DUY TÂN UNIVERSITY
INTERNATIONAL SCHOOL

GreenBig5
Project Plan

Project Code: GB5

Document Code: GB5-PPD– v2.4

Mentor: Doctor. Habil. Binh, Nguyen Thanh

Group: C2SE.32
- Loc, Nguyen Tien
- Chung, Hoang Bao
- Vinh, Do Quang
- Kha, Ngo Van

Da Nang, 20-Feb-2022

SIGNATURE PAGE

Name	Signature	Date
Binh, Thanh Nguyen		15/05 /2022

AUTHOR:	Chung, Hoang Bao Content Management AI developer
REVIEWERS:	Loc, Nguyen Tien API developer Application developer
	Kha, Ngo Van Application Developer UI designer
	Vinh, Do Quang Full-stack Developer
MENTOR:	Binh, Thanh Nguyen Stakeholder

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 register in the app	
2	Send question to all user	A		
3	Manage content	A		
4	Manage indicator	A		
5	Update physical database	A		
6	Manage GB5 scenario	A		
7	Update GB5 Scenario	M	Improve Scenