be a handful system for enterprises to help their customers come closer to their product without facing their impact on the environment as well as a handful tool for dealing with many types of customers. For the Government and the Environment Organization, our system will be a good way to find a better solution to reduce and protect the environment and global warming.

9. References

- [1] The Scrum guide: [The Scrum Guide is maintained](#)
- [2] Software Development Standards for the Guidance and Control Software

- [3] LaRC Software Engineering (SWE) Process Improvement Initiative (SPII)
- [4] General Software Coding Standards and Guidelines Office of Water Prediction
- [5] Scrum and best practices Sprint and scrum best practices - Azure Boards
- [6] Personality Traits Associated with Environmental Concern:
<https://www.proquest.com/openview/f425c164f6b1921a0de75c9ef707de98/1?pq-origsite=gscholar&cbl=18750>
- [7] Tracking Big5 traits based on mobile user log data : Tracking Big5 Traits Based on Mobile User Log Data
- [8] Big-five Viet Nam: <https://bigfive.vn/>
- [9] Ozone depletion: Ozone depletion - Wikipedia
- [10] How personality traits are associated with environmental engagement:
<https://environment-review.yale.edu/how-personality-trait-are-associated-environmental-engagement-0>
- [11] Vietnam Veterans' Readjustment: Hearings Before the Committee on Veterans:
Vietnam Veterans' Readjustment: Hearings Before the Committee on Veterans ... - United States. Congress. Senate. Committee on Veterans' Affairs - Google Sách
- [12] Big5 Application: big-five app list - Tim trên Google
- [13] Psychology's Essential Role in Alleviating the Impacts of Climate Change: 2008 Psychology's essential role in climate change.pdf (uvic.ca)
- [14] The Impact of Climate Change on the Agricultural Sector: Implications of the Agro-Industry for Low Carbon, Green Growth Strategy and Roadmap for the East Asian Region:
Microsoft Word - Final Paper The Impact of Climate Change on the Agricultural Sector.doc (unescap.org)
- [15] Local Warming: Daily Temperature Change Influences Belief in Global Warming:
Local Warming: Daily Temperature Change Influences Belief in Global Warming - Ye Li, Eric J. Johnson, Lisa Zaval, 2011 (sagepub.com)

10. Attachment: DESCRIPTION OF PRODUCT REQUIREMENTS FORM

DESCRIPTION OF PRODUCT REQUIREMENTS

Group: C1SE.02

Project: Green Big 5 System

Date: August 19th,2021

I. Short description of product ideas (less than 7 statements)

With more and more pollution, the world has to face many consequences of what humanity has done to the environment. People have to understand their daily life, hobbies and their personality can affect the environment [1].

The Green Big5 (GB5) system is used to collect the user's personality by using the GB5 App. From that, the system can identify a user's personality in the context of Big-five traits based on the GB5 Scenario and with the support of the GB5 Dashboard. This could help the system analyze the connection of the user's personality to the environment.

II. Requirements

| | |
|------------------------------------|--|
| High-level Functional Requirements | <ol style="list-style-type: none">1. Collect user's Big-five question data.2. Classify user's Big-five personality traits.3. Storage user's information and data.4. Send the question from the database to the application based on a scenario.5. Visualize the user's personality data. |
|------------------------------------|--|

Description of Product Requirements -v1.0

| | |
|---|---|
| Quality Attributes Requirements (example related to issues: Ease Use, Easy to Like, Easy to Learn, Easy to Understand, Easy to Buy / Yes, ...) | 1. Users can easily use the Application, with a friendly, easy to use interface, flexible to any device, and any kind of operation system. 2. High level security for protecting user information. 3. The question on the system is easy for users to understand and answer. 4. The personality data classify and visualize in an understandable way. 5. |
| Operation Requirements (related to issues: Speed, Accuracy, Performance, Stability, Load Resistance, Scalability, Safety, ...) | 1. The system doesn't show any intruding or sexual questions that can affect the user. 2. With a good accuracy performance when the system classifies the user's personality traits. 3. 4. 5. |
| Environment & Operation Requirements (related to issues: physical impacts on the environment, interaction with relevant or existing systems, conditions for product commercialization, ...) | 1. This system is created to help users have a better solution to protect the environment, so based on user choice this can affect the environment. 2. There are many systems using Big-five to find their use personality trait but it only stops at classified it in a static way. 3. This system could help enterprise or company identify their client and have an option/service to them but doesn't affect the environment. 4. 5. |
| Security/ Safety Requirements (related to issues: conditions of use / access to products, personal freedom, inspection, ...) | 1. Free to use(User) 2. Inspection (System Admin) 3. User data highly protected 4. 5. |

Description of Product Requirements -v1.0

| | |
|----------------------|--|
| Culture Requirements | 1. Avoid negative cultural traditions. |
| | 2. |
| | 3. |
| | 4. |
| | 5. |
| | |

| | |
|---|---|
| Evaluate the complexity of engineering problems | 1. Involving wide-ranging or conflicting technical issues |
| | X 2. Having no obvious solution |
| | X 3. Addressing problems not encompassed by current standards and codes |
| | 4. Involving diverse groups of stakeholders |
| | 5. Including many component parts or sub-problems |
| | X 6. Involving multiple disciplines |
| | 7. Having significant consequences in a range of contexts |

| | | |
|-----------------------|---|--|
| Standard requirements | X | 1. Code standard. (GNU, Oracle standard for Java, ...) |
| | X | 2. Design standard. (design patterns, object-oriented analysis and design,...). |
| | | 3. IEEE (1058, 1540, 830, 1016, 829, 1012, 1008) |
| | X | 4. ISO/IEC/IEEE 12207:2017 (TCVN 10539:2014); ISO/IEC 25051:2006(TCVN 10540:2014); |
| | X | 5. Other standards. (related to specific topics) |

References: [1] Personality Traits Associated with Environmental Concern:

<https://www.proquest.com/openview/f425c164f6b1921a0de75c9ef707de98/1?pq-origsite=gscholar&cbl=18750>



GreenBig 5

Project Plan

Project Code: GB5

Document Code: GB5-PPD– v2.4

Mentor: Doctor. Habil. Binh, Nguyen Thanh

Group: C1SE.02

Chinh, Thai Huu
Chung, Hoang Bao
Hau, Bui Phuc
Loc, Nguyen Tien

Da Nang, 8-Sept-2021

SIGNATURE PAGE

Name

Signature

Date

Binh, Thanh Nguyen _____

A handwritten signature in blue ink, appearing to read 'Binh, Thanh Nguyen'.

_____ 31 - Nov- 2021

| | | |
|-------------------|--|---------------------|
| AUTHOR: | Chinh, Thai Huu Content Management | 8-Sept-2021 |
| REVIEWERS: | Chung, Bao Hoang Back-end developer | 10-Sept-2021 |
| | Hau, Phuc Bui Application Developer | 10-Sept-2021 |
| | Loc, Tien Nguyen Database Developer | 10-Sept-2021 |
| MENTOR: | Binh, Thanh Nguyen Stakeholder | 31-Nov-2021 |

RECORD OF CHANGE

***A - Added M - Modified D – Deleted**

| Effective Date | Changed Item | A* M, D | Reason for Change | Revision Number |
|----------------|-------------------------------------|---------|---|-----------------|
| 1 | UI for Application | M | Improve UI for login in the app | |
| 2 | Create chatbot for Application | D | Not fit to the project | |
| 3 | Send question based on the scenario | A | | |
| 4 | Manage content | A | | |
| 5 | Manage indicator | A | | |
| 6 | Develop register by OTP code | D | Out of budget | |
| 7 | Develop register interface | A | Change from OTP by traditional register | |
| 8 | Update physical database | A | | |
| 9 | Manage GB5 scenario | A | | |
| 10 | Update GB5 Scenario | M | Improve Scenario | |
| 11 | Update GB5 Dashboard | M | Upgrade System | |

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1. PROJECT OVERVIEW

1.1. Project Description

| | | | |
|-------------------------|---------------------------|--------------------------------------|-------------------------|
| Project code | GB5 | Contract type | Internal Project |
| End-User | Nominal user | | |
| Project Type | Internal | Project Manager/ Scrum master | Chinh, Huu Thai |
| Project Category | Development | | |
| Application type | Information System | | |

1.2. Scope and Purpose

1.2.a Project Propose

The aim of this project is to build a GreenBig5 information system (GB5), i.e. GB5 App, database and GB5 Dashboard. By using GB5 App, user activity data can be collected and used to predict her/his personality based on Big5 traits. Afterwards, the user's personality can be seen as one of main key factors, which have linking to environmental concerns/impacts. As a result, government authorities, enterprises, based on Big5 traits. Afterwards, the user's personality can be seen as one of main key factors,

which have linking to environmental concerns/impacts. As a result, government authorities, enterprises, as well as users would have an overview of the environment and have a better solution to change user behaviour and to reduce and prevent it from the bad effect. In this phase, we focus on collecting user's personality data so that the GB5 AI model can predict user's personality traits. This would help us in finding the connection between personality and environmental concern and be prepared for the next phase.

1.2.b Project Scope

In this project scope, we implement these features about user data, Big5 data, Big5 indicators, Big5 question

- ❖ For the Application (GB5 Application):
 - Login/logout.
 - Sign In.
 - View question.
 - Answer question.
 - View the ranking.

- ❖ *For the Database (GB5 Database):*
 - Storage user's information.
 - Storage user's personality traits.
 - Storage Big5 Indicator, Big5 Question.
 - Send the Big5 Questions to the Application based on the scenario.
- ❖ *For the Dashboard:*
 - Visualize the user's Big5 personality traits.
 - Visualize data into a chart, ...
 - Send a question to the user to continue to predict user personality.

Language:

- ❖ Vietnamese
- ❖ English

Duration:

- ❖ 17 weeks

1.3. Assumptions and Constraints

| No | Description | Note |
|--------------------|---|---------------------|
| Assumptions | | |
| 1 | The personality traits to environment concern would not be done in this phase | Scope |
| 2 | User's personality will be predicted in this phase | Propose |
| 3 | Customer reviewers will get seven days to approve a milestone document. If no comments are received within this time period, it will be considered as approved. | External Interfaces |
| 4 | The project support for Android and IOS operated system | Scope |
| Constraints | | |
| 1 | Module A must be completed and delivered to customer before 09-Sep because customer has to demo to its end user by 11-Sep | Schedule |

| | | |
|----------|---|-----------|
| 2 | The project shall conform to security requirements specified by the customer in the NDA | Security |
| 3 | The product operated in high performance and have a page load of no more 10 seconds | Quality |
| 4 | The financial estimation for the project is at a budget limit of \$4234 | Budget |
| 5 | The project will be implemented by a team including 4 members | Resources |

1.4. Project Objectives

1.4.1. Standard Objectives

| Metrics | Unit | Committed | Note |
|--|--------------------|-----------|------|
| Start Date | dd-mmm-yy | 23-Aug-21 | |
| End Date | dd-mmm-yy | 12-Dec-21 | |
| Duration | days | 77 days | |
| Team Size | 4 Person(s) | 4 Persons | |
| Billable Effort / | Person-day | 220 | |
| Number of work hours per day for one engineer | Person-hour | 4.5 | |

Table 1-1.4.1: Resources

| Metric | Unit | Target SLS | | | Basic for Setting goal |
|--------------------------|----------|------------|---------|-----|--|
| | | SLS | Average | USL | |
| Quality | | | | | |
| Customer Satisfaction | Point | 8 | 9 | 9.5 | Refer to Gx Target in the year 2020, 10% higher than previous project (A project) |
| Leakage | Wdef/UCP | | | | |
| Process Compliance | NC/Ob | | | | |
| Cost | | | | | |
| Effort Efficiency | % | 80 | 75 | 90 | |
| Correction Cost | % | 65 | 60 | 75 | |
| Delivery | | | | | |
| Timeliness | % | 90 | 95 | 75 | |
| Requirement Completeness | % | 80 | 70 | 70 | |

Table 2-1.4.1: Resources

1.4.2. Specific Objectives

- Based on the human resources with allowable time and cost, we will build a system to predict user's personality
- This information system operated with high performance and safety for the user. User security data is encrypted and stored carefully, avoiding data loss.
- The deployment system minimizes defects and good control of risks by the project team.
- Strengthen brand promotion activities and bring products to users.
- Deploying applications will be operated quarterly for quick delivery to customer.

1.5. Critical Dependencies

| No | Dependency | Expected delivery date | Note |
|----|------------------------|------------------------|------|
| 1 | GB5 Application | 20-Otc-2021 | |
| 2 | GB5 Database | 21-Otc-2021 | |
| 3 | GB5 Dashboard | 15-Nov-2021 | |

1.6. Project Risk

| Risk | Description | Probability | Impact | Mitigation Strategy |
|-------------------------------|--|-------------|--------|--|
| Incorrect requirements | Developing the product which does not accord with the requirements | 3 | 5 | Discuss and communicate frequently with Stakeholders |
| Estimate working time | Actual working time is not enough to finish a task compared to the estimated previous time | 1 | 3 | Review old tasks and evaluations to estimate for the new task. Replan for each sprint. |
| People | Team member who is ill, has health problems, or busy | 3 | 4 | Notify the Scrum master (or ask a colleague to help) complete the assigned tasks when possible |

| | | | | |
|--------------------------------------|--|---|---|---|
| Lack of technical experiences | Managing harmful content in the question is a difficult technique that all members need to research and develop. | 4 | 5 | Spend a lot of time learning and training as well as creating a new standard. |
| Team Communication | Team members can conflict with each other while discussing | 4 | 4 | Conduct a meeting to share knowledge, experience and learning methods. |

2. PROJECT DEVELOPMENT APPROACH

2.1. Technical Process

2.1.1. Reasons for selecting

To follow with today's technology evolution, we want a flexible and easy model to adapt with the change. Also, our project will update new features in the near future. So, our product would become more interactive and intelligent.

Because, our team has a modest number of members as well as little experience of development. Therefore, we can't avoid problems that arise in the software development stages and requirements can change to be more suitable. For the traditional process require a lot of experience, skills and high accuracy

2.1.2. Agile Methodology [1]

Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

Agile software development is more than frameworks such as Scrum, Extreme Programming, or Feature-Driven Development (FDD).

Agile software development is more than practices such as pair programming, test-driven development, stand-ups, planning sessions, and sprints.

Agile software development is an umbrella term for a set of frameworks and practices based on the values and principles expressed in the Manifesto for Agile Software Development and the 12 Principles behind it. When you approach software development in a particular manner, it's generally good to live by these values and principles and use them to help figure out the right things to do given your particular

context.

2.1.2.a. Scrum Process

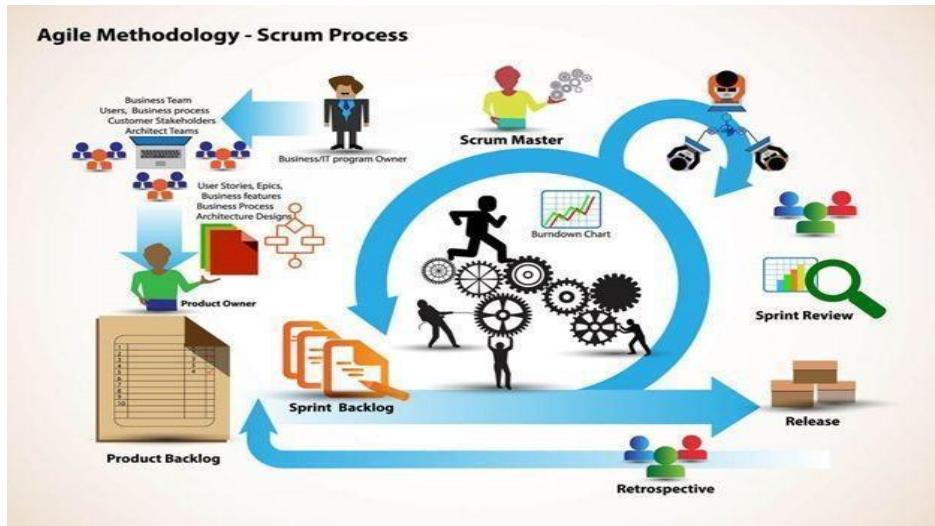


Figure 1-1.2.1.a: Scrum process

About Scrum:

Scrum is a subset of Agile. It is a lightweight process framework for agile development, and the most widely-used one [1].

Scrum is most often used to manage complex software and product development, using iterative and incremental practices. Scrum significantly increases productivity and reduces time to benefits relative to classic “waterfall” processes. Scrum processes enable organizations to adjust smoothly to rapidly-changing requirements and produce a product that meets evolving business goals.

An agile Scrum process benefits the organization by helping it to

- + Increase the quality of the deliverables
- + Cope better with change (and expect the changes)
- + Provide better estimates while spending less time creating them
- + Be more in control of the project schedule and state.

2.2. Quality Management

2.2.1. Estimates of Defects to be detected

Pre-release review defects

| Process | Planned found by review | Actual found by review |
|----------------|-------------------------|------------------------|
| Requirement | 90 | |
| <Work product> | | |
| Design | 80 | |
| <Work product> | | |
| Coding | 100 | |
| <Work product> | | |
| Other | 45 | |
| <Work product> | | |
| Total | 315 | |

Table 1-2.1.1: Pre-release review defects

Pre-release test defects

| Process | Planned found by review | Actual found by testing |
|----------------|-------------------------|-------------------------|
| Requirement | 40 | |
| <Work product> | | |
| Design | 35 | |
| <Work product> | | |

| | | |
|----------------|------------|--|
| Coding | 150 | |
| <Work product> | | |
| Other | 15 | |
| <Work product> | | |
| Total | 240 | |

Table 1-2.1.1: *Pre-release test defect*

2.2.2. Strategy for Meeting Quality Objectives

| Strategy | Expected Benefits |
|---|---|
| Do defect prevention using the standard defect prevention guidelines and process; use standards developed in Flutter/Python for coding. | 10–20% reduction in defect injection rate and about 2% improvement in productivity |
| Group review of program specs for first few/logically complex use cases. Group review of design docs/first time-generated code by project leader, developer, and one consultant. | Improvement in quality as overall defect removal efficiency will improve; some benefits in productivity as defects will be detected early |
| Introduction of RUP methodology and implementing the project in iterations. Milestone analysis and defect prevention exercise will be done after each Iteration. | Approximately 5% reduction in defect injection rate and 1% improvement in overall productivity |

2.2.3. Quality Control

| Review Item | Type of Review | Reviewer | When |
|--|-------------------|--|-------------------------|
| Proposal | Group review | Binh, Nguyen Thanh | Initial |
| Project plan Project schedule CM Plan | Group review | Binh, Nguyen Thanh Loc, Nguyen Tien Chung, Hoang Bao Hau, Bui Phuc Chinh, Thai Huu | End of Initiation stage |
| Business analysis and requirements specification document, Use Case catalog | Group review | Loc, Nguyen Tien Chung, Hoang Bao Hau, Bui Phuc Chinh, Thai Huu | End of 70% requirement |
| Design document, object model | Group review | Loc, Nguyen Tien Chung, Hoang Bao Hau, Bui Phuc Chinh, Thai Huu | End of 90% design |
| Stage plans | One-person review | Binh, Nguyen Thanh | Beginning of each stage |
| Complex / first specs incl. diagram | Group review | Binh, Nguyen Thanh Loc, Nguyen Tien Chung, Hoang Bao Hau, Bui Phuc Chinh, Thai Huu | End of detailed design |

| | | | |
|-------------|--------------|---|-------------------------------------|
| Code | Group review | Loc, Nguyen Tien Chung, Hoang Bao Hau, Bui Phuc Chinh, Thai Huu | After coding for first few programs |
| | | | |

2.2.4. Measurements Program

| Data to be collected | Purpose | Responsible | When |
|--------------------------------------|--|-------------------------|---------------------------------|
| Size: No. of KLOC// FP | Early estimate project cost | PM/SM | At the end of stages |
| Effort: No. person-day | Calculate project effort for scheduling | Team members | Daily |
| Quality: No. defects detected | Early evaluate product quality and the feasibility of the project | Reviewer, Tester | Right after the review/test |
| Schedule | Divide work and allocate resources properly, ensure the project is completed on time and on budget | PM/SM | Weekly and at the end of stages |

2.3. Unit Testing Strategy

- *Grey Box:*
 - It is a combination of a Black Box and White Box testing. It is the type of testing in which the tester is aware of the internal functionality of a method or unit but not in a deeper level like white box testing. In this, the user is partially aware of the internal functionality of a system.
 - Write test cases before fixing the defect and independent of each other.
 - Write cases to verify behavior, also write test cases to ensure the performance of the code
 - Execute test cases continuously and frequently.
 - Using tool: Install and run Jest for writing unit test in NodeJS
- Isolation of a code – Isolate function to test it more rigorously. Isolate code to do Automated Unit Testing in a better way. Isolating functions/code helps to do testing in a good way. It helps to reveal dependencies between functions of code.

2.4. Integration Testing Strategy

- *Bottom up Strategy:*
 - The components below are first written and these are integrated first. The integration happens from bottom to top. If the calling component is yet to be developed, it is replaced by a specially written component called a Drive
 - When we finish each product backlog, we test it out before we finish.
- *Bigbang Strategy:*
 - All components are put together at the same time, there is no order, except all are integrated at the same time.
 - Towards the end of the project, we started to apply this tactic to test the entire application.

2.5. System Testing Strategy

- *Customer testing(Beta testing) strategy:*
 - Beta testing is a type of user acceptance testing where the product team gives a nearly finished product to a group of target users to evaluate product performance in the real world.
 - We are rolling out a beta app on the Google Store early on for testing. After that, we gathered all the feedback and improved our system.

3. ESTIMATION

3.1. Size

Total number of FP: 68

| Software Scale Drivers | |
|--------------------------------|------------------|
| Precedentedness | <i>Nominal</i> |
| Development Flexibility | <i>Nominal</i> |
| Architecture / Risk Resolution | <i>Nominal</i> |
| Team Cohesion | <i>Very High</i> |
| Process Maturity | <i>Nominal</i> |

The Size estimation is documented in Page 16-17

| Software Cost Drivers | | | |
|---|----------------|--|----------------|
| Product | | Personnel | |
| Required Software Reliability | <i>Nominal</i> | Analyst Capability | <i>High</i> |
| Database Size | <i>Nominal</i> | Programmer Capability | <i>High</i> |
| Product Complexity | <i>Nominal</i> | Personnel Continuity | <i>Nominal</i> |
| Developed for Reusability | <i>High</i> | Application Experience | <i>High</i> |
| Documentation Match to Lifecycle Needs | <i>Nominal</i> | Platform Experience | <i>High</i> |
| | | Language and Toolset Experience | <i>High</i> |
| Project | | Platform | |
| Use of Software Tools | <i>High</i> | Time Constraint | <i>Nominal</i> |
| Development | <i>Nominal</i> | Storage Constraint | <i>Nominal</i> |
| Required Development Schedule | <i>Nominal</i> | Platform Volatility | <i>Nominal</i> |

Software Development (Elaboration and Construction)

Effort = 9.6 Person-months

Schedule = 7.7 Months

Cost = \$2873

Total Equivalent Size = 5440 SLOC

Effort Adjustment Factor (EAF) = 0.52

Acquisition Phase Distribution

| Phase | Effort (Person-months) | Schedule (Months) | Average Staff | Cost (Dollars) |
|--------------|---------------------------|----------------------|---------------|----------------|
| Inception | 0.6 | 1.0 | 0.6 | \$172 |
| Elaboration | 2.3 | 2.9 | 0.8 | \$690 |
| Construction | 7.3 | 4.8 | 1.5 | \$2184 |
| Transition | 1.1 | 1.0 | 1.2 | \$345 |

3.2. Effort

The Effort estimation is documented in page 18-19

| Activity /Process | Total budgeted Effort Usage (pd) | Total % budgeted Effort Usage (%) | Sprint 1 | | Sprint 2 | | Sprint 3 | | Sprint 4 | |
|-----------------------------|----------------------------------|-----------------------------------|----------|----------|----------|----------|----------|---------|----------|------|
| | | | No | % | No | % | No | % | No | % |
| Requirement | 25 | 10.5 | 8 | 21. 1 | 4 | 10. 5 | 3 | 7. 5 | 2 | 5.9 |
| Design | 11 | 5.0 | 3 | 7.9 | 2 | 5.3 | 2 | 5 | 2 | 5.9 |
| Coding | 100 | 40.0 | 10 | 26. 3 | 1 4 | 36. 8 | 18 | 45 | 16 | 47.1 |
| Unit Testing | 11 | 5.0 | 0 | 0.0 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 |
| Testing | 22 | 10.0 | 3 | 7.9 | 4 | 10.5 | 4 | 10 | 4 | 11.8 |
| Deployment | 11 | 5.0 | 0 | 0.0 | 2 | 5.3 | 2 | 5 | 2 | 5.9 |
| Support for Acceptance Test | 10 | 4.1 | 0 | 0.0 | 2 | 5.3 | 1 | 2.5 | 1 | 2.9 |
| Project Planning | 9 | 4.1 | 4 | 10.5 | 1 | 2.6 | 1 | 2.5 | 1 | 2.9 |
| Project monitoring | 14 | 6.4 | 3 | 7.9 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 |
| Quality Assurance | 14 | 6.4 | 2 | 5.3 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 |

| | | | | | | | | | | |
|-----------------|------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|
| Training | 8 | 3.6 | 5 | 13.2 | 3 | 7.9 | 0 | 0 | 0 | 0 |
| Total | 235 | 100 | 38 | 100 | 38 | 100 | 40 | 100 | 34 | 10 |

3.3. Schedule

3.3.1. Project Milestone & Deliverables

1. Deployment GB5 Scenario
2. Deployment Application
3. Deployment Database
4. Deployment Dashboard

3.3.2. Work Breakdown Structure

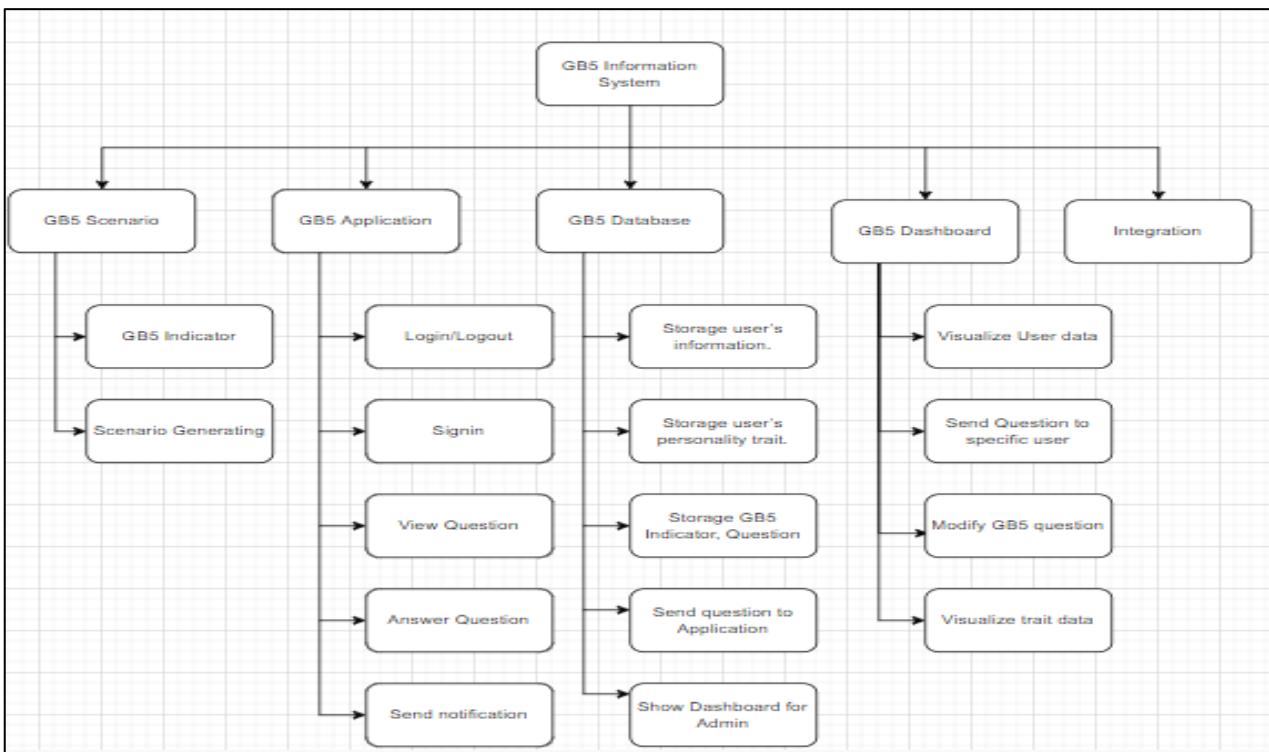


Table 3.3.2: WBS

3.3.3. Detailed Schedule

| WBS | Task | Duration(s) | Start | End | Assign to |
|------------|--|-------------|------------------------|------------------------|-------------------------|
| 1 | Initial | 7 | 15Aug 2021 | 22 Aug 2021 | Team, Mentor |
| 1.1 | Project's Kick-off Meeting | 1 | 15 Aug 2021 | 16 Aug 2021 | Team, Mentor |
| 1.2 | Collect and analyse requirements | 4 | 16 Aug 2021 | 20 Aug 2021 | Team, Mentor |
| 1.3 | Setup Development Environment | 1 | 20 Aug 2021 | 21 Aug 2021 | Team, Mentor |
| 1.4 | Research Technical | 1 | 21 Aug 2021 | 22 Aug 2021 | Team, Mentor |
| 2 | Develop | 105 | 23 Aug 2021 | 15 Dec 2021 | Team |
| 2.1 | Sprint 1 | 28 | 23 Aug 2021 | 20 Sep 2021 | Team |
| 1 | Collect, reconstruct Big-five indicators[*] and manage content for Big-five questions. | | | | Team |
| 2 | Documentation about GB5 Application functional. | | | | Team |
| 3 | Documentation about GB5 database. | | | | Team |
| 4 | Design GB5 Database | | | | Team |

| | | | | | |
|------------|-------------------------------------|-----------|------------------------|------------------------|-------------|
| 5 | Build GB5 Application UI. | | | | Team |
| 6 | Testing. | | | | Team |
| 2.1 | Sprint 2 | 28 | 22 Sep 2021 | 20 Oct 2021 | Team |
| 1 | Continue collect Big-five indicator | | | | Team |
| 2 | Develop GB5 Application. | | | | Team |
| 3 | Inspect GB5 question data. | | | | Team |
| 4 | Develop GB5 Application. | | | | Team |
| 5 | Develop GB5 database. | | | | Team |
| 6 | Design GB5 Dashboard | | | | Team |
| 2.3 | Sprint 3 | 28 | 23 Oct 2021 | 21 Nov 2021 | Team |
| 1 | Develop GB5 Application | | | | Team |
| 2 | Design GB5 Dashboard UI. | | | | Team |
| 3 | Develop GB5 Dashboard | | | | Team |
| 4 | Testing | | | | Team |
| 2.4 | Sprint 4 | 21 | 24 Nov 2021 | 15 Dec 2021 | Team |
| 1 | Develop GB5 Dashboard | | | | Team |
| 2 | Visualize user data. | | | | Team |
| 3 | Analyze personality data. | | | | Team |
| 4 | Documentation about | | | | Team |

| | | | | | |
|---|---|--|--|--|-------------|
| | user's personality data. | | | | |
| 5 | Analyze personality data and correlation to pro environmental behavior. | | | | Team |

3.3.4. Project Schedule

The detailed project schedule is available here. The Project Schedule is weekly updated by the Project Manager.

| No. | Activity | Start date | Responsible | Note |
|---------------------------------|--|------------|-------------|------|
| Defect Prevention | | | | |
| | Task 1 | | | |
| | Task 2 | | | |
| Quality Control | | | | |
| | Review: Work Product 1 | | | |
| | Review: Work Product 2 | | | |
| | Review: Work Product 3 | | | |
| Project Tracking | | | | |
| | <Stage name> milestone review meeting | | | |
| | <Stage name> milestone review meeting | | | |
| Configuration Management | | | | |
| | <Baseline Name> | | | |

| | | | | |
|-----------|--|--|--|--|
| | <Baseline Name> | | | |
| QA | | | | |
| | Final Inspection: Deliverable 1 | | | |
| | Final Inspection: Deliverable 2 | | | |
| | Baseline audit: Startup | | | |
| | Baseline audit: Wrap-up | | | |

3.4. Resource

Specified as in the section *Project Team*

3.5. Infrastructure

| Work/Product | Purpose | Expected Availability by | Note |
|--------------------------------|--------------------------------------|--------------------------|------|
| Development Environment | | | |
| NT Server | Operating System | Initiation stage | |
| IOS | Operating System | | |
| Android | Operating System | | |
| Database | MongoDB | | |
| Flutter | Development language for Application | | |
| Python | Development language for AI model | | |
| NodeJS | Development Environment | | |

| Hardware & Software | | | |
|--------------------------------|-----------------------------|---------------------------|--|
| 1GB space on server | | | |
| Android Studio | Development | | |
| MongoDB | Database | | |
| Rational Rose | Design | | |
| Other Tools | | | |
| CVS | Source version control | Definition stage | |
| N-unit | Unit Test | Construction stage | |
| DMS | Defect logging and tracking | Definition stage | |
| Timesheet | Effort logging | Initiation stage | |
| FI | Project management tool | Initiation stage | |
| MS Project | Task tracking | Initiation stage | |

3.6. Training Plan

| Training Area | Participants | When, Duration | Waiver Criteria |
|--------------------------|---------------------|-----------------------|------------------------|
| Technical | | | |
| Python Language | Chung, Chinh | 17 days | If already trained |
| Flutter Framework | Loc, Hau | 8 days | If already trained |
| Process | | | |

| | | | |
|---------------------------------|------------|---------|--|
| Quality system | All member | 3 hrs | Mandatory |
| Configuration management | All member | 2 hrs | If already trained for CC. For others, on-the-job training |
| Group review | All member | 4 hrs | If already trained |
| Defect prevention | All member | 4.5 hrs | Mandatory |
| SPC tool | All member | 4.5 hrs | If already trained |
| RUP methodology | All member | 2 hrs | Mandatory |

3.7. Finance

| Item | Total Budget | % Budget | Budget in Period | | | | | | | | | | | | Note |
|------------------|--------------|----------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| | | | W1 - | W2 - | W3 - | W4 - | W1 - | W2 - | W3 - | W4 - | W1 - | W2 - | W3 - | W4 - | |
| Purchases (COTS) | 150 | 15.6 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Team building | 200 | 20.8 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 |
| Tools | 100 | 10.4 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Travel costs | 130 | 13.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 10 |

| | | | | | | | | | | | | | | | |
|--------------------------|------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|
| Training | 80 | 8.3 | 3 | 5 | 0 | 0 | 0 |
| Review activities | 250 | 26.0 | 1 | 2 | 15 | 20 | |
| Other | 50 | 5.2 | 0 | 0 | 0 |
| Total | 960 | 100 | 1 | 1 | 2 | 8 | 2 | 6 | 2 | 8 | 2 | 6 | 25 | 30 | |

4. PROJECT ORGANIZATION

4.1. Organization Structure

| | | |
|---------------------|--|-----------------|
| Scrum Master | <ul style="list-style-type: none"> • Communicate the value of Scrum • Teach the organization on Scrum to maximize business value • Preserve the integrity and spirit of the Scrum framework • Serve as a coach and mentor to members of the Team • Respectfully hold the Team, Product Owner and Stakeholders accountable for their commitments • Continually work with the Team and business to find and implement improvements • As a timekeeper • Helping the team agree on what they can achieve during each development sprint (or other period of time). • Facilitating the daily standup (sometimes called the daily scrum) and helping the team reach consensus on each of the three questions. • Helping the team continuously make progress on the project by making sure each person is working on the right tasks, helping to remove any obstacles to the team | Chinh, Thai Huu |
|---------------------|--|-----------------|

| | | |
|----------------------|---|--------------------------|
| | members' progress, and protecting the team from distractions. | |
| Product Owner | <ul style="list-style-type: none"> • A spokesperson for the customer and needs to represent them • Gathers, manages, and prioritizes the product backlog. • Has technical product knowledge or specific domain expertise. • Tracks progress towards the release of a product. | Chung, Hoang Bao |
| Developer | <ul style="list-style-type: none"> • Responsible for quality • Responsible for delivering the potentially shippable product of the Application each sprint • Report progress based on the remaining time • Self-organized • Owns the Sprint backlog | All members |
| Mentor | <ul style="list-style-type: none"> • Guide on the process. • Monitoring all activities of the Team. • Help with anything. • Reviews project documents • Reviews product | Binh, Nguyen Thanh |

4.2. Project Team

| Full Name | Position |
|--------------------|-------------------------|
| Binh, Nguyen Thanh | Mentor |
| Chinh, Thai Huu | Scrum Master, Dev-team |
| Chung, Hoang Bao | Product Owner, Dev-team |
| Loc, Nguyen Tien | Dev-team |
| Hau, Bui Phuc | Dev-team |

5. COMMUNICATION & REPORTING

| Communication Type | Method / Tool | When | Information | Participants / Responsible |
|------------------------------|--------------------------------------|--|--|--|
| Project Task Tracking | | | | |
| Task scheduling | MS Project Trello | At the beginning of every stage, and weekly Refinement and rescheduling as necessary | | Project Mgr(s) |
| Task assignment | Trello | Weekly | | Project leader Technical |
| Project Meeting | | | | |
| Kick-off Meeting | Face to face Google meet Slack | Initiation stage | Project introduction; Project plan review; Risk identification; Obtainment of commitment of relevant stakeholders | Project Mgr(s), Project Senior Manager, Project Team Members, QA |

| | | | | |
|---|--------------------------------|---------------------|---|--|
| Project Progress Review Meetings | Face to face Google meet Slack | Weekly event and on | Communicate project status Communicate and resolve any open issue, risks, and changes Discuss any suggested improvement | Project Mgr(s), Project Team Members |
| Milestone Meetings | Face to face Google meet Slack | Before milestones | Project objective review, evaluate project performance (quality, schedule, effort), Causal analysis, update project plan for next stage | Project Mgr(s), Project Senior Manager, Project Team Members, QA |

| Communication Type | Method / Tool | When | Information | Participants / Responsible |
|---|--------------------------------|-------------------|---|--|
| Project Post-mortem Meeting | Face to face Google meet Slack | Termination stage | Wrap-up Evaluate project performance; Team performance; share experiences | Project Mgr(s), Project Senior Manager, Project Team Members, QA |
| Transfer /Sharing of project documentation / information | Google Drive Google meet | When available | All project documentation and information | Project Mgr(s) Project Team Members, QA |

| Customer Communication and Reporting: | | | | | |
|---|---|---|--|--------------|--------------------------------------|
| Project Report | Agreed standard format between company and customer | 5pm Monday, Weekly | Project report, requiring clarifications, escalation, if any | status Issue | Project Manager Sub-Project Managers |
| Project Meetings with customer | Teleconference /TV Meeting | 2 pm Tuesday, Weekly | As above | | Project Manager |
| Requirement gathering /clarification | Face to face Meeting Google meet | During requirement analysis phase | As in Q&A list | | Project Manage business analyst |
| Communication with Senior Management | | | | | |
| Review Project Plan & Project schedule | Slack | Significant changes to WO, PP and Project schedule (scope, objectives Organization, HR, major milestone, deliverables) | | | Project Mgr |
| Project Progress Review | Slack | Weekly | Project report, requiring clarifications, escalation, if any | status Issue | Project Mgr |

| | | | | |
|--|------------------------------|--------------------|---|-----------------|
| Project Milestone Review | Google meet Slack | End of every stage | Project objective review, evaluate project performance (quality, schedule, effort), Causal analysis, update project plan for next stage | Project Mgr |
| Other Communication and Reporting: | | | | |
| Raise issue or request service/support of BA groups (IT, Admin, QA, HR, Training, Recruitment,etc) | Call log; phone; Slack | Upon request | Request content, expected completion date | Project Manager |

6. CONFIGURATION MANAGEMENT

<Refer to the CM plan or insert here the contents of the CM plan as appropriated>

7. SECURITY ASPECTS

- The credential data is carefully secured by multi-layer encryption and data integrity is ensured. Regularly backup system data.
- Research on network attack prevention solutions to ensure data security, avoid being exploited and stolen data by hackers.
- Deploy project architecture with a high priority in security. Optimized architectural solutions enable the deployment of data security with 99% reliability.
- Social media, sharing and use of data must be approved by the end user and verified by the organization's management.

REFERENCES

| No | Reference item | Issued Date | Source | Note |
|----|---------------------------|-------------|--|------|
| 1 | Agile Scrum | 15-Aug-2021 | <u>https://www.atlassian.com/agile</u> | |
| | | | <u>https://www.cprime.com/resources/what-is-agile-what-is-scrum/</u> | |
| | | | <u>https://www.agilealliance.org/agile101/</u> | |
| | | | The Scrum Framework by International Scrum Institute | |
| 2 | COCOMO II | 15-Aug-2021 | <u>https://www.rose-hulman.edu/class/csse/csse372/201410/SlidePDFs/session12.pdf</u> | |
| 3 | Software Standards | 20-Aug-2021 | <u>https://www.nws.noaa.gov/oh/hrl/developers_docs/General_Software_Standards.pdf</u> | |
| | | | <u>https://standards.ieee.org/standard/12208-2017.html</u> | |
| | | | <u>https://sweng.larc.nasa.gov/</u> | |

DEFINITIONS AND ACRONYMS

| Acronym | Definition | Note |
|-------------|--|------|
| PM | Project Manager | |
| PTL | Project Technical Leader | |
| QA | Quality Assurance Officer | |
| CC | Infrastructure Configuration Controller | |
| DV | Developer | |
| URD | User Requirement Document | |
| SRS | Software Requirement Specification | |
| ADD | Architecture Design Document | |
| DDD | Detail Design Document | |
| TP | Test Plan | |
| TC | Test Case | |
| SC | Source Code | |
| CM | Configuration Management | |
| CSCI | Computer Software Configuration Items | |
| CI | Configuration Item | |
| CCB | Change Control Board | |
| GB5 | Green Big 5 | |



Capstone Project 1

CMU-SE 450

User Story

Version 1.3

Date: 22/09/2021

Green Big5 Information System

Submitted by

Chinh, Thai Huu

Chung, Hoang Bao

Hau, Phuc Bui

Loc, Tien Nguyen

Approved by Doctor.Habil Nguyen Thanh Binh

PROJECT INFORMATION

| Project acronym | GB5 | | |
|--|---|------------------|---------------------------------|
| Project Title | GreenBig5 | | |
| Start Date | 19 Aug 2021 | End Date | |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | |
| Team members | Student ID | Name | Email |
| 1 | 24211207051 | Chung, Bao Hoang | baochunga1@gmail.com |
| 2 | 24211206857 | Hau, Phuc Bui | bphau121020@gmail.com |
| 3 | 24211202217 | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com |

REVISION HISTORY

| Version | Date | Comments | Author | Approval |
|----------------|-------------|---------------------|---------------|-----------------|
| 1.0 | 10/08/2021 | Initial Release | All members | |
| 1.1 | 22/09/2021 | Update after review | Chung, Loc | |
| 1.2 | 03/10/2021 | Update user story | All members | |
| 1.3 | 10/11/2021 | Update format | All members | |

Document Approvals

The following signatures are required for approval of this document.

| | |
|---|---|
| Doctor. Habil. Binh, Thanh Nguyen Mentor | Binh, Thanh Nguyen _____  31 - Nov- 2021 |
| Chinh, Thai Huu Scrum master, DevTeam | 10-Dec-2021 |
| Chung, Hoang Bao Product Owner, DevTeam | 14-Dec-2021 |
| Hau, Bui Phuc DevTeam | 14-Dec-2021 |
| Loc, Tien Nguyen DevTeam | 14-Dec-2021 |

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1. Introduction

In software development, a User Story is one or more sentences that describe the natural language (not the technical language) or the business language of the end user or system user to record what users need to do or not do their job or duty. User stories are used in methods such as Agile software development as the basis for defining system functions such as business development and to facilitate management of requirements. Help yourself know "who", "what" and "why" in a short, simple request, often limited only by details that can be written on a piece of sticky note or scrap paper. small.

User stories written by business users are the primary way of users because they understand most of the system's processes, workflows and functions so it is working right now. User stories can also be written by Dev to make non-functional requirements (like security, performance, quality, etc.).

1.1 Purpose

- Provide a prioritized features list, containing a short description of all functionality desired in the product.
- Lists everything that the product owner and Scrum team feels should be included in the software they are developing.

1.2 Scope

- Write all the user's requirements.
- Lists some main functions of the system and acceptance criteria of each function.
- Short description of all the functionality desired in the product.
- Given the priority of each feature and function of the product.

1.3 References

| No | Source | Note |
|----|---|---|
| 1 | https://www.visual-paradigm.com/guide/agile-software-development/what-is-user-story/ | What is a User Story? |
| 2 | https://www.atlassian.com/agile/project-management/user-stories | User Stories with Examples and Template |

2. User Stories

Priority and Estimates

Priorities are set from high (H), medium (M) and low (L):

- Priorities of some user stories can be the same with others.
- If a user story has dependencies, it must have lower priority than its dependencies

2.1 Sprint 1

2.1.1 Login on GB5 application

| | | |
|---|--|-----------------------|
| <p>As a user I want login in the system</p> | | |
| Login on GB5 application story | Project : GB5 | Priority : Low |
| Actor: User | Acceptance criteria | |
| Story: The User wants to log in to the system with their account. | Minimum password length 8 characters maximum 50 characters. Enter the correct phone number and password, then I can log into the system. Enter the wrong phone number or password or both of me can not login to the system. I entered wrong phone number or password, I want to be told exactly what I am wrong | |

2.1.2 Register on GB5 application

| | | |
|--|--|-----------------------|
| <p>As a user</p> <p>I want to register for an account to log into the system</p> | | |
| Register on mobile application story | Project : GB5 | Priority : Low |
| Actor: User | <p>Acceptance criteria</p> <p>Minimum password length 8 characters maximum 50 characters. The user enter missing information will be notified exactly what I am missing</p> | |
| Story: The User wants to register for an account to log into the system | | |

2.1.3 Logout on GB5 application

| | | |
|--|-----------------------------------|-----------------------|
| <p>As a user</p> <p>I want when I press the logout button I will exit the system</p> | | |
| Logout on GB5 application story | Project : GB5 | Priority : Low |
| Actor: User | <p>Acceptance criteria</p> | |

| | |
|---|--|
| Story: The User want when they press the logout button, they will exit the system | The tourist press the logout button, I will exit the system and return Home Screen. Displays a message when you cannot log out |
|---|--|

2.1.4 Receive notification

| | |
|--|---|
| As a user I want to know when the new question arrive | |
| Receive Notification story | Project : GB5 |
| Actor: User | Acceptance criteria <ul style="list-style-type: none"> - Notify to the user in a specific time-line |
| Story: The user want to know the new question have arrived yet | |

2.2 Sprint 2

2.2.1 View Question

| | | |
|---|---|--------------------------|
| <p>As a user</p> <p>I want to see the question</p> | | |
| View question story | Project : GB5 | Priority : Medium |
| Actor: User | Acceptance criteria | |
| Story: The user want to see the question sent by the Administrator/ Content manager | Users can see the question after login/ Sign In into the App. User can see after the question send a notification to them | |

2.2.2 Answer Question

| | | |
|---|----------------------------|------------------------|
| <p>As a user</p> <p>I want to Answer the question</p> | | |
| Answer question story | Project : GB5 | Priority : High |
| Actor: User | Acceptance criteria | |

| | |
|---|--|
| Story: The user wants to answer the question in the app/ sent by administrator/ Content Manager | Display below the question. Not require to choose but highly recommend |
|---|--|

2.2.3 View Information

| | | |
|---|--|--------------------------|
| As a user I see my own information | | |
| View Information story | Project :GB5 | Priority : Medium |
| Actor: User | Acceptance criteria | |
| Story: The user want to see their own information | <ul style="list-style-type: none"> - See all information : Phone number, user name, full name | |

2.2.4 Modifying user information

| | | |
|---|--|------------------------|
| <p>As a user</p> <p>I want to change my information</p> | | |
| Modifying user information | Project : GB5 | Priority : High |
| Actor: User | Acceptance criteria | |
| Story: The Tourist wants to change their information | Changeable: User name, Phone number, Full name,. Recommended attractions for users | |

2.2.5 Logout to the Dashboard

| | | |
|---|----------------------------|-------------------------|
| <p>As an administrator/ Content manager</p> <p>I can logout the dashboard</p> | | |
| Logout to the Dashboard story | Project: GB5 | Priority: Medium |
| Actor: administrator/ Content manager | Acceptance criteria | |

| | |
|--|--|
| <p>Story: The administrator/ Content manager wants to logout the dashboard</p> | <ul style="list-style-type: none"> - Confirm if the user want to logout |
|--|--|

2.3 Sprint 3

2.3.1 Login to the Dashboard

| | | |
|---|---|-------------------------|
| <p>As an administrator/ Content manager</p> <p>I want to access the system with my account so that when I enter the Account and password into the [Account] field, the [Password] field and then I click the login button and I can use the system.</p> | | |
| Login to the Dashboard story | Project: GB5 | Priority: Medium |
| Actor: administrator/ Content manager | Acceptance criteria Provided & Changeable | |
| Story: The Administrator/ Content manager can login to the dashboard | | |

2.3.2 Visualize to the user data

| | | |
|---|--|-----------------------|
| <p>As an administrator/ Content manager I can see the user data in a table...</p> | | |
| Visualize to the user data story | Project: GB5 | Priority: High |
| Actor: administrator/ Content manager | Acceptance criteria <ul style="list-style-type: none">- Each user column links to use information details such as phone number...- Show each trait point | |
| Story: The administrator/ Content manager can see the user data | | |

2.3.3 Visualize all trait data

| | | |
|--|----------------------|------------------------|
| <p>As an administrator/ Content manager I can see the trait data in a chart...</p> | | |
| Visualize to the user data story | Project : GB5 | Priority : High |

| | |
|--|---|
| Actor: Administrator/ Content manager | Acceptance criteria |
| Story: The administrator/ Content manager can edit the user trait data | <ul style="list-style-type: none"> - When clicking the check-box in front of the question, the website shows the indicator, trait level. |

2.3.3 Edit question in the dashboard

| | | |
|---|--|--------------------------|
| <p>As an administrator/ Content manager</p> <p>I can edit the question data in a table...</p> | | |
| Edit the question story | Project : GB5 | Priority : Medium |
| Actor: Administrator/ Content manager | Acceptance criteria Each trait has a special color. The trait can update automatic | |
| Story: The administrator/ Content manager can see the user data | | |

2.3.4 View question in the dashboard

| | | |
|--|--|----------------|
| <p>As an administrator/ Content manager</p> <p>I want to see question in the dashboard</p> | | |
| View question story | Project:GB5 | Priority: High |
| Actor: Staff or Manager | Acceptance criteria <ul style="list-style-type: none">- When clicking the check-box in front of the question, the website shows the indicator, trait level. | |
| Story: The administrator/Content manager can see the question data in a table... | | |

2.4 Sprint 4

2.4.1 Send question to the user

| |
|--|
| <p>As an administrator/ Content manager</p> <p>I want to send the question to the specific user team</p> |
|--|

| | | |
|--|---------------------------------------|-----------------------|
| Send the question to the specific user team story | Project: GB5 | Priority: High |
| Actor: administrator/ Content manager | Acceptance criteria N/A | |
| Story: Can find the user's trait clearly | | |

2.4.2 Create question in the dashboard

| | | |
|--|---------------------------------------|-----------------------|
| As an administrator/ Content manager I want to create question in the dashboard | | |
| Create question story | Project: GB5 | Priority: High |
| Actor: Administrator/ Content manager | Acceptance criteria N/A | |
| Story: The an administrator/ Content manager can create the user trait data | | |

2.4.3 Delete question

| | | |
|--|--|-------------------------|
| <p>As an administrator/ Content manager I want to delete the question data in a table...</p> | | |
| Delete question story | Project: GB5 | Priority: Medium |
| Story: Admin can delete the question in the database | Acceptance criteria N/A | |

2.4.4 Visualize trait data

| | | |
|--|---------------------|-------------------------|
| <p>As an administrator/ Content manager I want to see all trait data</p> | | |
| Visualize all trait data story | Project: GB5 | Priority: Medium |

| | |
|---|---|
| Actor: Administrator/ Content manager | Acceptance criteria |
| Story: Administrator/ Content manager can see the trait data in a chart... | <ul style="list-style-type: none"> - When clicking the check-box in front of the question, the website shows the indicator, trait level. |

2.4.5 Change User Profile on app

| | | |
|--|---------------------------------------|-----------------------|
| <p>As an Administrator/ Content manager</p> <p>I want to input the indicator</p> | | |
| Input the indicator story | Project: GB5 | Priority: High |
| Actor: Administrator/ Content manager | Acceptance criteria N/A | |
| Story: Administrator/ Content manager Input the indicator into the database | | |



| | |
|------------------------|------------------|
| Scrum Project | |
| | |
| Product | GB5 |
| Active versions | v1.4 |
| Team | |
| Scrum Master | Chinh, Huu Thai |
| Developers | Chung, Bao Hoang |
| | Loc, Tien Nguyen |
| | Hau, Phuc Bui |

| | |
|---------------------------|-----------------------------------|
| Product Status | |
| Sponsor | |
| Product Owner | Chung, Bao Hoang |
| Project Champion | |
| Other Stakeholders | Doctor. Habil. Binh, Thanh Nguyen |

| Projects | | | | | |
|-----------------|----------------------------|----------------|---------------|---------------|----------------|
| Id | Description | Start | End | Status | Remarks |
| 1 | Initial release | 15/thg 8/21 | 22/thg 8/21 | Complete | |
| 1.1 | Project's Kick-off Meeting | 15/thg 8/21 | 16/thg 8/21 | Complete | |
| 1.2 | Collect and analyse | 16/thg 8/21 | 17/thg 8/21 | Complete | |
| 1.3 | Setup Development | 18/thg 8/21 | 19/thg 8/21 | Complete | |
| 1.3 | Research Technical | 20/thg 8/21 | 21/thg 8/21 | In Progress | |
| 2 | Develop | 23/thg 8/21 | 15/ thg 12/21 | | |
| 2.1 | Srpint 1 | 23/ thg 8/21 | 22/ thg 9/21 | Complete | |
| 2.2 | Srpint 2 | 22/ thg 9 / 21 | 20-thg 10-21 | In Progress | |
| 2.3 | Srpint 3 | 23-thg 10-21 | 23-thg 11-21 | In Progress | |
| 2.4 | Sprint 4 | 24-thg 11-21 | 15-thg 12-21 | Complete | |

| Sprint Plan | | | | | | |
|--------------------|----------------|--------------|---------------|---------------------------------|--------------|----------------|
| Sprint | Start | End | Status | Story Points (Committed) | Story | Remarks |
| Spr. 1.1 | 15/thg 8/21 | 16/thg 8/21 | Complete | 3 | 3 | |
| Spr. 1.2 | 16/thg 8/21 | 17/thg 8/21 | Complete | 13 | 13 | |
| Spr. 1.3 | 18/thg 8/21 | 19/thg 8/21 | Complete | 21 | 20 | |
| Spr. 1.4 | 20/thg 8/21 | 21/thg 8/21 | In Progress | 55 | 50 | |
| Spr.2.1 | 23/ thg 8/21 | 22/ thg 9/21 | Complete | 144 | 140 | |
| Spr 2.2 | 22/ thg 9 / 21 | 20-thg 10-21 | In Progress | 89 | 83 | |
| Spr 2.3 | 23-thg 10-21 | 23-thg 11-21 | In Progress | 92 | 81 | |
| Spr 2.4 | 24-thg 11-21 | 15-thg 12-21 | Complete | 84 | 84 | |

**Backlog**

| Id | Epics | As a.. | I want to .. | so that .. | Acceptance Criteria | Remarks | Priority | Status | Typ | Pro | Spri | Story | Effort | Owne | Stat | Rem |
|-----------------|----------------------------------|--------------------------------------|---|--|--|----------------|-----------------|---------------|------------|------------|-------------|--------------|---------------|-------------|-------------|------------|
| Sprint 1 | | | | | | | | | | | | | | | | |
| PB1.1 | Login on GB5 application | User | The User wants to log in to the system | Log in to the system with their account. | Minimum password length 8 characters maximum 50 characters. Enter the correct phone number. | | M | | | | | | | | | |
| PB1.2 | Register on GB5 application | User | I want to register for an account to log in | Register for an account to log into the system to use the feature of the app | Minimum password length 8 characters maximum 50 characters. The user enter missing information | | L | | | | | | | | | |
| PB1.3 | Logout GB5 application | User | I want when I press the logout button | When they press the logout button, they will exit the system | The tourist press the logout button, I will exit the system and return Home Screen. Displays a message | | L | | | | | | | | | |
| PB1.4 | Receive notification | User | I want to know when the new question | Would know the new question have arrived yet | Notify to the user in a specific time-line | | L | | | | | | | | | |
| Sprint 2 | | | | | | | | | | | | | | | | |
| PB 2.1 | View Question | User | I want to see the question | See the question sent by the Administrator/ Content manager | Users can see the question after login/ Sign In into the App. User can see after the question set | | M | | | | | | | | | |
| PB 2.2 | Answer Question | User | I want to Answer the question | Answer the question in the app/ sent by administrator/ Content Manager | Display below the question. Not require to choose but highly recommend | | H | | | | | | | | | |
| PB 2.3 | View Information | User | I see my own information | See their own information | See all information : Phone number, user name, full name | | L | | | | | | | | | |
| PB 2.4 | Modifying user information | User | I want to change my information | Change their information | Changeable: User name, Phone number, Full name, Recommended attractions for users | | L | | | | | | | | | |
| PB 2.5 | Login to the Dashboard | As an administrator/ Content manager | I want to access the system with my account | Can login to the dashboard | Provided & Changeable | | M | | | | | | | | | |
| Sprint 3 | | | | | | | | | | | | | | | | |
| PB 3.1 | Logout to the Dashboard | As an administrator/ Content manager | I can logout the dashboard | Logout the dashboard | Confirm if the user want to logout | | M | | | | | | | | | |
| PB 3.2 | Visualize to the user data | As an administrator/ Content manager | I can see the user data in a table... | can see the user data | Each user column links to use information details such as phone number.....Show each trait | | M | | | | | | | | | |
| PB 3.3 | Edit question in the dashboard | As an administrator/ Content manager | I can edit the question data in a table... | can edit the user trait data | | | H | | | | | | | | | |
| PB 3.4 | View question in the dashboard | As an administrator/ Content manager | I can see the question data in a table... | can see the user trait data | When clicking the check-box in front of the question, the website shows the indicator, trait level | | H | | | | | | | | | |
| Sprint 4 | | | | | | | | | | | | | | | | |
| PB 4.1 | Send question to the user | As an administrator/ Content manager | Send the question to the specific user team | Can find the user's trait clearly | | | H | | | | | | | | | |
| PB 4.2 | Create question in the dashboard | As an administrator/ Content manager | Create the question data in a table... | can create the user trait data | | | H | | | | | | | | | |
| PB 4.3 | Delete question in the dashboard | As an administrator/ Content manager | Delete the question data in a table... | can delete the user trait data | | | M | | | | | | | | | |
| PB 4.4 | Visualize all trait data | As an administrator/ Content manager | See the trait data in a chart... | can see the user trait data | When clicking the check-box in front of the question, the website shows the indicator, trait level | | M | | | | | | | | | |
| PB 4.5 | Input indicator | As an administrator/ Content manager | Input the indicator into the database | I can input the indicator into the database | | | H | | | | | | | | | |



Sprint Task 1

| Sprint Id | Backlog Id | Sprint Id | Owner | Status | Story Points (Est.) | Completed | Pending | <- effort / day -> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|------------|---------------------------------|------------|--------|---------------------|-----------|---------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|
| | | | | | | | | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 | Day 8 | Day 9 | Day 10 | Day 11 | Day 12 | Day 13 | Day 14 | Day 15 | Day 16 | Day 17 | Day 18 | Day 19 | Day 20 | Day 21 | Day 22 | Day 23 | Day 24 | Day 25 | Day 26 | Day 27 | Day 28 | | | |
| 1,1 | PB1.1 | [UI] Login Screen | Hau | Done | 3 | 3 | 0 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2 | PB1.2 | [UI] Sign Out Screen | Hau | Done | 3 | 3 | 0 | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3 | PB1.3 | [UI] Register Screen | Chinh | Done | 3 | 3 | 0 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,4 | PB1.1 | [DEV] Login Screen | Chung | Done | 2 | 2 | 0 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,5 | PB1.2 | [DEV] Sign Out Screen | Loc | Done | 5 | 5 | 0 | | | | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,6 | PB1.3 | [DEV] Register Screen | Chung | Done | 5 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,7 | | [DB] Design Database | Loc | Done | 8 | 8 | 0 | 1 | 1 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,8 | PB1.4 | [DEV] Receive notification | Loc | Done | 3 | 3 | 0 | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,9 | PB 2.1 | [UI] Question Screen | Chinh | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,10 | PB 2.1 | [DEV] Develop question Screen | Chung,Loc | Done | 34 | 34 | 0 | | 3 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,11 | PB1.1 | [DEV] Develop login Screen | Hau | Done | 8 | 6 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,12 | | [DEV] Develop Question Database | Loc | Done | 21 | 21 | 0 | 3 | 1 | 1 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,13 | | [DEV] Develop User Database | Loc | Done | 21 | 18 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,14 | PB1.2 | [TEST] Testing Sign Out Screen | All member | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,15 | PB1.1 | [TEST] Testing Sign In Screen | All member | Done | 5 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,16 | PB1.3 | [TEST] Testing Register Screen | All member | Done | 5 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,17 | PB 2.1 | [TEST] Testing Question Screen | All member | Done | 5 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,18 | | Proposal | Chinh | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,19 | | Project Plan | All member | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,20 | | Architecture Document | All member | Done | 3 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,21 | | Interface Design | All member | Done | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,22 | | Test plan creating | All member | Done | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | Total | 145 | 139 | 6 | 7 | 8 | 4 | 7 | 6 | 5 | 3 | 3 | 3 | 3 | 4 | 4 | 7 | 7 | 2 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 8 | 6 | 4 |
| | | | | | | | | Burn down | | | 138 | 130 | 126 | 119 | 113 | 108 | 105 | 102 | 99 | 96 | 92 | 88 | 81 | 74 | 72 | 68 | 64 | 60 | 56 | 52 | 46 | 40 | 34 | 29 | 24 | 16 | 10 | 6 |
| | | | | | | | | Burn up | | | 7 | 15 | 19 | 26 | 32 | 37 | 40 | 43 | 46 | 49 | 53 | 57 | 64 | 71 | 73 | 77 | 81 | 85 | 89 | 93 | 99 | 105 | 111 | 116 | 121 | 129 | 135 | 139 |



Sprint Task 2

| Sprint Id | Backlog Id | Description | Owner | Status | Story Points (Est.) | Completed | Pending | Day 29 | Day 30 | Day 31 | Day 32 | Day 33 | Day 34 | Day 35 | Day 36 | Day 37 | Day 38 | Day 39 | Day 40 | Day 41 | Day 42 | Day 43 | Day 44 | Day 45 | Day 46 | Day 47 | Day 48 | | |
|-----------|-------------|--------------------------------------|------------|--------|---------------------|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|---|
| 2,1 | | Colecting Big-five Indicator | Chinh | | 21 | 17 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 2,2 | PB 2.3 | [UI] Design User info Screen | Hau | Done | 3 | 3 | 0 | 2 | 1 | | | | | | | | | | | | | | | | | | | | |
| 2,3 | PB 2.1 | [DEV] Develop View Question | Chung | Done | 13 | 13 | 0 | | | | | | | | | | | | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | | |
| 2,4 | | [DEV] Develop User Database | Loc | Done | 13 | 13 | 0 | 1 | | 1 | 1 | 2 | 2 | 4 | 1 | | | | | | | | | | | | | | |
| 2,5 | PB 2.1, 2.2 | [UI] Design Question Screen | Hau | Done | 5 | 5 | 0 | | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | |
| 2,6 | | [TEST] Test GB5 Application | All member | Done | 8 | 8 | 0 | 1 | 1 | | | | | | | | | 1 | 2 | 1 | | | | | 1 | 1 | | | |
| 2,7 | PB 2.3 | [UI] Design User Page | Hau | Done | 2 | 2 | 0 | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 2,8 | PB 2.3 | [UI] Login to the Dashboard UI | Hau | Done | 3 | 3 | 0 | 1 | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| 2,9 | PB 2.4 | [DEV] Develop user infomation screen | Loc | | 2 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2,10 | PB 2.2 | [DEV] Develop Answer Question | Chung | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| 2,11 | PB 2.5 | [UI] Design Login to the Dashboard | Hau | Done | 3 | 3 | 0 | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | |
| 2,12 | | Architecture Document Creating | Chung | Done | 5 | 5 | 0 | 1 | 1 | 1 | 2 | | | | | | | | | | | | | | | | | | |
| 2,13 | | Database Design Creating | Loc | Done | 8 | 3 | 5 | | 1 | | | | | | | | | | 1 | | 1 | | | | | | | | |
| 2,14 | | Test plan creating | All member | Done | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | 1 | | | |
| 2,15 | | | | | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| 2,16 | | | | | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Total | 89 | 79 | 10 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 3 | 3 | 4 | 7 | 6 | 4 |
| | | | | | Burn down | | | | 86 | 82 | 79 | 75 | 72 | 68 | 65 | 61 | 57 | 53 | 49 | 44 | 40 | 37 | 34 | 31 | 27 | 20 | 14 | 10 | |
| | | | | | Burn up | | | | 3 | 7 | 10 | 14 | 17 | 21 | 24 | 28 | 32 | 36 | 40 | 45 | 49 | 52 | 55 | 58 | 62 | 69 | 75 | 79 | |



Sprint Task 3

| Sprint Id | Backlog Id | Description | Owner | Status | Story Points (Est.) | Completed | Pending | < effort / day > | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|------------|--------------------------------------|------------|--------|---------------------|-----------|---------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|----|---|
| | | | | | | | | Day 50 | Day 51 | Day 52 | Day 53 | Day 54 | Day 55 | Day 56 | Day 57 | Day 58 | Day 59 | Day 60 | Day 61 | Day 62 | Day 63 | Day 64 | Day 65 | Day 66 | Day 67 | Day 68 | Day 69 | Day 70 | Day 71 | Day 72 | Day 73 | Day 74 | Day 75 | Day 76 | Day 77 | | | |
| 3,1 | PB 3.1 | [UI] Design Logout the Dashboard | Hau | Done | 8 | 8 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | |
| 3,2 | PB 3.2 | [DEV] Develop Logout the Dashboard | Hau | Done | 13 | 13 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,3 | PB 3.3 | [UI] Design User Page | Chinh | Done | 8 | 8 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,4 | PB 2,5 | [DEV] Develop Login the Dashbord | Loc | Done | 3 | 0 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,5 | PB 2,5 | [TEST] Test Login the Dashboard | Chung | Done | 2 | 0 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,6 | PB 3.3 | [DEV] User Page | Chung | Done | 13 | 8 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,7 | PB 3.3 | [DEV] User table | Chung | Done | 13 | 11 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,8 | | [DEV] Develop select team automatic | Loc | Done | 13 | 13 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,9 | PB 3.5 | [DEV] View question in the dashboard | Loc | Done | 8 | 8 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,10 | PB 3.5 | [UI] Design View question | Hau | Done | 5 | 5 | 0 | 2 | - | 1 | 1 | 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,11 | | Colecting Big-five Indicator | Chinh | Done | 3 | 4 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| 3,12 | | Test case document | All member | Done | 3 | 3 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | |
| | | | | | | Total | 92 | 81 | 11 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 0 | 2 | 3 | 2 | 1 | 3 | 3 | 2 | 2 | 3 | 5 | 3 | 3 | 4 | 3 | 3 | 2 | 4 | 4 | 2 | 3 | 5 |
| | | | | | | Burn down | | | | 89 | 85 | 82 | 79 | 76 | 73 | 73 | 71 | 68 | 66 | 65 | 62 | 59 | 57 | 55 | 52 | 47 | 44 | 41 | 37 | 34 | 31 | 29 | 25 | 21 | 19 | 16 | 11 | |
| | | | | | | Burn up | | | | 3 | 7 | 10 | 13 | 16 | 19 | 19 | 21 | 24 | 26 | 27 | 30 | 33 | 35 | 37 | 40 | 45 | 48 | 51 | 55 | 58 | 61 | 63 | 67 | 71 | 73 | 76 | 81 | |





Sprint Task 4

| Sprint Id | Backlog Id | Description | Owner | Status | Story Points (Est.) | Completed | Pending | Day 78 | Day 79 | Day 80 | Day 81 | Day 82 | Day 83 | Day 84 | Day 85 | Day 86 | Day 87 | Day 88 | Day 89 | Day 90 | Day 91 | Day 92 | Day 93 | Day 94 | Day 95 | Day 96 | Day 97 | Day 98 | Day 99 | Day 100 | Day 101 | Day 102 | Day 103 | Day 104 | Day 105 | |
|-----------|------------|--|------------|--------|---------------------|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|----|
| 4,1 | PB 4.1 | [UI] Question Page | Hau | Done | 5 | 5 | 0 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 4,2 | PB 4.2 | [DEV] Create question in the dashboard | Loc | Done | 8 | 8 | 0 | | | 1 | | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 4,3 | PB 4.3 | [UI] Design Delete question in the dashboard | Chinh | Done | 3 | 3 | 0 | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,4 | PB 4.4 | [DEV] Visualize all trait data | Chung | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,5 | PB 4.1 | [DEV] Send question to the user | Hau,Loc | Done | 21 | 21 | 0 | | | | | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 4,6 | PB 4.4 | [DEV] Dashboard Page | Hau,Loc | Done | 13 | 13 | 0 | | | | | | | | | | 1 | 1 | 2 | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | | |
| 4,7 | PB 4.3 | [UI] Design Delete question in the dashboard | Hau | Done | 1 | 1 | 0 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,8 | PB 4.5 | [DEV] Develop Input Indicator | Chinh | Done | 2 | 2 | 0 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,9 | PB 3.3 | [TEST] Test user Page | All member | Done | 2 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4,10 | PB 4.1 | [TEST] Send question to user | All member | Done | 8 | 8 | 0 | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 2 | 1 | 1 | | |
| 4,11 | | Team Reflection | All member | Done | 5 | 5 | 0 | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| 4,12 | | Team meeting document | All member | Done | 3 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| 4,13 | | Mentor meeting document | All member | Done | 3 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| 4,14 | PB 3.3 | [DEV] User Page | Chung | Done | 8 | 8 | 0 | | 1 | 1 | | | 2 | 2 | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| | | | | | Total | 84 | 84 | 0 | 1 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 5 | 5 | 4 | 4 | |
| | | | | | Burn down | | | | 83 | 80 | 76 | 73 | 70 | 67 | 64 | 60 | 56 | 53 | 51 | 49 | 47 | 45 | 43 | 41 | 39 | 35 | 32 | 29 | 27 | 25 | 23 | 18 | 13 | 8 | 4 | 0 |
| | | | | | Burn up | | | | 1 | 4 | 8 | 11 | 14 | 17 | 20 | 24 | 28 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 49 | 52 | 55 | 57 | 59 | 61 | 66 | 71 | 76 | 80 | 84 |



| Impediments | | Raised By | Raised On | Sprint # | Impacted Backlog # | Owner | Status | Resolution | Resolved On | Remarks |
|-------------|---|-------------------|-----------|----------|--------------------|-------------------|--------|--|-------------|---------|
| ID | Description | | | | | | | | | |
| 1 | Weak network connection | Network providers | | 4 | | Network providers | | Invest heavily in network, bandwidth and transmission lines, use multiple modems | | |
| 2 | High investment money | Loc | | 1 | | Loc | | Give a detailed plan, be careful in calculating wages and supporting equipment | | |
| 3 | Difficult technique causes many obstacles | Hau | | 1 | | Hau | | Train skilled software engineers or hire experienced people | | |
| 4 | Entering data into the software is difficult and time consuming | Chung | | 2 | | Chung | | | | |
| 5 | There are high costs incurred in the implementation process | Chinh | | 1 | | Chinh | | | | |
| 6 | Human problems: sickness, resignation, personal problem ... | Chinh | | 1 | | Chinh | | | | |
| 7 | Natural disasters: storms, floods, .. | All member | | 1 | | All member | | | | |
| 8 | Database disconnection | All member | | 4 | | All member | | Avoid the server back-up time | | |




Retrospective Log

| Sprint # | Date | Owner | Continue Doing | Start Doing | Stop Doing | Remarks |
|----------|------------|------------|----------------|-------------|-----------------|---------|
| 1 | 10/10/2021 | Chinh | | | Develop Chatbox | |
| 2 | 21/10/2021 | Chung, Loc | | | Develop Ranking | |

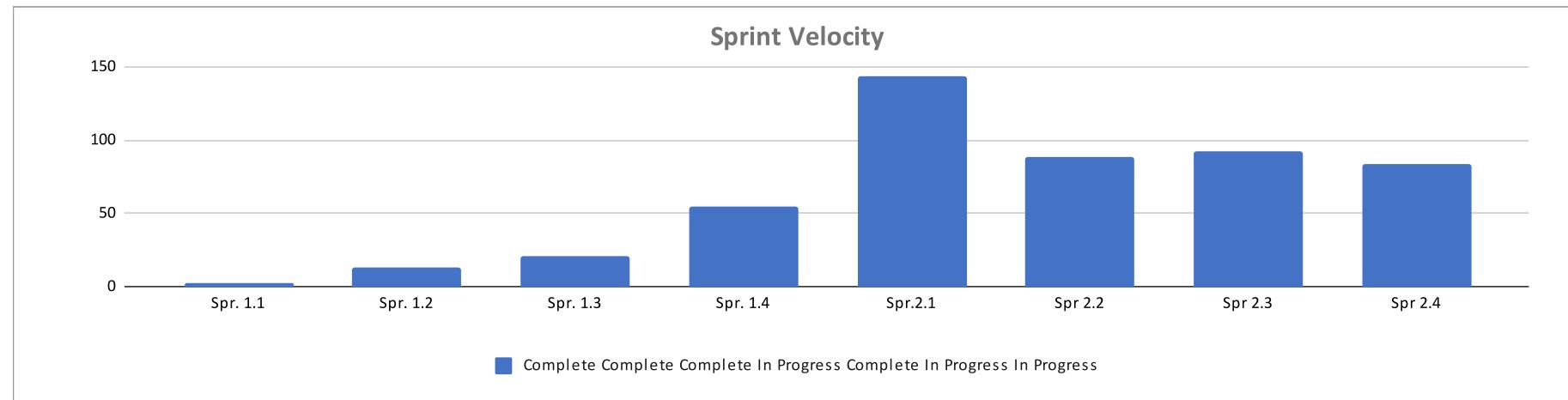
References

| External | | Internal | |
|-------------|---|-------------|------|
| Description | Link | Description | Link |
| Glossary & | https://www.scrumalliance.org/community/articles/2007/march/glossary-of-scrum- | | |
| | | | |

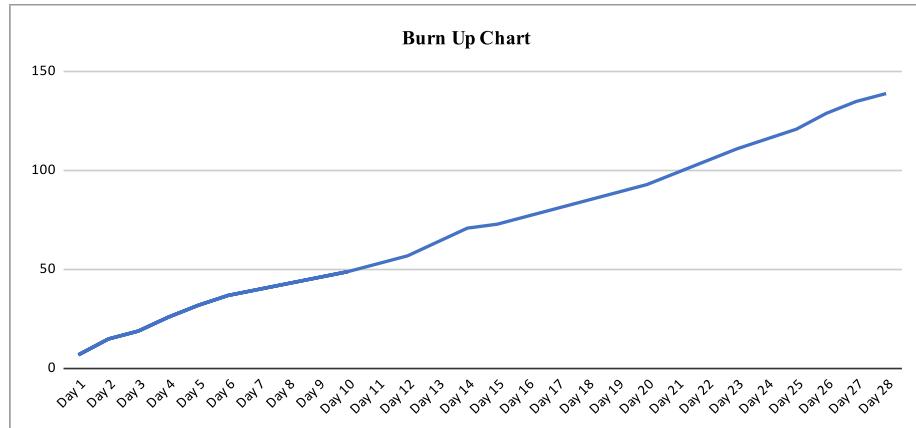
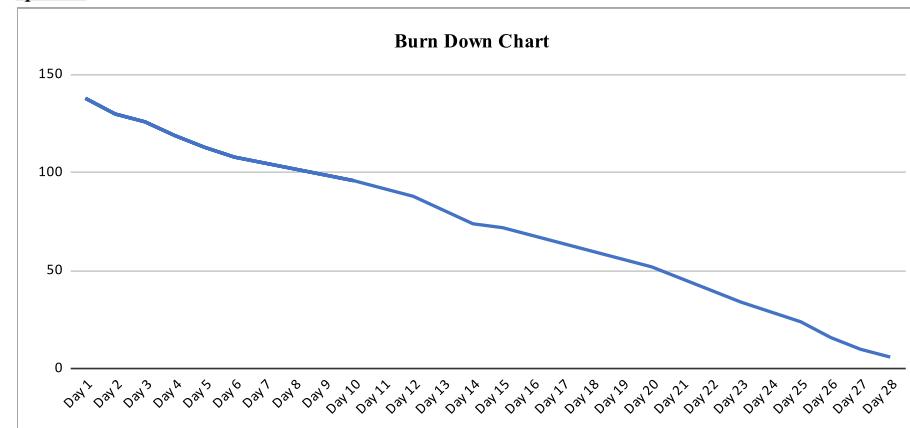


Reports & Dashboards

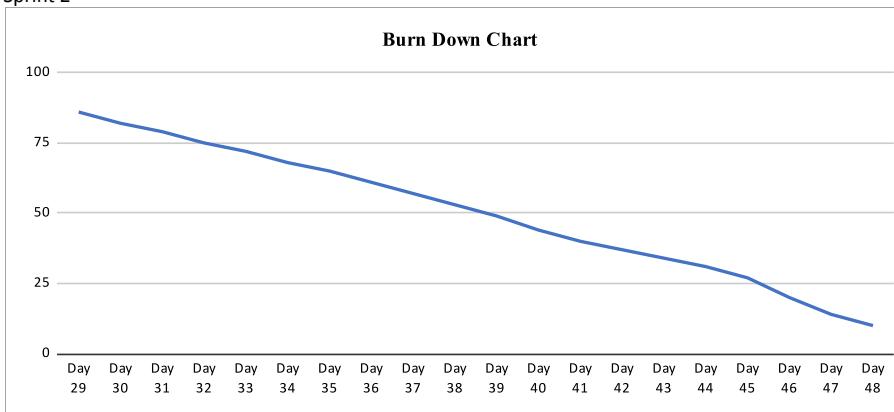
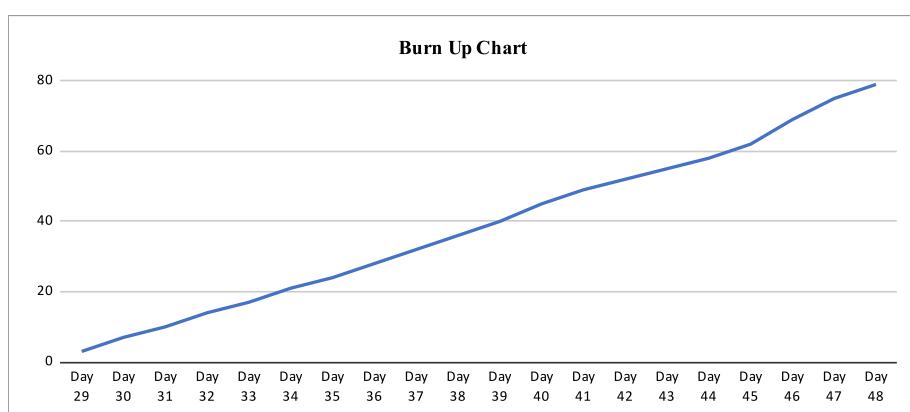
Sprint Velocity



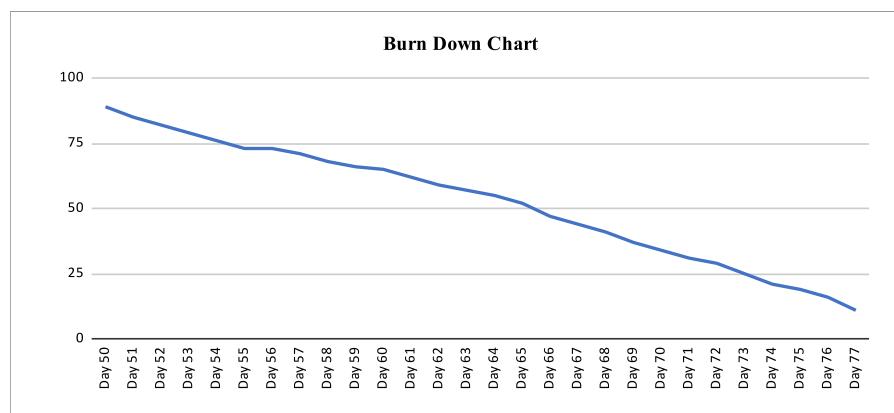
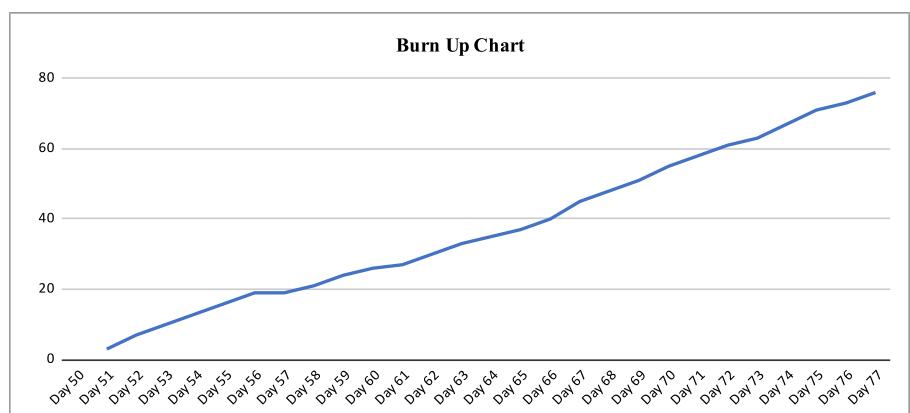
Sprint 1



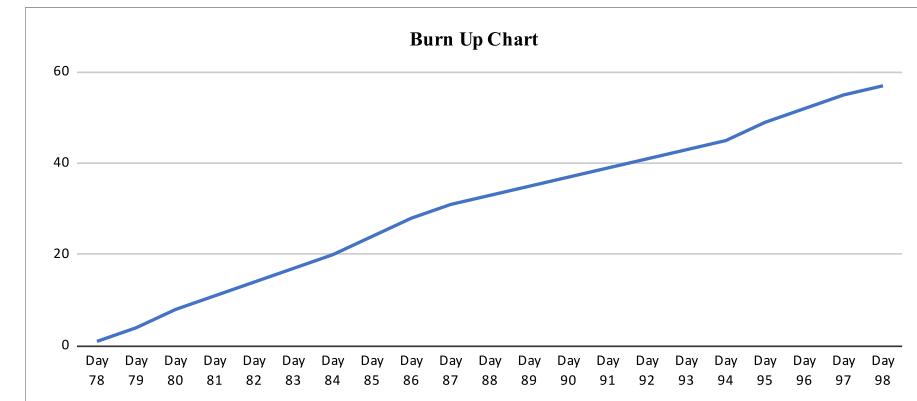
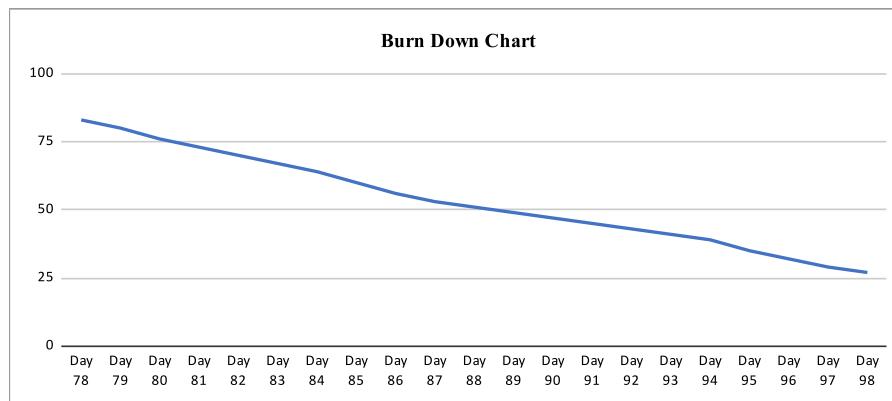
Sprint 2

**Burn Up Chart**

Sprint 3

**Burn Up Chart**

Sprint 4





CAPSTONE PROJECT 1

CMU-SE-450

Architecture Document

v 1.3

Green Big5 Information System

Submitted by

Chinh, Thai Huu
Chung, Hoang Bao
Hau, Bui Phuc
Loc, Tien Nguyen

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

A handwritten signature in blue ink, appearing to read 'Thanh Nguyen'.

_____ 31 - Nov- 2021

| Project acronym | GB5 | | | | | |
|--|---|------------------|---------------------------------|-------------|--|--|
| Project Title | GreenBig5 | | | | | |
| Start Date | 19 Aug 2021 | End Date | | 28 Dec 2021 | | |
| Lead Institution | International School, Duy Tan University | | | | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | | | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | | | | |
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| 2 | 24211206857 | Hau, Phuc Bui | bphau121020@gmail.com | 077552235 | | |
| 3 | 24211202217 | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | 0932478789 | | |

| DOCUMENT INFORMATION | | | |
|-----------------------|---|-----------|-------------------------|
| Document Title | Architecture Document | | |
| Author(s) | Team C1SE.01 | | |
| Role | [GB5] Architecture_v1.2 | | |
| Date | 13 - Dec - 2020 | File name | [GB5] Architecture_v1.2 |
| URL | https://drive.google.com/drive/folders/1_UqV6_COqZa_Go9kuw4eV3t4y mA3g72l?usp=sharing | | |
| Access | Project and CMU Program | | |

REVISION HISTORY

| Version | Person(s) | Date | Description | Approval |
|----------------|------------------|-----------------|---|-----------------|
| Draft | Chinh, Chung | 12 - Aug - 2021 | Initiate document | x |
| 1.0 | All members | 20 - Sep - 2021 | Finish content of document | x |
| 1.1 | All members | 15 - Nov - 2021 | Update content | x |
| 1.1.1 | Chinh, Chung | 16 - Nov - 2021 | Add System Context, Container Diagram, | x |
| 1.1.2 | Chinh, Chung | 16 - Nov - 2021 | Add Component, Class Diagram | x |
| 1.1.3 | Hau, Loc | 20 - Nov - 2021 | Add Quality Attributes | x |
| 1.2 | All members | 13 - Dec - 2021 | Update System Context, Container Diagram, | x |
| 1.3 | Chung | 28 - Dec - 2021 | Add Allocation Diagram | x |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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1. INTRODUCTION

1.1. PURPOSE

The purpose of the Architecture document is to:

- Define the architecture needs and technology in detail.
- Provide solutions for business needs.
- Provide overview about resources, schedule, solution and budget for the project.

The architecture merely introduces the project to the student development teams, and provides the up-front information necessary for the team to develop a specification.

1.2. DEFINITIONS, ACRONYMS AND ABBREVIATIONS

1.2.1. Definitions and Acronyms

| Acronyms | Definitions |
|----------|-------------------------------|
| GB5 | Green Big5 Information System |
| GUI | Graphical User Interface |

1.2.2. Diagram Key/Legend

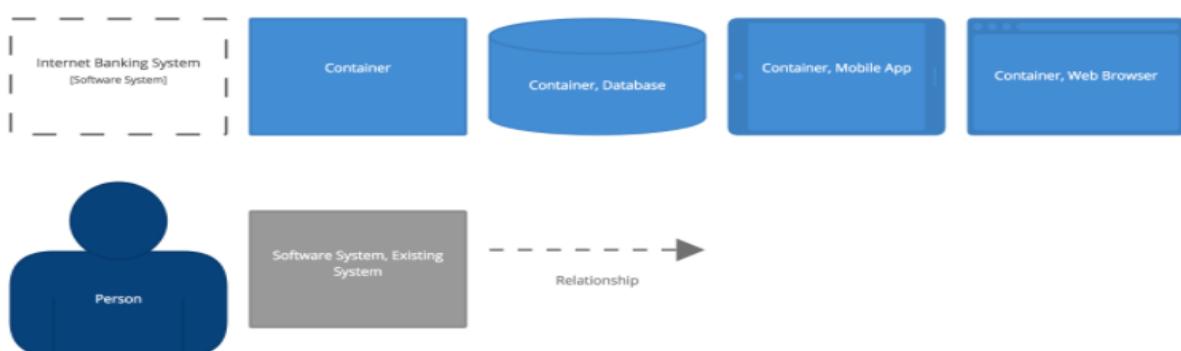


Figure 1.2.2: Diagram Key/Legend

1.3. DOCUMENTS REFERENCES

| No. | Reference |
|-----|----------------------------------|
| 1 | Product Backlog Document for GB5 |
| 2 | Project Plan Document for GB5 |

2. PROBLEM STATEMENT

2.1. PROJECT OVERVIEW

As well as the evolution of The Fourth Industrial Revolution (4IR) and the increasing civilization, the environment is becoming harmful by human behavior. Also, at the current rate of urbanization and industrialization, outside of the natural factors, the change of environment is mainly due to human factors. Emissions, population explosion, industrial solid waste, ... are the main causes leading to negative effects on the global environment. To reduce this at a holistic level, predicting human personality and finding the link between it and the environmental impact is the most important task that must be done.

However, predicting human personality and finding the link between it and the environmental impact from many different sources takes a lot of effort and money. To solve this problem, based on our knowledge of big data systems, we have built an intelligent data processing system that can be run on a website-platform with an intuitive and easy-to-use dashboard. This system is a prospective and useful tool for environmental experts and policy makers in Vietnam in particular, and worldwide in general. It can predict user personality and find their effect on the environment and suggest the solution to reduce it.

2.2. BUSINESS DRIVERS

Business problem:

Our environment is always changing. However, at the current rate of urbanization and industrialization, outside of the natural factors, the change of environment is mainly due to human factors. Emissions, population explosion, industrial solid waste, ... are the main causes leading to negative effects on the global environment. To address this at a holistic level, find out the

collaboration between human personality and environmental impact is one of the most important missions.

Business need:

Green Big 5 Information System have specific uses:

- Collecting user data
- Predicting user personality trait

All the things above are based on the functionality of the Green Big5 Information System. GB5 fully meets these requirements. Therefore, the development of GB5 is very necessary and meaningful.

2.3. PROJECT GOAL

The aim of this project is to build a GreenBig5 information system (GB5), i.e. GB5 App, database and GB5 Dashboard:

GB5 App: User data can be collected and used to predict her/his personality by sending questions and receiving answers.

GB5 Dashboard: Support for creating question packages which used to direct the user follow the environment theme. With each question, users can be distributed by Indicator. Finally, by using a prediction method to predict the user's personality traits.

As a result, government authorities, enterprises, as well as users would have an overview of the environment and have a better solution to change user behaviour and to reduce and prevent it from the bad effect.

3. ARCHITECTURE DRIVERS

3.1. HIGH-LEVEL REQUIREMENTS

(Refer to the Product Backlog document for GB5)

3.2. SYSTEM CONTEXT DIAGRAM

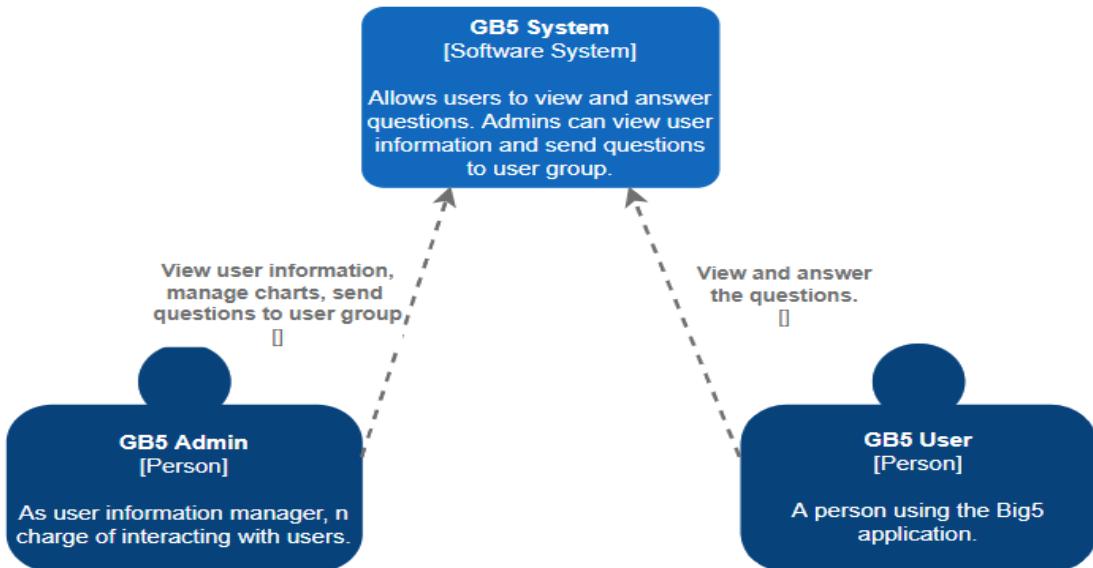


Figure 3.2: Context Diagram of System

3.3. QUALITY ATTRIBUTES

| ID | QA01 |
|------------------------------|--|
| Quality Attributes | Performance |
| Stimulus | Submit a question to the user group |
| Source(s) of stimulus | Admin |
| Artifacts | System |
| Environment | Normal mode |
| System response | The system displays a message that the question has been sent successfully |
| Response measure(s) | Within 5 seconds |

Table 3.3.1: Performance Quality Attribute

| ID | QA02 |
|------------------------------|--|
| Quality Attributes | Performance |
| Stimulus | Login in to the mobile application |
| Source(s) of stimulus | User |
| Artifacts | System |
| Environment | Normal mode |
| System response | The system displays the question view page |
| Response measure(s) | Within 3 seconds |

Table 3.3.2: Performance Quality Attribute

| ID | QA03 |
|------------------------------|---|
| Quality Attributes | Availability |
| Stimulus | Unable to import question into database |
| Source(s) of stimulus | Admin |
| Artifacts | System |
| Environment | Normal mode |
| System response | System will log the fault immediately |
| Response measure(s) | Within immediately |

Table 3.3.3: Availability Quality Attribute

4. CONSTRAINTS

4.1. BUSINESS CONSTRAINTS

- Project will be started on: 12 - Aug - 2021
- Project will be finished on: 15 - Dec – 2021
- Duration: 17 weeks

4.2. TECHNICAL CONSTRAINTS

Main Programming Language: Javascripts, Dart

- **GB5 Application:**
 - Programming Language: Dart, Flutter, JavaScripts, ExpressJs
 - Tool: Android studio.
- **GB5 Database:**
 - Database: MongoDB
 - Tool: MongoDBCompass.
- **GB5 Dashboard:**
 - Programming Language: JavaScripts, ExpressJs
 - Tool: Visual studio code.

5. HIGH-LEVEL ARCHITECTURE

5.1. CONTAINER DIAGRAM

The diagram below shows the overview architecture including containers.

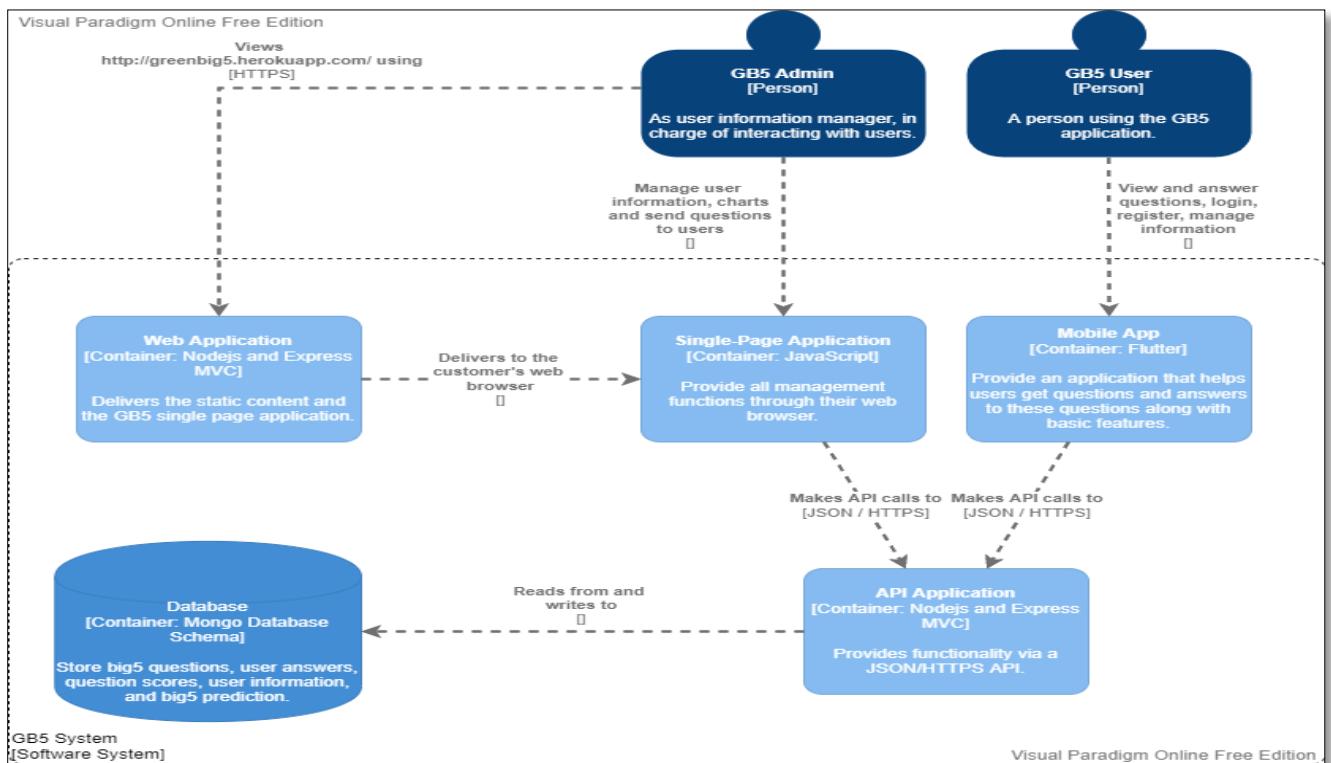


Figure 5.1: Container Diagram

5.2. COMPONENT DIAGRAM

5.2.1. Mobile Application

The diagram below shows the overview architecture including components and other related components.

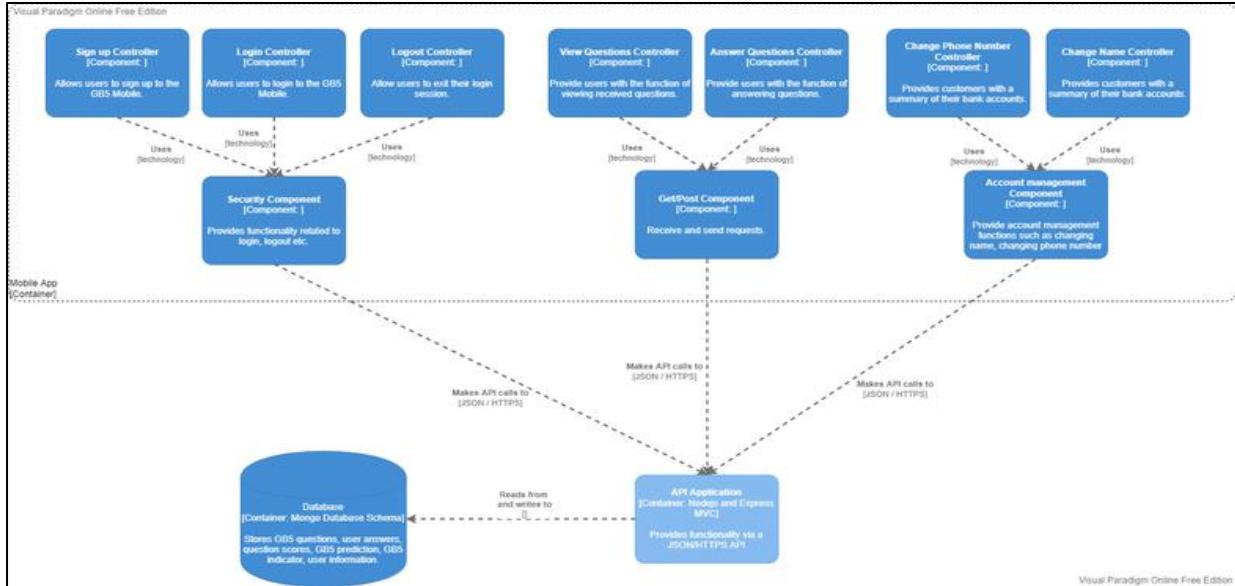


Figure 5.1: Component diagram of Mobile Application

5.2.2. Single-Page Application

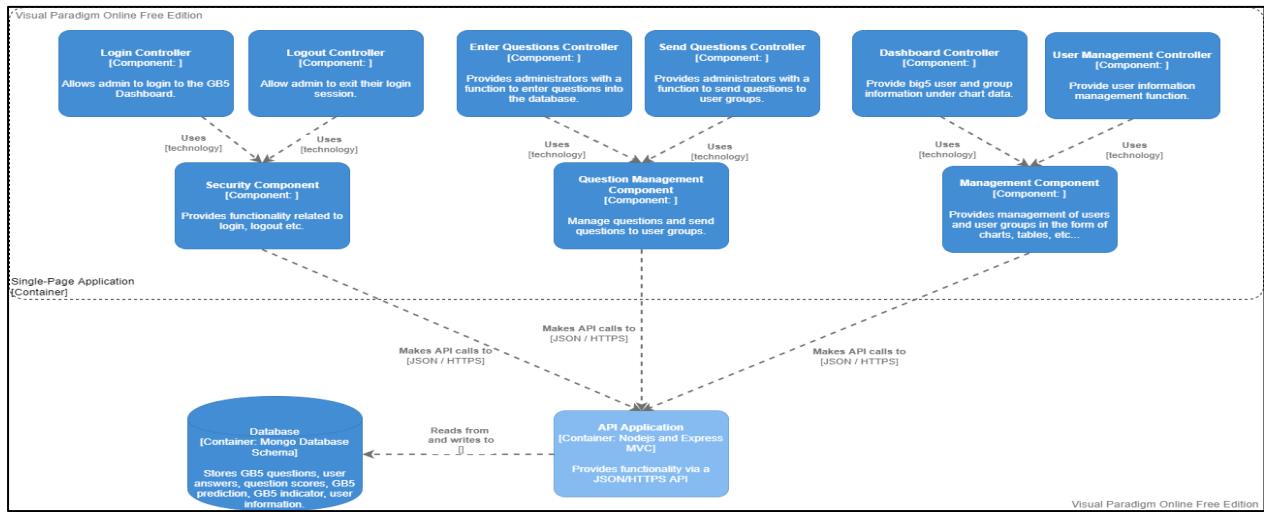


Figure 5.2: Component diagram of Single-Page Application

5.3. CLASS DIAGRAM

The diagram below shows the overview architecture including the class diagram of the question management component.

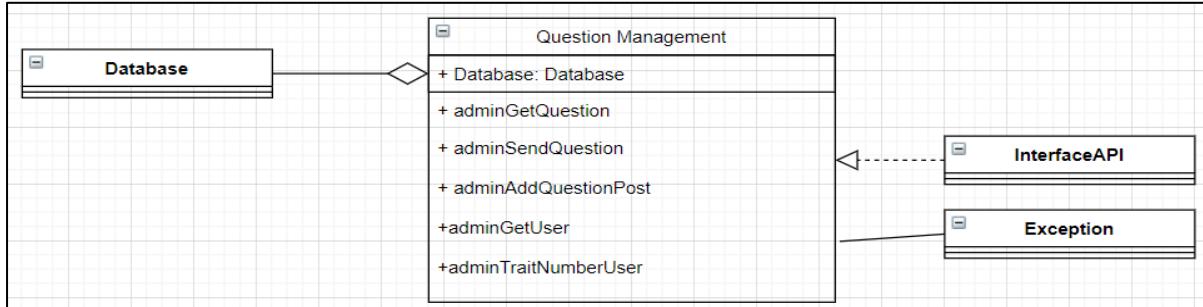


Figure 5.3: Class Diagram

| Role & Responsibility | Description |
|-----------------------|---|
| adminGetQuestion | Display questions from the database on the board |
| adminSendQuestion | Submit a question to the user group |
| adminAddQuestionPost | Enter the question into the database |
| admin GetUser | Select the User group to submit the question |
| adminTraitNumberUser | Save indicator information for group classification |

Table 5.3: Role Description

5.4 Allocation Diagram

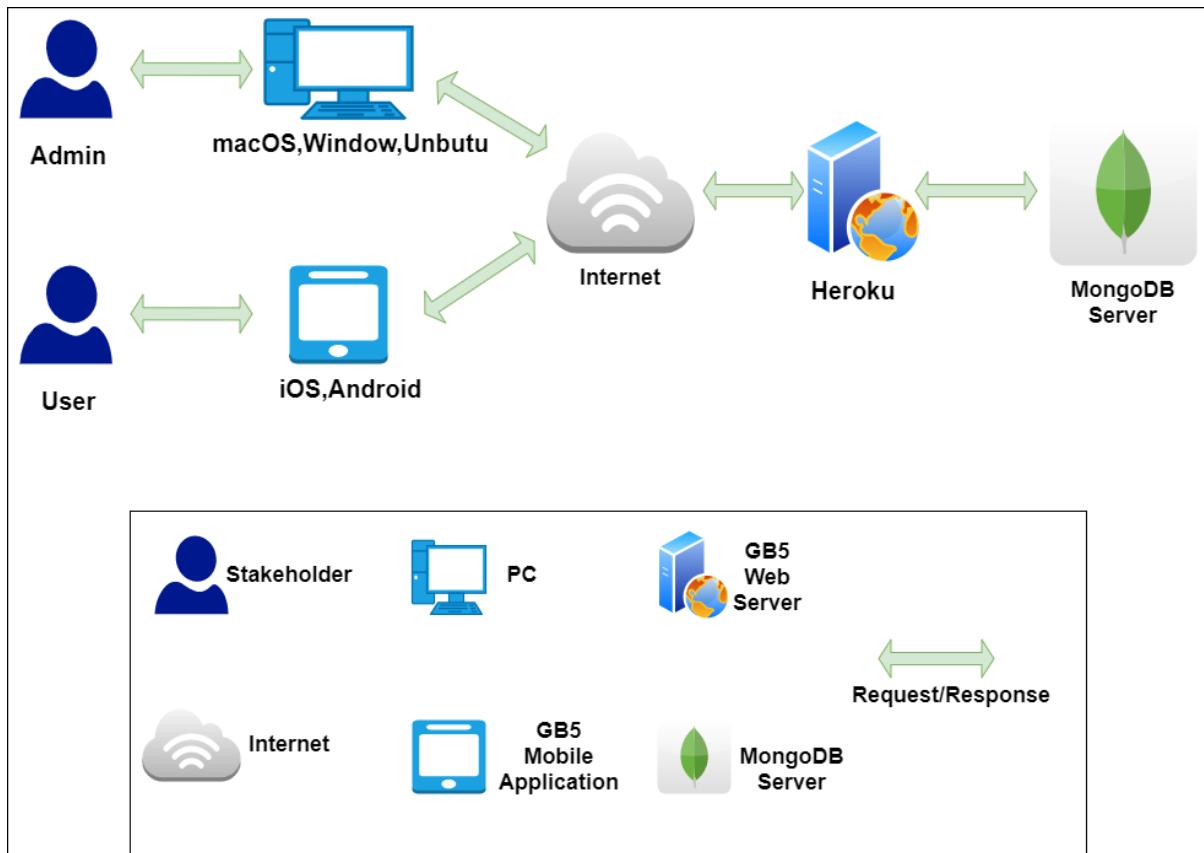


Figure 5.4: Allocation Diagram

| Role & Responsibility | Description |
|-----------------------|---|
| Admin | Admin that interact with Dashboard Application. |
| User | User that interact with Mobile Application. |
| PC | Devices providing web browsers. |
| Mobile Application | Our application. |

| | |
|------------------|--|
| Internet | A global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols. |
| GB5 Web Server | This is where the API is hosted and provides hosting... |
| MongoDB Server | Database server to store data. |
| Request/Response | Get request data from client and response the data to client. |

Table 5.4: *Role Description*

6. REFERENCES

- [The C4 model for visualising software architecture](#)
- <https://online.visual-paradigm.com/>
- [diagrams.net](#)



CAPSTONE PROJECT 1

CMU-SE-450

INTERFACE DESIGN DOCUMENT

Version 1.1

Date: 15 - Nov - 2020

Green Big5 Information System

Submitted by

Chinh, Huu Thai
Chung, Bao Hoang
Loc, Tien Nguyen
Hau, Phuc Bui

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

_____ 31 - Nov- 2021

| PROJECT INFORMATION | | | |
|----------------------------|---|---------------------------------|--------------|
| Project Acronym | GB5 | | |
| Project Title | GreenBig5 | | |
| Project Web URL | http://greenbig5.herokuapp.com/ | | |
| Start Date | 19 - Aug - 2021 | | |
| End Date: | 15 – Dec - 2021 | | |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | |
| Scrum Master | Chinh, Huu Thai | huuchinhdev@gmail.com | 0962.545.506 |
| Team Members | Hau, Phuc Bui | bphau121020@gmail.com | 0775.522.365 |
| | Chung, Bao Hoang | baochunga1@gmail.com | 0889.192.932 |
| | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | 0932.478.789 |

| DOCUMENT INFORMATION | | | |
|-----------------------|---|-----------|-----------------------------|
| Document Title | Interface Design Document | | |
| Author(s) | Team C1SE.02 | | |
| Role | [GB5] Interface_Design_v1.1 | | |
| Date | 15 - Nov - 2021 | File name | [GB5] Interface_Design_v1.1 |
| URL | http://greenbig5.herokuapp.com/ | | |
| Access | Project and CMU Program | | |

REVISION HISTORY

| Version | Person(s) | Date | Description | Approval |
|---------|-----------|-----------------|------------------------------------|----------|
| Draft | Chinh | 12 - Aug - 2021 | Initiate document | x |
| 1.0 | Chinh | 15 - Nov - 2021 | Finish content of interface design | x |
| 1.1 | Hau, Loc | 10-Dec-2021 | Update content of interface design | x |
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1. INTRODUCTION

1.1. PURPOSE OF DOCUMENT

This IDD of the GB5 system has the following purpose:

- Document the design of the user interface of functions of GB5.
- Be the primary document driving the implementation of the user interfaces.
- Introduce interface design for the reader. Including the background, content information display, command buttons.

1.2. INTENDED AUDIENCES

This IDD is intended for the following audiences:

- Technical reviewers including:
- Scrum Master
- Product owner
- Implementers, including:
 - Developers.
 - Testers.

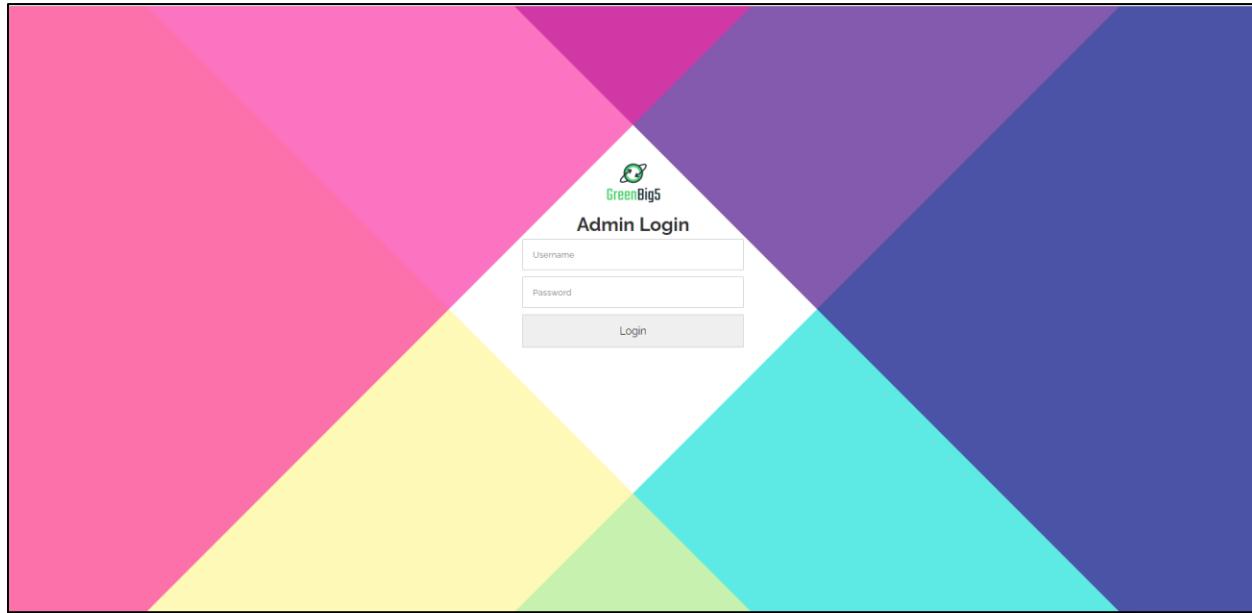
1.3. DOCUMENT OVERVIEW

This IDD is organized into the following sections:

- This document helps to better understand the interface of the Green Big 5 information System, detailed specification components and function of the Application, Dashboard
- With this document, the development team can understand the structure and composition to create a consistent and complete system.
- Overview of the stages and modules of the software and create a complete interface.

2. DETAILED INTERFACE WEB DESIGN

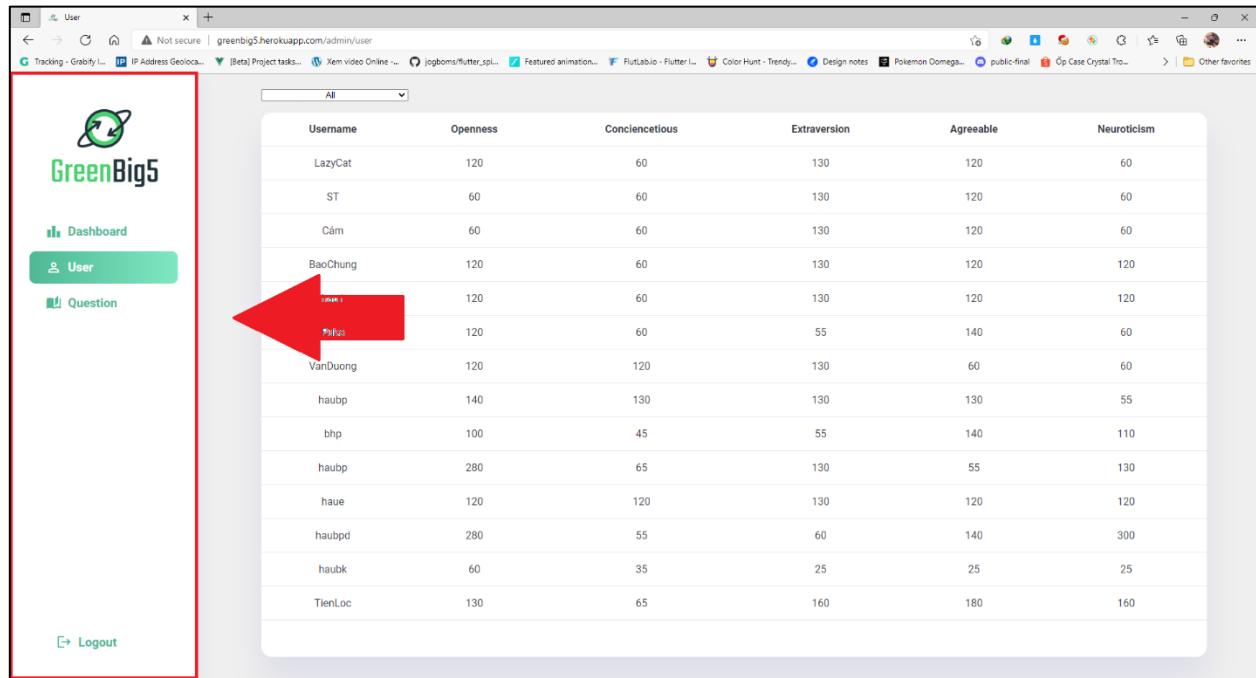
2.1. Loginpage



| Loginpage | | | | |
|-----------|------------|------|--|--------|
| No. | Field name | Type | Require | Target |
| 1 | Background | | <pre>.top:before { transform: rotate(45deg); background: #05dfd7; } .top:after { transform: rotate(135deg); background: #fff591; } .bottom:before { transform: rotate(-45deg); background: #400082; } .bottom:after {</pre> | |

| | | | | |
|---|----------|-------------------------|---|--------------------------------|
| | | | transform: rotate(-135deg); background: #fa26a0; | |
| 2 | Header | H2 tag | Font-size: 1.2rem Color: #00000 | |
| 3 | Email | Input tag | width: 100%; padding: 15px; margin: 5px; border-radius: 1px; border: 1px solid #ccc; font-family: inherit; | |
| 4 | Password | Input “password” tag | width: 100%; padding: 15px; margin: 5px; border-radius: 1px; border: 1px solid #ccc; font-family: inherit; | |
| 5 | Button | button | cursor: pointer; font-size: 1rem; hover: background-color: #28df99; color: #ffffff; | Redirect to /dashboard page |
| 6 | logo | image |  The logo consists of a green circular icon containing two white arrows forming a circle, positioned above the text "GreenBig5" in a bold, sans-serif font. | logo_green.png |

2.2. Sidebar



| Sidebar | | | | |
|---------|------------|--------------------|--|-----------------------------------|
| No. | Field name | Type | Require | Target |
| 1 | Logo | image |  | logo_green.png |
| 2 | Menu | List & icon button | margin-top: 0.3rem; padding: 13px 25px; display: flex; align-items: center; font-weight: 600; transition: color 0.2s ease 0s; color: #4eb994; position: relative hover: color: #fff; | Dashboard, User, Question, Logout |

2.3. Dashboard page



Dashboard

Dashboard

User

Question

[Logout](#)

Dashboard

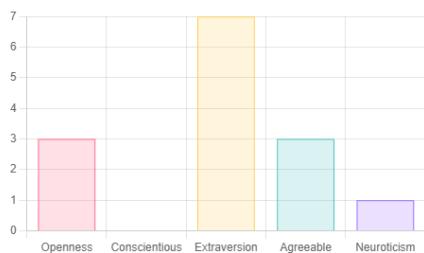


Total People
14



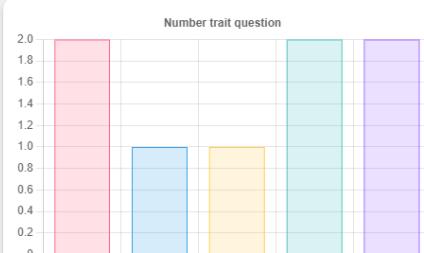
Total Question
8

Number trait question



| Trait | Count |
|---------------|-------|
| Openness | 3 |
| Conscientious | 0 |
| Extraversion | 7 |
| Agreeable | 3 |
| Neuroticism | 1 |

User dashboard



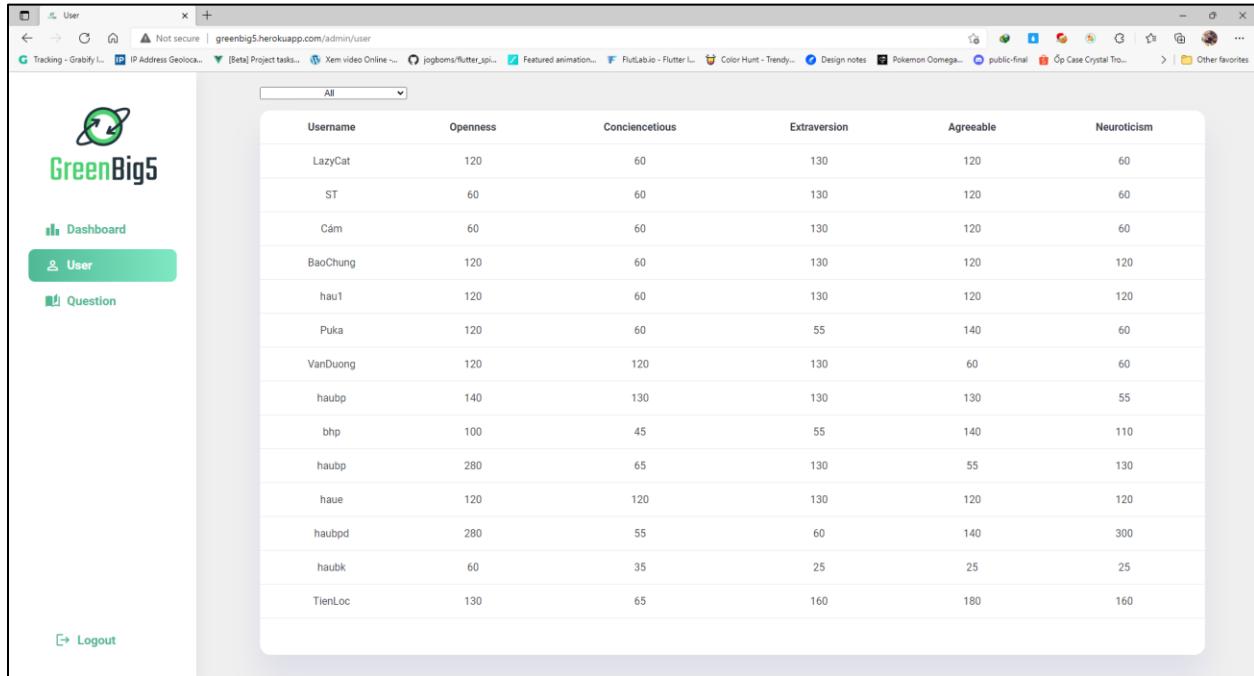
| Trait | Avg Score |
|---------------|-----------|
| Openness | 2.0 |
| Conscientious | 1.0 |
| Extraversion | 1.0 |
| Agreeable | 2.0 |
| Neuroticism | 2.0 |

Question dashboard

Dashboard page

| No. | Field name | Type | Require | Target |
|-----|--------------|------|--|-------------------------------|
| 1 | Header | H1 | Color: #000000 | |
| 2 | Card | div | background: var(--color-background); padding: 1.8rem; border-radius: 1rem; width: 48%; margin-top: 1rem; box-shadow: var(--box-shadow); | Total people, total questions |
| 3 | Column chart | div | margin-top: 2rem; height: 50%; width: 100%; background-color: white; padding: 12px; border-radius: 15px; box-shadow: 1px 5px 5px 1px rgb(0 0 0 / 20%); | |

2.4. User page



The screenshot shows a web browser window for the 'User' page of the GreenBig5 application. The URL is <https://greenbig5.herokuapp.com/admin/user>. The page has a sidebar on the left with 'Dashboard', 'User' (which is highlighted in green), and 'Question'. The main content area displays a table of user data with columns: Username, Openness, Conciencetious, Extraversion, Agreeable, and Neuroticism. The data is as follows:

| Username | Openness | Conciencetious | Extraversion | Agreeable | Neuroticism |
|----------|----------|----------------|--------------|-----------|-------------|
| LazyCat | 120 | 60 | 130 | 120 | 60 |
| ST | 60 | 60 | 130 | 120 | 60 |
| Cám | 60 | 60 | 130 | 120 | 60 |
| BaoChung | 120 | 60 | 130 | 120 | 120 |
| hau1 | 120 | 60 | 130 | 120 | 120 |
| Puka | 120 | 60 | 55 | 140 | 60 |
| VanDuong | 120 | 120 | 130 | 60 | 60 |
| haubp | 140 | 130 | 130 | 130 | 55 |
| bhp | 100 | 45 | 55 | 140 | 110 |
| haubp | 280 | 65 | 130 | 55 | 130 |
| haue | 120 | 120 | 130 | 120 | 120 |
| haubpd | 280 | 55 | 60 | 140 | 300 |
| haubk | 60 | 35 | 25 | 25 | 25 |
| TienLoc | 130 | 65 | 160 | 180 | 160 |

At the bottom left is a 'Logout' button.

| User page | | | | |
|-----------|------------|----------------------|--|--------|
| No. | Field name | Type | Require | Target |
| 1 | Filter | Dropdown(Select tag) | All: Openness, Conciencetious, Extraversion, Agreeable, Neuroticism. | |
| 2 | Table | Table tag | margin: 0 auto; width: 90%; overflow-y: auto; height: 70vh; background: var(--color-background); border-radius: 1rem; | |

2.5. Question Page

| | Question | Indicator | Openness | Conscientious | Extraversion | Agreeable | Neuroticism |
|--------------------------|--|-----------------|----------|---------------|--------------|-----------|-------------|
| <input type="checkbox"/> | Do you like playing logic games? | Logic game | High | Low | Low | Low | Low |
| <input type="checkbox"/> | Do you like to play outdoor games? | outdoor games | Low | Low | High | Low | Low |
| <input type="checkbox"/> | Do you do something else while you and someone have an argument? | Manner | Low | Low | Low | Low | High |
| <input type="checkbox"/> | Are you detail-oriented? | detail-oriented | Low | High | Low | Low | Low |

Input questions

Indicator: Input indicator here..

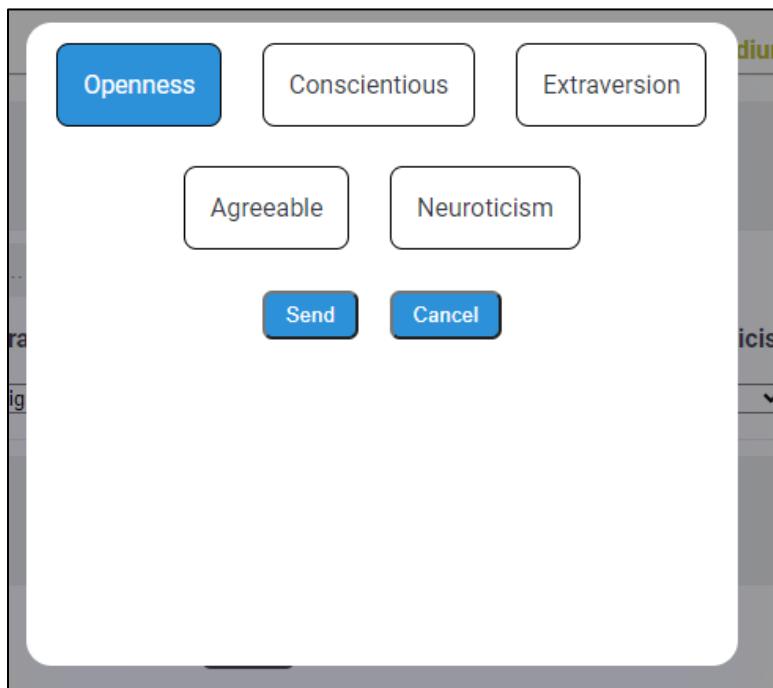
| | | | | | |
|---|---|---|---|---|--|
| Openness | Conciencetious | Extraversion | Agreeable | Neuroticism | High = <input type="text" value="20"/> |
| Medium <input type="button" value="▼"/> | Medium = <input type="text" value="15"/> |
| | | | | | Low = <input type="text" value="10"/> |

| Question Page | | | | |
|---------------|------------|------|---|--------|
| No. | Field name | Type | Require | Target |
| 1 | background | | margin-top: 1.4rem; margin-left: 1.1rem; position: relative; background: #363949 | |

2.5.1. SHOW QUESTION FORM

Questions

| Audi | Question Success | Indicator | Openness | Conscientious | Extraversion | Agreeable | Neuroticism |
|-------------------------------------|--|--|----------|---------------|--------------|-----------|-------------|
| <input checked="" type="checkbox"/> | Do You usually lose your temper? | lose temper | Low | Medium | Low | Low | High |
| <input type="checkbox"/> | Do you do something else while you and someone have an argument? | do something else while you and someone have an argument | Low | Low | Low | Low | High |
| <input type="checkbox"/> | Do you like an sexy girl? | Woman | High | Medium | Low | High | High |



Question Page

| No. | Field name | Type | Require | Target |
|-----|------------------|----------------------|--|--------|
| 1 | Header | H1 | margin-bottom: 2rem; | |
| 2 | Filter questions | Dropdown(Select tag) | All: Openness, Conciencetious, Extraversion, Agreeable, Neuroticism. | |
| 3 | Table | Table tag | height: 230px; overflow: auto; border-bottom-left-radius: 1rem; border-bottom-right-radius: 1rem; | |

| | | | | |
|---|-----------------|-----------|---|--|
| 4 | Table header | thead | display: flex; text-align: center; | |
| 5 | Table body | tbody | margin-top: 12px; background: var(--color-background); width: 100%; height: 87%; overflow: auto; border-radius: 1rem; border-bottom-right-radius: 1px; text-align: center; box-shadow: var(--box-shadow); | |
| 6 | Select question | Input tag | Type “checkbox” | When you click, you will choose the question you want to manipulate |
| 7 | Send question | button | padding: 0.4rem 0.8rem 0.4rem; cursor: pointer; color: #fff; background: #2d91da; border-radius: 0.4rem; | When you click on it, a table will appear to choose to send a question |

2.5.2. INPUT QUESTION FORM

Input questions

Indicator: Input indicator here..

| | | | | | |
|---|---|---|---|---|--|
| Openness | Conciencetious | Extraversion | Agreeable | Neuroticism | High = <input type="text" value="20"/> |
| Medium <input type="button" value="▼"/> | Medium = <input type="text" value="15"/> |
| | | | | | Low = <input type="text" value="10"/> |

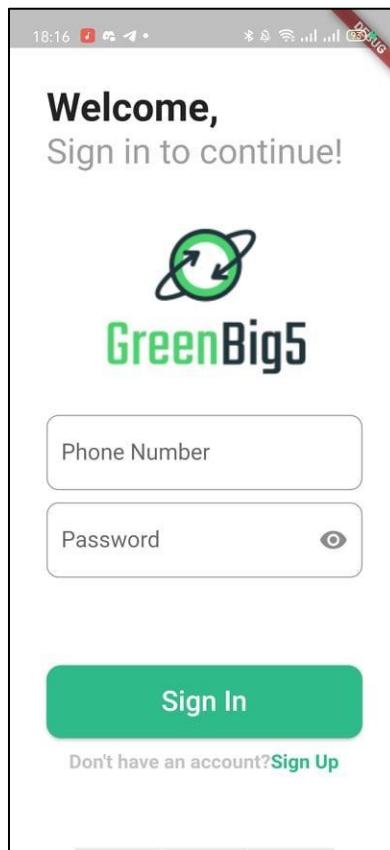
Input Question Form

| No. | Field name | Type | Require | Target |
|-----|------------|------|---------|--------|
| | | | | |

| | | | | |
|---|-----------------|-----------|---|------------------------------------|
| 1 | Header | H2 | margin-bottom: 0.8rem; | |
| 2 | Input indicator | Input tag | width: 35%; padding: 0.5rem; | |
| 3 | Poin | Input tag | type="number" min="1" max="100" value="0" | |
| 4 | Input questions | Input tag | margin-top: 0; background: var(--color-background); border-radius: 1rem; padding: 0 1.8rem 1.8rem 0; box-shadow: var(--box- shadow); text-align: center; | |
| 5 | Save question | button | margin-top: 1.3rem; padding: 0.4rem 0.8rem 0.4rem; cursor: pointer; margin-left: 25%; color: #fff; background: #2d91da; border-radius: 0.4rem; | When onclick it save a question |

3. DETAILED INTERFACE APPLICATION DESIGN

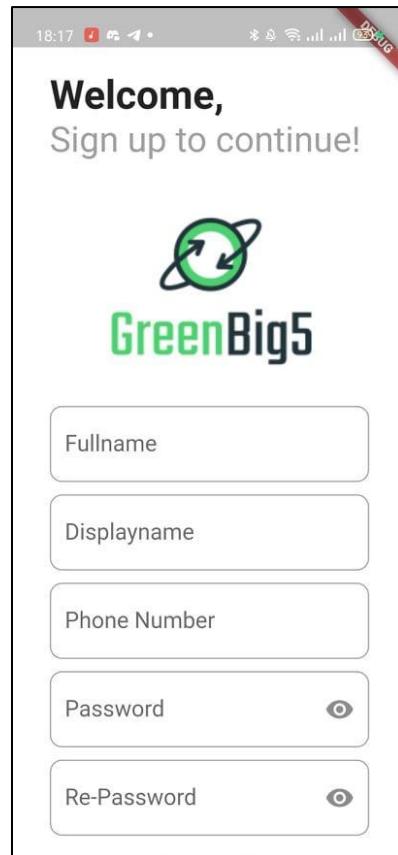
3.1. Sign In page



| Input Question Form | | | | |
|---------------------|------------|------|---|--------|
| No. | Field name | Type | Require | Target |
| 1 | Background | | backgroundColor: Colors.white, | |
| 2 | Header | Text | fontWeight: FontWeight.bold, fontSize: 28.0 | |
| 3 | Subtitle | Text | color: Colors.grey, fontSize: 25.0, | |

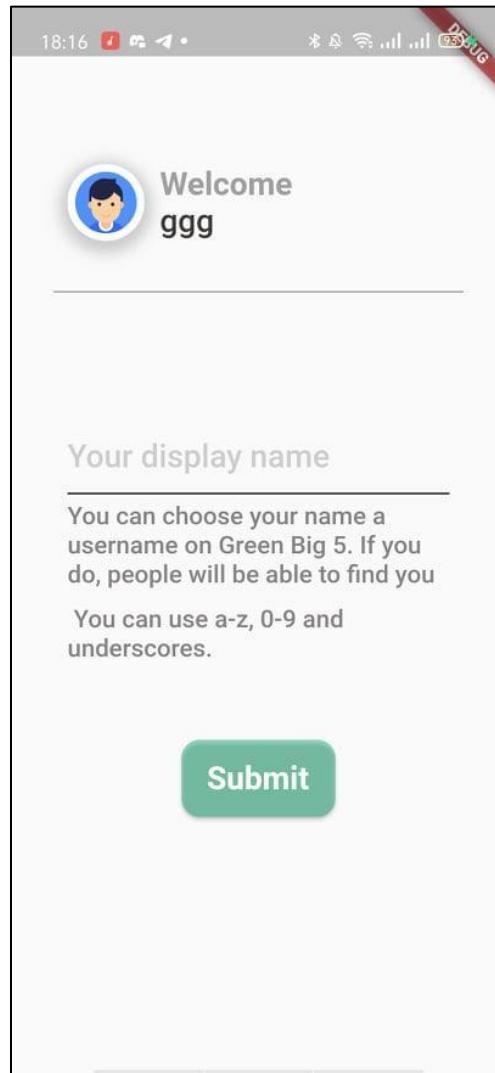
| | | | | |
|---|------------------|---------------|---|--|
| 4 | Logo | Image | | logo_green.png |
| 5 | Input infomation | TextFormField | borderRadius:BorderRadius.all(Radius.circular(10.0)), | Phone number, password |
| 6 | Button | Button | fontSize: 20.0, HexColor("#2FBB89") borderRadius: BorderRadius.circular(12.0), | when onclick it go through the login process |
| 7 | Signup | Link | HexColor("#2FBB89") | When onclick make, you will be redirected to the signup page |

3.2. Signup page



| Input Question Form | | | | |
|----------------------------|------------------|-----------|---|---|
| No. | Field name | Type | Require | Target |
| 1 | Background | | backgroundColor: Colors.white, | |
| 2 | Header | Text | fontWeight: FontWeight.bold, fontSize: 28.0 | |
| 3 | Subtitle | Text | color: Colors.grey, fontSize: 25.0, | |
| 4 | Logo | Image | | logo_green.png |
| 5 | Input infomation | TextField | borderRadius:BorderRadius.all(Radius.circular(10.0)) , | Full Name, Display Name, Phone number, password, Repassword |
| 6 | Button | Button | fontSize: 20.0, HexColor("#2FBB89") borderRadius: BorderRadius.circular(12.0), | when onclick it go through the login process |

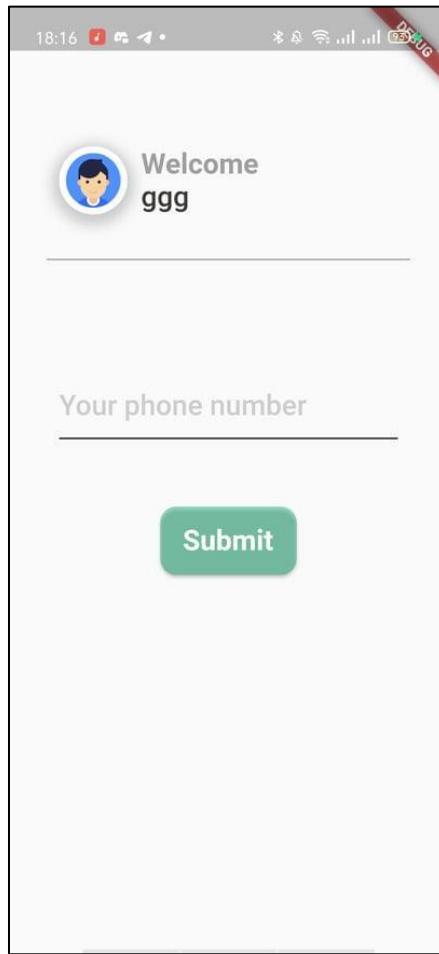
3.3. Change Display-Name page



| Input Question Form | | | | |
|---------------------|------------|------|--|--------|
| No. | Field name | Type | Require | Target |
| 1 | Background | | backgroundColor: Colors.grey, | |
| 2 | Header | Text | color: Colors.grey, fontSize: 24.0, | |

| | | | | |
|---|---------------------|-----------|--|--|
| | | | fontWeight: FontWeight.bold, | |
| 3 | Subtitle | Text | color: Colors.black, fontSize: 24.0, | |
| 4 | Logo | Image | color: Colors.white, width: 5.0 | user.png |
| 5 | Change display name | TextField | fontSize: 18 | Enter to change your display name |
| 6 | Info | Text | fontSize: 14, fontWeight: FontWeight.w500, color: HexColor("#868383") | |
| 7 | Button | Button | fontSize: 20.0, HexColor("#2FBB89") borderRadius: BorderRadius.circular(12.0) | when onclick it go through the login process |

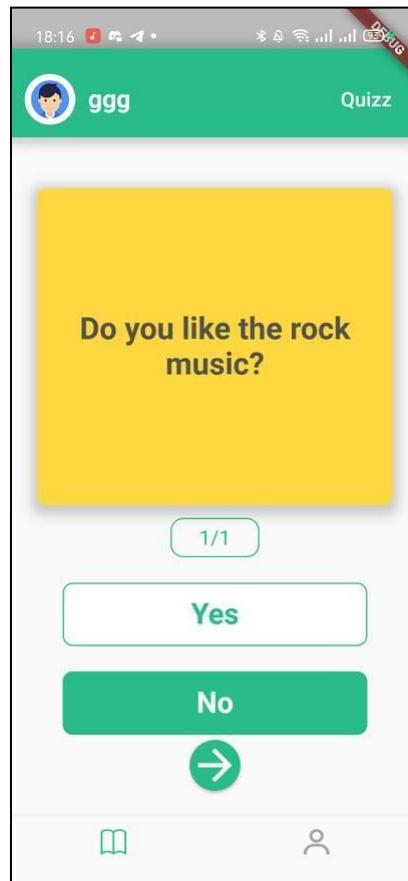
3.4. PhoneNumber page



| Input Question Form | | | | |
|---------------------|------------|------|---|--------|
| No. | Field name | Type | Require | Target |
| 1 | Background | | backgroundColor: Colors.grey, | |
| 2 | Header | Text | color: Colors.grey, fontSize: 24.0, fontWeight: FontWeight.bold, | |
| 3 | Subtitle | Text | color: Colors.black, | |

| | | | | |
|---|--------------|---------------|---|--|
| | | | fontSize: 24.0, | |
| 4 | Logo | Image | color: Colors.white, width: 5.0 | user.png |
| 5 | Phone Number | TextFormField | fontSize: 18 | Enter to change your phone number |
| 7 | Button | Button | fontSize: 20.0, HexColor("#2FBB89") borderRadius: BorderRadius.circular(12.0), | when onclick it go through the login process |

3.5. Question page



| Input Question Form | | | | |
|---------------------|--------------|-----------------|--|--|
| No. | Field name | Type | Require | Target |
| 1 | Background | | backgroundColor: Colors.grey, | |
| 2 | Header | | color: Colors.grey.withOpacity(0. 5), spreadRadius: 5, blurRadius: 7, offset: Offset(0,0.2) HexColor("#2FBB89") | |
| 3 | Name | Text | fontWeight: FontWeight.w700, fontSize: 17.0, color: Colors.white | |
| 4 | Subtitle | Text | fontSize: 14.0, fontWeight: FontWeight.w500, color: Colors.white, | |
| 5 | Logo | Image | color: Colors.white, width: 5.0, borderRadius: BorderRadius.circular(150. 0), | user.png |
| 6 | Phone Number | TextField | fontSize: 18 | Enter to change your display name |
| 7 | Answer | Button (Option) | Option(id, questionDefind, phoneNumber,"Yes",100.0) SizedBox(width: 20.0,), option(id, questionDefind, phoneNumber,"No",100.0) | when onclick select the user's answer |
| 8 | Skip | Button (Option) | option(id,questionDefind,p honeNumber,"Skip",250.0) | when onclick skip question |



Capstone Project 1

CMU-SE 450

Database Design Document

Version 1.0
Date: 04/09/2021

Green Big5 Information System

Submitted by

**Chinh, Thai Huu
Chung, Hoang Bao
Hau, Phuc Bui
Loc, Tien Nguyen**

Approved by Binh, Thanh Nguyen

Project Information

| Project acronym | GB5 | | | | |
|--|---|------------------|---------------------------------|--|--|
| Project Title | GreenBig5 | | | | |
| Start Date | 19 Aug 2021 | End Date | | | |
| Lead Institution | International School, Duy Tan University | | | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | | | |
| Team members | Student ID | Name | Email | | |
| 1 | 24211207051 | Chung, Bao Hoang | baochunga1@gmail.com | | |
| 2 | 24211206857 | Hau, Phuc Bui | bphau121020@gmail.com | | |
| 3 | 24211202217 | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | | |

Database Design Document

| | | | |
|-------------------------|--------------------------|-----------------|------------------------------|
| Document Title | Database Design Document | | |
| Author(s) | Chinh, Thai Huu | | |
| Team Information | Name | Role | |
| | Chinh, Thai Huu | Member | |
| | Chung, Bao Hoang | Member | |
| | Hau, Phuc Bui | Member | |
| | Loc, Tien Nguyen | Member | |
| Date | 04-09-2021 | Filename | C1SE02_[GB5]_database_Design |
| Access | Project and CMU Program | | |

| Document History | | |
|------------------|------------|------------------------|
| Version | Date | Comments |
| V1.0 | 04/9/2021 | Create Database Design |
| V.1.1 | 10/10/2021 | Update table |

Document Approvals

The following signatures are required for approval of this document.

| | |
|---|---|
| Doctor. Habil. Binh, Thanh Nguyen Mentor | Binh, Thanh Nguyen _____  31 - Nov- 2021 |
| Chinh, Thai Huu Scrum master, DevTeam | 10-Dec-2021 |
| Chung, Hoang Bao Product Owner, DevTeam | 14-Dec-2021 |
| Hau, Bui Phuc DevTeam | 14-Dec-2021 |
| Loc, Tien Nguyen DevTeam | 14-Dec-2021 |

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1. Introduction

1.1.Purpose

Place information system's database design document describes the structure of the database and file structure of the system. Database Design document will introduce all attributes of the System that will help developer and tester base on this design to implement and test.

1.2.Goal

To create database tables most accurate.

1.3.Scope

This Database Design Document provides the basis for "GB5 Database design.

It describes both logical and physical definition, non-functional issues, and the database interfaces; storage aspects are defined in the physical database design sections.

The tables performance considerations requirements. The following topics are covered in this document:

- Assumptions and decisions on database design.
- Table column definitions.
- Interfaces and dependencies with other components.

The database design is composed of definitions for database objects derived by mapping entities to tables attributes to columns, unique identifiers to unique keys and relationships to foreign keys.

During design, these initial definitions are enhanced to support the functionality described in the functional specification/ user stories and defined in the primary and supporting modules of the application high level design.

1.4.Data storage platforms

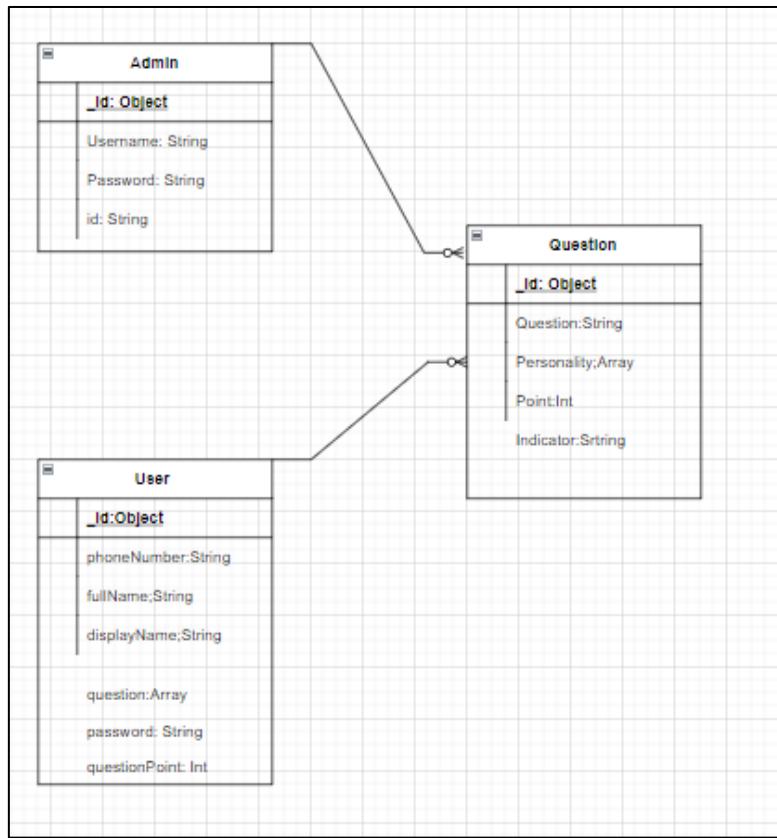
- Data of application is stored in MongoDB
 - In MongoDB, data structure is stored as a file system that takes advantage of the above functions and acts as a way of delivering over sharding[1].

2. Database Design

2.1. Table Overview

| No. | Table name | Short Description |
|-----|------------|---|
| 1 | Admin | This table shows all information of Administrator |
| 2 | Users | This table shows all information of user |
| 3 | Questions | This table shows all information of question |

2.2. Table Relationship Diagram



2.3. Detail

2.3.1. Admin

```

_id: ObjectId("61b5e01509e1aa0aed2b9083")
username: "NguyenTienLoc"
password: "TienLoc20"
id: "ancoijas2412kj"
  
```

| Attributes | Datatype | Null | Description | Extra |
|------------|----------|------|--------------------------------|-------|
| _id | objectId | Not | Id of one record admin data | |
| username | String | not | Login name | |
| password | String | Not | Login passwords | |
| id | String | not | ID of admin | |

2.3.2. Users

```

{
  "_id": ObjectId("61c3280838693b0023d50615"),
  "phoneNumber": "0912345678",
  "fullName": "LazyCat",
  "displayName": "LazyCat",
  "Questions": [
    {
      "0": {
        "id": "S1R24cbgru",
        "dateTime": 2021-12-22T13:28:40.710+00:00,
        "questions": [
          {
            "pointOpenness": 60,
            "pointConscientious": 60,
            "pointExtraversion": 65,
            "pointAgreeable": 60,
            "pointNeuroticism": 60,
            "pointMultiplyNeurot...": 0,
            "pointMultiplyOpenne...": 2,
            "pointMultiplyConsci...": 0,
            "pointMultiplyExtrav...": 2,
            "pointMultiplyAgreea...": 2
          }
        ],
        "1": Object,
        "2": Object,
        "3": Object
      }
    }
  ],
  "password": "$2b$10$ed92cCrH1fOsKbsLSSowPOTssK85HU07wNcRlmM4WwwPy51EgyEK6"
}

```

| Attributes | Datatype | Null | Description | Extra |
|--------------------|----------|------|--|-------|
| _id | objectID | Not | Id of one record a user data | |
| phoneNumber | String | Not | Phone number of a user | |
| fullName | String | Not | Full name of a user | |
| displayName | String | not | Display name of a user | |
| Question | Array | | List questions that a user receive | |
| id | String | | Id of a object question | |
| dateTime | datetime | | Datetime of a object question that user receives | |
| questionDate | Array | | List of question are sent by the dashboard and by once | |
| answer | String | | User's answer of a question | |
| pointOpenness | Int | | user's Openness point of a object question | |
| pointConscientious | Int | | user's Conscientious point of a object question | |
| pointExtraversion | Int | | user's Extraversion point of a object question | |
| pointNeuroticism | Int | | user's Neuroticism point of a object question | |

| | | | | |
|----------------------------|--------|--|---|--|
| pointArgueable | Int | | user's agreeable point of a object question | |
| pointMultyplyOpenness | Int | | Point multiply openness trait of a object question | |
| pointMultyplyConscientious | Int | | Point multiply conscientious trait of a object question | |
| pointMultyplyExtraversion | Int | | Point multiply extraversion trait of a object question | |
| pointMultyplyNeuroticism | Int | | Point multiply neuroticism trait of a object question | |
| pointMultyplyArgueable | Int | | Point multiply agreeable trait of of a object question | |
| password | String | | Password user's | |

2.3.3. Question

```

_id: ObjectId("61c324a738693b0023d50610")
question: "do you like playing logic games?"
indicator: "Logic game"
personality: Array
  ↘ 0: Object
    Openness: "High"
  ↘ 1: Object
    Conscientious: "Low"
  ↘ 2: Object
    Extraversion: "Low"
  ↘ 3: Object
    Agreeable: "Low"
  ↘ 4: Object
    Neuroticism: "Low"
point: Object
  pointHigh: 20
  pointMedium: 15
  pointLow: 10

```

| Attributes | Datatype | Null | Description | Extra |
|---------------|----------|------|-------------------------------------|-------|
| _id | ObjectId | not | Id of question | |
| indicator | String | not | Indicator of question | |
| question | String | not | Save string question of question | |
| personality | Array | not | List personality of question | |
| point | Object | | The point of question | |
| pointHigh | Int | | The point high of question | |
| pointMedium | Int | | The point medium of question | |
| pointLow | Int | | The point low of question | |
| Openness | String | not | The trait openness of question | |
| Conscientious | String | not | The trait conscientious of question | |
| Extraversion | String | not | The trait extraversion of question | |
| Agreeable | String | not | The trait agreeable of question | |

| | | | | |
|-------------|--------|-----|-----------------------------------|--|
| Neuroticism | String | not | The trait neuroticism of question | |
|-------------|--------|-----|-----------------------------------|--|

3. References

[1] [MongoDB: the application data platform | MongoDB](#)

[2] [diagrams.net](#)



CAPSTONE PROJECT 1

CMU-SE-450

TEST PLAN DOCUMENT

Version 1.0

Date: 12 - Aug - 2021

GREEN BIG 5 INFORMATION SYSTEM

Submitted by

Thai Huu Chinh
Hoang Bao Chung
Nguyen Tien Loc
Bui Phuc Hay

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

A blue ink signature of the name 'Binh, Thanh Nguyen'.

_____ 31 - Nov- 2021

| PROJECT INFORMATION | | | |
|----------------------------|--|---------------------------------|--------------|
| Project Acronym | GB5 | | |
| Project Title | Green Big 5 information system | | |
| Start Date | 12 - Aug - 2021 | | |
| End Date: | 15 - Dec - 2021 | | |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | PhD Binh, Nguyen Thanh | | |
| Scrum Master | Chinh, Thai Huu | huuchinhdev@gmail.com | 0935.193.182 |
| Team Members | Hau, Phuc Bui | bphau121020@gmail.com | 0775522365 |
| | Chung, Bao Hoang | baochunga1@gmail.com | 0889192932 |
| | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | 0932478789 |

| DOCUMENT INFORMATION | | | |
|-----------------------------|-------------------------|-----------|----------------------|
| Document Title | Project Proposal | | |
| Author(s) | Team C1SE.02 | | |
| Role | [GB5] Test Plan v.1.0 | | |
| Date | 16 - Nov - 2021 | File name | [GB5] Test_Plan_v1.0 |
| Access | Project and CMU Program | | |

REVISION HISTORY

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1. QUALITY OBJECTIVES

Planning for the project Smart Dashboard Application testing, to ensure that the testing is done according to plan, implement fully the necessary requirements, high work efficiency and give the best product.

2. SCOPE OF TEST

2.1. FUNCTIONS

Below are the functional requirement that are being offered for this system, which are the main purpose of this project:

- GB5 App
 - Login/Sign in: Users can login to the BG5 Application to use it if they already have an account, or they can register if they don't.
 - View the question: Users can see the question in the BG5 Application.
 - Answer the question: Users can answer the question in the application.
 - View the ranking: Users can see their ranking after finishing answering the question, also they can see the other user score.
- GB5 data management system
 - Store user information.
 - Store Big5 indicator, so that the Model can receive to predict Big5 traits.
 - Store user's Answer for the Model.
 - Interact with the GB5 App to show the question.
 - Interact with the GB5 AI model.
 - Send the big5 questions based on the *big5 scenario*.
 - Show data into a dashboard to manage the data.

2.2. USER INTERFACE

- Dashboard scene
 - Navigation bar scene.
 - Logo
 - Group Button
 - Save
 - User
 - Trait
 - Question
 - Menu
 - Group List
 -
 - Toolbar Scene.
 - Mashup Content scene.

- Output log scene.
 - Properties
 - Widget Infos
 - Output log
- Visualization data by Column chart, Line chart.
- Application scene
 - Question scene
 - Logo
 - User name
 - Question component
 - Answer component
 - Login scene
 - Logo
 - Phone number /Password Input
 - Forget password
 - Login button
 - Signin scene
 - Welcome text
 - Full name Input
 - Phone number Input
 - Password Input
 - Re-password Input
 - Signout scene
 - Confirm text
 - Cancel button
 - Yes button

2.3. Databases

- Receive data from Dashboard
- Send question data to Application
- Filtering user's trait team
- Calculate user trait
- Send data to the Dashboard

3. TEST STRATEGY

We are using Black box testing due to fast lifecycle of project:

- Manual Test (Exploratory Testing).
- Acceptance Test.
- Functional Test (Function, UI).

4. TEST CRITERIA

- The Testing process finishes when 90% test cases pass status.
- Testing all test cases.
- The document will be delivered to the customer when sprint time is finished.

5. TEST MANAGEMENT

5.1. TEAM

| Full Name | Email | Phone number | Role |
|------------------|--------------------------|--------------|--------------|
| Chinh, Huu Thai | huuchinhdev@gmail.com | 0962 545 506 | Scrum master |
| Chung, Bao Hoang | baochunga1@gmail.com | 0889 192 932 | Team member |
| Loc, Tien Nguyen | nguoicodontloc@gmail.com | 0397 793 888 | Team member |
| Hau, Bui Phuc | bphau121020@gmail.com | 0906 518 281 | Team member |

5.2. COMMUNICATION TOOLS

- **Slack:** Report bugs, notify updates,...
- **Messenger:** Chat, discuss.
- **Meet:** discuss online.
- **Skype:** Contact, discuss with mentor Binh.

5.3. TEST MANAGEMENT TOOLS

| Purpose | Tool | Vendor/In-house | Version |
|--|--------------|-----------------|---------|
| Excel Sheet to track Test Plan and Test Case | Google Sheet | Google | Latest |

6. RISKS & ASSUMPTIONS

6.1. RISKS

| Risk | Definition | Probability | Severity | Mitigation Strategy |
|-----------------|--|-------------|----------|--|
| Scope Risk | A high numbers of modules | H | H | All team members join to test system Testing in each plan |
| Scheduling Risk | Testing projects are not efficiently or completely | M | M | Move the not finish part of module to the next sprint |
| Time management | Most of the time is for development, not for testing. | M | H | Overtime |
| Operation Risk | Ineffective processing, system failures, or unanticipated circumstance define operational risk | M | M | Estimate more time to testing and other issues |

| Probability | | Severity | |
|-------------|-------------------|----------|-----------------|
| L | Rarely happens. | L | Low damaged |
| M | Sometime happened | M | Medium damaged |
| H | Usually happened | H | Serious damaged |

6.2. ASSUMPTIONS

| Assumption to be proven | Impact of Assumption being incorrect | Owners |
|-------------------------|--------------------------------------|-------------------|
| Network Available | Dropout network, unstable network | Network Providers |

7. TEST SCHEDULE

| No | Task Name | Duration (Hours) | Start | Finish | Resources |
|-----|---|------------------|---------------------|---------------------|------------|
| 1 | Test Sprint 1 | 30 | Aug 12, 2021 | Sep 10, 2021 | |
| 1.1 | Document test | 8 | | | Chung |
| 1.2 | Logo test | 2 | | | Chinh |
| 1.3 | Login UI test | 2 | | | Hau |
| 1.4 | Signout UI test | 4 | | | Loc |
| 1.5 | Sign In UI test | 4 | | | Chinh |
| 1.6 | Sign In form UI test | 4 | | | Chinh |
| 1.7 | Question UI test | 6 | | | Chung |
| 2 | Test Sprint 2 | 48 | Sep 11, 2021 | Oct 10, 2021 | |
| 2.1 | Validating send question process | 10 | | | Loc |
| 2.2 | Validating question load process | 8 | | | Chung |
| 2.3 | Sign in and Sign form test | 6 | | | Chinh |
| 2.4 | Validating team filter test | 4 | | | Loc, Chinh |
| 2.5 | Signout test | 8 | | | Hau |
| 2.6 | Answer question test | 10 | | | All Member |
| 2.7 | Logout test | 2 | | | Loc |
| 3 | Test Sprint 3 | 50 | Oct 11, 2021 | Nov 9, 2021 | |
| 3.1 | Check filter by Openness trait | 8 | | | Loc |
| 3.2 | Check filter by Conscientiousness trait | 8 | | | Loc |
| 3.3 | Check filter by Extraversion trait | 8 | | | Hau |

| | | | | | |
|----------|-----------------------------------|-----------|---------------------|---------------------|-------------|
| 3.4 | Check filter by Agreeable trait | 8 | | | Chung |
| 3.5 | Check filter by Neuroticism trait | 8 | | | Chung |
| 3.6 | Check question data bank | 10 | | | Chinh |
| 4 | Test Sprint 4 | 96 | Nov 10, 2021 | Dec 12, 2021 | |
| 4.1 | Question Page UI test | 2 | | | Chung |
| 4.2 | User Page UI test | 2 | | | Chung |
| 4.3 | Login Page UI test | 2 | | | Hau |
| 4.4 | Trait Page UI test | 2 | | | Loc |
| 4.5 | Summary UI test | 4 | | | Chinh |
| 4.6 | Send Question test | 8 | | | Chung,Chinh |



CAPSTONE PROJECT 1

CMU-SE-450

TEST CASE DOCUMENT

Version 1.0

Date: 12 - Aug - 2021

Green Big5 Information System

Submitted by

Thai Huu Chinh
Hoang Bao Chung
Bui Phuc Hau
Nguyen Tien Loc

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

A handwritten signature in blue ink, appearing to read 'Binh, Thanh Nguyen'.

_____ 31 - Nov- 2021

| PROJECT INFORMATION | | | |
|-------------------------|--|---------------------------------|--------------|
| Project Acronym | GB5 | | |
| Project Title | Green Big 5 information system | | |
| Start Date | 12 - Aug - 2021 | | |
| End Date: | 15 - Dec - 2021 | | |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | PhD Binh, Nguyen Thanh | | |
| Scrum Master | Chinh, Thai Huu | huuchinhdev@gmail.com | 0935.193.182 |
| Team Members | Chung, Bao Hoang | baochunga1@gmail.com | 0889192932 |
| | Hau, Phuc Bui | bphau121020@gmail.com | 0775522365 |
| | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | 0932478789 |

| DOCUMENT INFORMATION | | | |
|-----------------------|-------------------------|-----------|----------------------|
| Document Title | Project Proposal | | |
| Author(s) | Team C1SE.02 | | |
| Role | [GB5] Test Case v.1.2 | | |
| Date | 16 - Nov - 2021 | File name | [GB5] Test_Plan_v1.0 |
| Access | Project and CMU Program | | |

REVISION HISTORY

| Version | Person(s) | Date | Description | Approval |
|---------|-----------------|-----------------|----------------------------|----------|
| Draft | Chinh, Thai Huu | 12 - Aug - 2021 | Initiate document | x |
| 1.0 | All members | 12 - Nov - 2021 | Finish content of proposal | x |
| | | | | |
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1. PURPOSE

The purpose of this checklist family is to exercise the functional areas of Green Big5 Information System. It is the intention of this checklist family that by exercising these areas of the application we will evidence (verification and validation):

- That everything that should be happening and present, is in fact, happening, happening correctly, present and correct present.
- That nothing that should not be present or inaccurate, is present or inaccurate.

2. SCOPE

This checklist does test Application User Interface, Dashboard User Interface, Functional, and Green Big5 Information System.

3. ASSUMPTIONS

The following assumptions were identified and utilized in the construction of this checklist:

- User Interface (UI)
- User experience (UX)
- Functional
- Database

4. VARIANT USES

This checklist can be executed as is for all of the features in Sprints.

5. CHECKLIST

5.1. SPRINT 1

| Application Testing Checklist - Sprint 1 | | | |
|--|-------------------------------|--------------------|-----------|
| Tested By | All member | Date | 15/9/2021 |
| Application Name | Green Big5 Information system | | |
| No | Procedure | Pass/Fail (P/F) | Comments |
| LoginScreen | | | |

| | | | |
|-----|---|---|--|
| C01 |  Logo: GreenBig5 | P | |
| C02 | Screen have 2 input field: phone number, password | P | |
| C03 | Login button: background-color:#29BB89 | P | |
| C04 | Input fields required to be filled | P | |
| C05 | If user input wrong phone number or password, show the text to announce to the user | F | |

Navbar in Application

| | | | |
|-----|---|---|--|
| C01 |  Logo: GreenBig5 , Has Link to “/” | F | |
| C01 | Height: 90px; | P | |
| C02 | Has 2 item:UserInfo, Question | P | |
| C03 | Mobile: height: 100vh | P | |
| C04 | Display in Android devices | P | |
| C05 | Display in IOS Devices | F | |
| C06 | Primary color: #29BB89 | P | |

Sign In Screen

| | | | |
|-----|---|---|--|
| C01 | Screen have 4 input field: Full name, Phone number, password, re-password | P | |
| C02 | Sign In button: color:#29BB89, background-color:#000000 | P | |
| C03 | Come to Login Screen | F | |

5.2. SPRINT 2

| Application Testing Checklist - Sprint 2 | | | |
|--|---|--------------------|-----------|
| Tested By | All member | Date | 9/28/2021 |
| Application Name | Green Big5 Information System | | |
| No | Procedure | Pass/Fail (P/F) | Comments |
| Question screen | | | |
| C01 | Question box: background-color: #FFE893, color:#545151 | F | |
| C02 | Answer button: has 2 buttons Background-color:#29BB89(clicked) Background-color: #000000 | P | |
| C03 | Skip button: move to the next question | P | |
| C04 | After click “Yes” or “No” button, the application come to the next question | F | |
| C05 | After answer final question, move to the thank you screen | P | |
| User Info | | | |
| C12 | Phone number: user phone number ➤ to change phone number | P | |
| C13 | User name: user's display name ➤ to change user name | P | |
| C14 | Logout ➤ move to validate screen that the user want to logout | P | |

| Notification | | | |
|---------------------|---|---|--|
| C01 | Notify to the user when the new question arrive | P | |
| C02 | Notify to the user if they want to logout | P | |

5.3. SPRINT 3

| Application Testing Checklist - Sprint 3 | | | |
|---|--|----------------------------|-----------------|
| Tested By | All member | Date | 10/17/2021 |
| Application Name | Green Big5 Information System | | |
| No | Procedure | Pass/Fail (P/F) | Comments |
| Dashboard page | | | |
| C01 | Each trait have a specific color on chart | P | |
| C02 | Show total user in Y-line on the chart | F | |
| C03 | Show total user | P | |
| C04 | Show % of user in a circle chart | F | |
| C05 | Each trait have a specific color on circle | P | |
| C06 | Login with an anonymous account | F | |
| User Page | | | |
| C01 | Each user column show all trait point | P | |
| C02 | Show User detail when click at the user name | F | |
| C03 | User trait point update automatic | P | |

5.4. SPRINT 4

| Application Testing Checklist - Sprint 4 | | | |
|--|---|--------------------|--------------------------|
| Tested By | Smart Dashboard Application | Date | 11/14/2021 |
| Application Name | Green Big5 Information System | | |
| No | Procedure | Pass/Fail (P/F) | Comments |
| Question Page | | | |
| C01 | Select only one question in one times | P | |
| C02 | Show question in table | P | |
| C03 | Input trait point | P | |
| C04 | Edit question | F | |
| C05 | Input question | P | |
| C06 | Delete question | P | |
| C07 | Do not enter the question in the textbox but press save | F | Question must be entered |
| C08 | Send a question to a group of people | P | |
| C09 | Send questions to multiple groups of people | P | |
| C10 | Enter multiple questions at once | F | |
| C11 | Submit multiple questions at once | F | |
| C12 | Have not selected a question but pressed Send | F | |
| C13 | Enter a question with multiple Highs | F | Only one |
| C14 | Duplicate question input | F | Only one |
| C15 | Do not select the group but press the send button | F | |



Capstone Project 1

CMU-SE 450

Code Standard

Version 1.0

Date: 10/11/2021

Green Big5 Information System

Submitted by

Chinh, Thai Huu
Chung, Hoang Bao
Hau, Bui Phuc
Loc, Nguyen Tien

Approved by Nguyen Thanh Binh

Proposal Review Panel Representative:

Name

Signature

Date

Binh, Thanh Nguyen _____

_____ 31 - Nov- 2021

A handwritten signature in blue ink, appearing to read 'Nguyen Thanh Binh', placed over the signature line.

PROJECT INFORMATION

| Project acronym | GB5 | | |
|--|---|---------------------|-------------------|
| Project Title | GreenBig5 | | |
| Start Date | 19 Aug 2021 | Start Date | 19 Aug 2021 |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | |
| Team members | Student ID | Team members | Student ID |
| 1 | 24211207051 | 1 | 24211207051 |
| 2 | 24211206857 | 2 | 24211206857 |
| 3 | 24211202217 | 3 | 24211202217 |

REVISION HISTORY

| Version | Date | Comments | Author | Approval |
|----------------|-------------|-----------------|---------------|-----------------|
| 1.0 | 15/11/2021 | Initial Release | All members | |

1. Introduction

1.1 Purpose

- This Coding Standard requires certain practices for developing programs in the JavaScript language. The objective of this coding standard is to have a positive effect on
 - Avoidance of errors/bugs, especially the hard-to-find ones.
 - Maintainability, by promoting some proven design principles

1.2 Scope

- This standard pertains to the use of the JavaScript language.

2. Code Standards

2.1 Variables

- Using **camelCase** for identifier names (variables and functions).
- All names start with a **letter**.
- Constants (like PI) written in **UPPERCASE**
- No unused variables.
- For var declarations, write each declaration in its own statement.
- Avoid modifying variables of class declarations.
- Avoid modifying variables declared using const.
- No re-declaring variables.
- Avoid assigning a variable to itself.
- Avoid comparing a variable to itself.
- Restricted names should not be shadowed.

2.2 Spaces Around Operators

- Always put spaces around operators (= + - * /), and after commas.

2.3 Statement Rules

- Put the opening bracket at the end of the first line.
- Use one space before the opening bracket
- Put the closing bracket on a new line, without leading spaces.
- Keep else statements on the same line as their curly braces.

2.4 Object Rules

- Place the opening bracket on the same line as the object name.
- Use colon plus one space between each property and its value
- Do not add a comma after the last property-value pair.
- Place the closing bracket on a new line, without leading spaces.

- Maintain consistency of newlines between object properties.
- Always end an object definition with a semicolon.

2.5 Line Length

- For readability, avoid lines longer than 80 characters

2.6 Spaces

- Use 2 spaces for indentation.
- Add a space after keywords.
- Add a space before a function declaration's parentheses
- Commas should have a space after them.
- Add spaces inside single line blocks.
- No space between function identifiers and their invocations.
- Add space between colon and value in key value pairs.

2.6 Quotes

- Use single quotes for strings except to avoid escaping.

2.7 Comparative math

- Always use === instead of ==.

Exception: obj === null is allowed to check for null || undefined.

2.8 Dot location

- Dot should be on the same line as property.

2.9 Array

- Use array literals instead of array constructors

2.10 Modules

- Use a single import statement per module.
- Renaming import, export, and destructuring assignments to the same name are not allowed.

2.11 Functions

- Avoid unnecessary function binding.
- No unnecessary parentheses around function expressions.

- No function declarations in nested blocks.

2.12 String

- Regular strings must not contain template literal placeholders.
- No octal escape sequences in string literals.
- No multiline strings.
- No spacing in template strings.

2.13 Error catching

- Only throw an Error object.

2.14 Files

- Files must end with a newline.

2.15 Others

- Semicolons must have a space after and no space before.
- Must have a space before blocks.
- Use isNaN() when checking for NaN
- Function typeof must be compared to a valid string.
- Never start a line with (, [, ` , or a handful of other unlikely possibilities.



CAPSTONE PROJECT 1

CMU-SE-450

MENTOR MEETING DOCUMENT

Green Big5 information System

Submitted by

Chinh, Thai Huu
Chung, Hoang Bao
Hau, Phuc Bui
Loc, Nguyen Tien

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

A handwritten signature in blue ink, appearing to read 'Ng/Nguyn' followed by a long horizontal line.

_____ 31 - Nov- 2021

PROJECT INFORMATION

| Project acronym | GB5 | | | | |
|--|---|------------------|---------------------------------|--|--|
| Project Title | GreenBig5 | | | | |
| Start Date | 19 Aug 2021 | End Date | | | |
| Lead Institution | International School, Duy Tan University | | | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | | | |
| Partner Organization | | | | | |
| Project Web URL | http://greenbig5.herokuapp.com/ | | | | |
| Team members | Student ID | Name | Email | | |
| 1 | 24211207051 | Chung, Bao Hoang | baochunga1@gmail.com | | |
| 2 | 24211206857 | Hau, Phuc Bui | bphau121020@gmail.com | | |
| 3 | 24211202217 | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | | |

| DOCUMENT INFORMATION | | | |
|-----------------------|--|-----------|-------------------------|
| Document Title | Mentor Meeting Document | | |
| Author(s) | Team C1SE.02 | | |
| Role | Mentor Meeting Document | | |
| Date | 14 - Dec - 2021 | File name | Mentor Meeting Document |
| URL | greenbig5.herokuapp.com | | |
| Access | Project and CMU Program | | |

19 - Aug - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 19 - Aug - 2021

Meeting Location: Online meeting

Approval: 19 - Aug - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor : Binh ,Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 15:00
- Meeting Actual start: 15:30
- Meeting note taker: Chung

4. AGENDA

- Requirement discussion
- Technology discussion
- Role discussion
- Big5 discussion

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|---------------------|-------------|-------------|
| Requirement analyze | All member | 22-Aug-2021 |
| Big5 theory analyze | Chinh | 30-Aug-2021 |

6. MEETING END

- Meeting Schedule end: 16:30
- Meeting Actual end: 16:45

Secretary

Chung

Chung, Hoang Bao

18 - Aug - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 18 - Aug - 2021

Meeting Location: Online meeting

Approval: 18 - Aug - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor: Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 15:30
- Meeting Actual start: 15:30
- Meeting note taker: Chung

4. AGENDA

- Topic discussion
- Proposal discussion
- Research benefits discussion
- Document requirements
- Discuss about GB5 Database
- Discuss about Big5 Indicator

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--|-------------|-----------------|
| Requirement analyze | All member | 04-Sep-2021 |
| Highlight province with high chart & draw diagrams | Chinh | 11 - Sep - 2021 |
| Update project plan, product backlog | Chung | 11 - Sep - 2021 |
| Documentation about GB5 database. | Chung | 17 - Sep - 2021 |

6. MEETING END

- Meeting Schedule end: 17:00
- Meeting Actual end: 17:00

Secretary

Chung

Chung, Hoang Bao

18 - Sep - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 18 - Sep - 2021

Meeting Location: Online meeting

Approval: 18 - Sep - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor : Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 16:30
- Meeting Actual start: 16:30
- Meeting note taker: Chung

4. AGENDA

- Discuss about GB5 Application UI
- Discuss about Big5 Indicator

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--------------------------|-------------|----------------|
| Build GB5 Application Ui | Hau | 24 - Sep -2021 |
| Create interface design | Chinh | 20 - Sep -2021 |

6. MEETING END

- Meeting Schedule end: 17:30
- Meeting Actual end: 17:30

Secretary

Chung

Chung, Hoang Bao

05 - Oct - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 05 - Oct - 2021

Meeting Location: Online meeting

Approval: 05 - Oct - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor: Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 21:00
- Meeting Actual start: 21:00
- Meeting note taker: Chung

4. AGENDA

- Report the collect Big-five indicator status
- GB5 Application Development Kick-off

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--------------------------|-------------|---------------|
| Update database document | Chinh | 7 - Oct -2021 |

6. MEETING END

- Meeting Schedule end: 15:00
- Meeting Actual end: 15:30

Secretary

Chung

Chung, Hoang Bao

21 - Oct - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 21 - Oct - 2021

Meeting Location: Online meeting

Approval: 21 - Oct - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor : Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 21:30
- Meeting Actual start: 21:30
- Meeting note taker: Chung

4. AGENDA

- Application development status
- Discuss about GB5 Dashboard
- Develop GB5 Dashboard kick off
- Prepare document

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|-----------------------|-------------|-----------------|
| GB5 Application demo | Hau | none |
| Develop GB5 Dashboard | All Member | 10 - Nov - 2021 |
| Update proposal | Chinh | 10-Oct-2021 |
| Demo Dashboard | All Member | 13 - Noc -2021 |

6. MEETING END

- Meeting Schedule end: 22:30
- Meeting Actual end: 22:45

Secretary



Chung, Hoang Bao

20 - Nov - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 30 - Nov - 2021

Meeting Location: Online meeting

Approval: 30 - Nov - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Google Meet
- Meeting with mentor : Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 17:00
- Meeting Actual start: 17:40
- Meeting note taker: Chung

4. AGENDA

- Document update
- Prepare Dashboard demo

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|----------------|-------------|---------------|
| Dashboard demo | All member | 5-Dec - 2021 |
| Product demo | All Member | 10 -Dec- 2021 |

6. MEETING END

- Meeting Schedule end: 19:00
- Meeting Actual end: 19:00

Secretary

Chung

Chung, Hoang Bao

08 - Dec - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 08 - Dec - 2021

Meeting Location: Online meeting

Approval: 08 - Dec - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor: Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 17:00
- Meeting Actual start: 17:30
- Meeting note taker: Chung

4. AGENDA

- Demo UI
- Discuss about presentation
- Discuss about architecture documents
- Demo UI
- Discuss about presentation
- Discuss about scope and database design
- Discuss about link 2 dimension of DataCube

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--------------------------------------|-------------|-----------------|
| Framework, technology | Loc | 14 - Nov - 2021 |
| Update Scope & Database design | Loc, Chung | 14 - Nov - 2021 |
| Update UI | Hau | 14 - Nov - 2021 |
| Update Presentation | All members | 14 - Nov - 2021 |
| Update Test case document | All members | 14 - Nov - 2021 |
| Update last version of all documents | All members | 14 - Nov - 2021 |

6. MEETING END

- Meeting Schedule end: 18:00
- Meeting Actual end: 19:00

Secretary

Chung

Chung, Hoang Bao

14 - Dec - 2021

GREEN BIG5 INFORMATION SYSTEM

MENTOR MEETING

Meeting Date: 14 - Dec - 2021

Meeting Location: Online meeting

Approval: 14 - Dec - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Skype
- Meeting with mentor : Binh, Nguyen Thanh

3. MEETING START

- Meeting Schedule start: 22:00
- Meeting Actual start: 23:10
- Meeting note taker: Chung

4. AGENDA

- Review Documents

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|---------------------------------|-------------|-----------------|
| Prepare Presentation in English | All members | 20 - Dec - 2021 |

6. MEETING END

- Meeting Schedule end: 00:00
- Meeting Actual end: 23:30

Secretary

Chung

Chung, Hoang Bao



CAPSTONE PROJECT 1

CMU-SE-450

TEAM MEETING DOCUMENT

Green Big5 Information System

Submitted by

Thai Huu Chinh
Hoang bao Chung
Nguyen Tien Loc
Bui Phuc Hau

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen _____

A handwritten signature in blue ink, appearing to read 'Binh, Thanh Nguyen'.

_____ 31 - Nov - 2021

| PROJECT INFORMATION | | | |
|-------------------------|--|---------------------------------|--------------|
| Project Acronym | GB5 | | |
| Project Title | Green Big 5 information system | | |
| Start Date | 12 - Aug - 2021 | | |
| End Date: | 15 - Dec - 2021 | | |
| Lead Institution | International School, Duy Tan University | | |
| Project Mentor | PhD Binh, Nguyen Thanh | | |
| Scrum Master | Chinh, Thai Huu | huuchinhdev@gmail.com | 0935.193.182 |
| Team Members | Chung, Bao Hoang | baochunga1@gmail.com | 0889192932 |
| | Hau, Phuc Bui | bphau121020@gmail.com | 0775522365 |
| | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | 0932478789 |

| DOCUMENT INFORMATION | | | |
|-----------------------|-------------------------------|-----------|---------------------------|
| Document Title | Team meeting Project Proposal | | |
| Author(s) | Team C1SE.02 | | |
| Role | [GB5] Team meeting v.1.2 | | |
| Date | 16 - Nov - 2021 | File name | [GB5] Team_ meeting _v1.0 |
| Access | Project and CMU Program | | |

12 - Aug - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 12 - Aug - 2021

Meeting Location: Online meeting

Approval: 12 - Aug - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Google meet

3. MEETING START

- Meeting Schedule start: 15:00
- Meeting Actual start: 15:30
- Meeting note taker: Chung

4. AGENDA

- Discuss about proposal format.
- Discuss which technologies will be used.

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--------------------------|-------------|-----------------|
| Require proposal | All member | 16 - Aug -2021 |
| Require technology stack | All member | 16 - Aug - 2021 |

6. MEETING END

- Meeting Schedule end: 17:00
- Meeting Actual end: 17:00

Secretary

Chung

Chung, Hoang Bao

19 - Aug - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 19 - Aug - 2021

Meeting Location: Online meeting

Approval: 19 - Aug - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: Google meet

3. MEETING START

- Meeting Schedule start: 20:00
- Meeting Actual start: 20:15
- Meeting note taker: Chung

4. AGENDA

- Work assignment
- Discuss about functional
- Application UI frame design

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|-----------------------------|-------------|-----------------|
| Work assignment | All member | 27 - Aug - 2021 |
| Discuss about functional | All member | 27 - Aug - 2021 |
| Application UI frame design | Chinh,Hau | 27 - Aug - 2021 |

6. MEETING END

- Meeting Schedule end: 22:00
- Meeting Actual end: 22:10

Secretary

Chung

Chung, Hoang Bao

31 - Aug - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 31 - Aug - 2021

Meeting Location: Online meeting.

Approval: 31 - Aug - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting : Google meet

3. MEETING START

- Meeting Schedule start: 19:00
- Meeting Actual start: 19:00
- Meeting note taker: Chung

4. AGENDA

- Testing document and UI Mobile application
- Update project plan
- Update product backlog

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|---------------------------|-----------------|----------------|
| Require proposal | All member | 15 - Aug -2021 |
| Interface Design document | Loc,Chung | 7 - Nov - 2021 |
| Technologies document | Stack Chinh,Hau | 7 - Nov -2021 |

6. MEETING END

- Meeting Schedule end: 21:00
- Meeting Actual end: 21:00

Secretary

Chung

Chung, Hoang Bao

08 - Nov - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 08- Nov - 2021

Meeting Location: Google meet

Approval: 08 - Nov - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online Meeting: Google Meet

3. MEETING START

- Meeting Schedule start: 16:00
- Meeting Actual start: 16:00
- Meeting note taker: Chung

4. AGENDA

- Update WBS
- Update Sprint Backlog document
- Update Architecture document

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|------------------------------|-------------|-----------------|
| WBS sprint 4 | All member | 12 - Nov - 2021 |
| Draw allocation view diagram | Chung | 12 - Nov - 2021 |
| Update Sprint backlog | Chinh | 12 - Nov - 2021 |

6. MEETING END

- Meeting Schedule end: 18:30
- Meeting Actual end: 18:30

Secretary

Chung

Chung, Hoang Bao

12 - Nov - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 12- Nov - 2021

Online Meeting

Approval: 12 - Nov - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: google meet

3. MEETING START

- Meeting Schedule start: 21:00
- Meeting Actual start: 21:00
- Meeting note taker: Chung

4. AGENDA

- Update architecture document
- Create Test Plan document
- Create Test Case document
- Create Acceptance Criteria document

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|--------------------------------|-------------|-----------------|
| Draw diagram architecture | Chung | 15 - Nov - 2021 |
| Write Test Plan Databases | Loc | 15 - Nov - 2021 |
| Write Test Case UI | Chinh | 15 - Nov - 2021 |
| Write Test Case RDF DW | Hau | 15 - Nov - 2021 |
| Write Test Case Databases | Chung | 15 - Nov - 2021 |
| Update Acceptance Criteria doc | Chinh | 15 - Nov - 2021 |

6. MEETING END

- Meeting Schedule end: 22:00
- Meeting Actual end: 22:00

Secretary

Chung

Chung, Hoang Bao

20 - Nov - 2021

GREEN BIG5 INFORMATION SYSTEM

TEAM MEETING

Meeting Date: 20- Nov - 2021

Online Meeting

Approval: 20 - Nov - 2021

Recorded By: Chung

1. ATTENDANCE

| Name | Title | Acronym | Present |
|------------------|-----------|---------|---------|
| Chinh, Thai Huu | Leader | THC | Yes |
| Loc, Nguyen Tien | Member | TL | Yes |
| Hau, Bui Phuc | Member | PH | Yes |
| Chung, Hoang Bao | Secretary | BC | Yes |

2. MEETING LOCATION

- Online meeting: google meet

3. MEETING START

- Meeting Schedule start: 21:00
- Meeting Actual start: 21:00
- Meeting note taker: Chung

4. AGENDA

- Update Project Plan
- Update Product Backlog
- Update Architecture document
- Create Database Design
- Update Test Plan

- Update Test Case
- Update Sprint Backlog
- Update Technologies Stack document
- Update document for midterm evaluation

5. POST MEETING ACTION ITEMS

| Action | Assigned To | Deadline |
|----------------------------------|-------------|-----------------|
| Update Database Design | Chung | 25 - Nov - 2021 |
| Update Test Case sprint 4 | Chinh, Loc | 25 - Nov - 2021 |
| Update Presentation | Hau | 25 - Nov - 2021 |
| Update Interface Design sprint 4 | Loc | 25 - Nov - 2021 |

6. MEETING END

- Meeting Schedule end: 22:30
- Meeting Actual end: 22:30

Secretary

Chung

Chung, Hoang bao



International School

Capstone Project 1

CMU-SE 450

Reflection

Version 2.0

Date: 13/03/2021

Green Big5 Information System

Submitted by

Chinh, Thai Huu

Chung, Hoang bao

Hau, Bui Phuc

Loc, Nguyen Tien

Approved by Nguyen Thanh Binh

Proposal Review Panel Representative:

Name _____ Signature _____ Date _____

| | |
|--|--|
| Team Number/ Team Name | C1SE02 |
| Project title | Green Big5 - Green Big5 Information System |
| How many students are on your team? | 4 |
| List the team member's name | Chinh, Thai Huu Chung, Hoang Bao Hau, Bui Phuc Loc, Nguyen Tien |

Reflection (Required)

What challenges did you face while completing this project?

- New technology. This is the group's first project on the Flutter programming language. Although it does not affect much, this is also a common difficulty of the group in completing the project
- Lack of communication is also a barrier for my team
- Lacking experience in developing a system.
- Because of COVID-19, All members had to do the work online.
- Lacking resources to buy tools for developing.
- Lack of practical experience. Estimating workload depends heavily on the feelings and experiences of each individual
- Understanding tourism business, creating and organizing a tour is a huge challenge for information technology students.

What were the highlights for you/your team during this project?

- New technology: Flutter - New programming language of Google, with a brand new technology and function. Support for developing applications.
- The main point is that we apply this technology to tourism development. Currently, the Covid epidemic has greatly affected the development of industries and professions, especially tourism. Therefore, we hope that technology can promote the development of tourism again
- Success in creating a team culture, people after 4 months of work together have positive changes of opinion, thinking, action, thinking to other people, responsible for the work more
- We have successfully used machine learning to provide recommendations for travelers, improving the tourist experience
- Know about the effect of mankind on the environment.

What is the most important thing you learned in this project?

- Teamwork and communication, this always is an important thing when working with others. Although we already have time to work together, when starting doing something new, this job requires different skills and the ability to manage team members.
- Process and framework estimating is also important. After going through this project, we have a better understanding and more accurate estimation of the time to complete the task, function scores,..
- Problem solving and accountability, in order to keep up with project progress, each team member always has the responsibility for the assigned work and instead of dealing with a big problem, we know how to divide small problems to handle them effectively.
- Online work, and decision making.

What part of the project did you do your best work on?

Each team member will have strengths and they will do well in the following parts:

- Chinh: Writing document, testing, research about Big5 model, indicator.... Upgrade my leading Skill and develop the Front-end.
- Chung: Research AI, Testing, Writing document.
- Hau: Research system security issues, plan operations and create a system-wide test strategy, test case and put the application running on the Store.
- Loc:Full-stack developer,application developer

What was the most enjoyable part of this project?

- Planning Poker activities. This is an activity that happens every Sprint starts. After the Product owner read each backlog, the team members asked to analyze and clarify this backlog. This is when the members give their opinions, evaluate

the complexity of the backlog, give the score of the backlogs (corresponding to the execution time) and agree on their views.

- Online working with members: This is the time when everyone in the team exchange knowledge, talk best, consolidate the solidarity in the team without go outside

What is the least interesting part of this project?

- Add new software requirements or change architecture and interface
- Making a professional and detailed document takes time and researches many aspects.
- Detailed planning for each task requires experience in project work and accurate time measurement for that task
- Planning document.

What needs to be improved to make the project team work best?

- The schedule should be more accurate and relevant
- Participate more actively in working together, especially face-to-face meetings and daily meetings
- There is a clear purpose
- Set and follow the rules in the group
- Accept differences
- Should enhance more team building activities
- Team members consider which is the most priority.

How could you/your mentor(s) change this project to make it better next time?

- Another way to make our project become better is that we should keep in touch with our mentors and report the difficulties that we are facing.
- Continue learning about the way real education businesses work.
- More focus and discussion on the project.
- Try to understand the problems faced by market applications and from that improve, apply and our application.



CAPSTONE PROJECT 1

CMU-SE-450

360 Peer Review

Green Big5 information System

Submitted by
Chinh, Thai Huu

Approved by

Capstone Project 1 - Mentor:

Name

Signature

Date

| Project acronym | GB5 | | | | |
|--|---|------------------|---------------------------------|--|--|
| Project Title | GreenBig5 | | | | |
| Start Date | 19 Aug 2021 | End Date | | | |
| Lead Institution | International School, Duy Tan University | | | | |
| Project Mentor | Doctor. Habil. Binh, Thanh Nguyen | | | | |
| Scrum master / Project Leader & contact details | Chinh, Huu Thai Email: huuchinhdev@gmail.com Tel: 0962545506 Student ID: 24211207534 | | | | |
| Team members | Student ID | Name | Email | | |
| 1 | 24211207051 | Chung, Bao Hoang | baochunga1@gmail.com | | |
| 2 | 24211206857 | Hau, Phuc Bui | bphau121020@gmail.com | | |
| 3 | 24211202217 | Loc, Tien Nguyen | nguyentienloc18122000@gmail.com | | |

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| Author(s) | Team C1SE.02 | | |
| Role | 360 peer review | | |
| Date | 14 - Dec - 2021 | File name | 360 peer review Document |
| Access | Project and CMU Program | | |

GREEN BIG5 INFORMATION SYSTEM

Team member rating

| Id | Name | Comment | Rating(1-10) |
|----|------------------|---|--------------|
| 1 | Chung, Hoang Bao | <ul style="list-style-type: none">● Deadline handle: Good● Research responsible: Good● Team-work: Quite good● Development quality: Well● Team-meeting: Always on time● Mentor-meeting: Always on time, often discuss with the mentor | 9 |
| 2 | Hau, Bui Phuc | <ul style="list-style-type: none">● Deadline handle: something delay● Research responsible: Quite good● Team-work; Quite good● Development quality:● Team-meeting:usually late● Mentor-meeting: Always on time | 8 |
| 3 | Loc, Nguyen Tien | <ul style="list-style-type: none">● Deadline handle: Good● Research responsible: Good● Team-work; Quite well● Development quality: Well● Team-meeting:usually late● Mentor-meeting: Always on time, often discuss with the mentor | 9 |



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International School

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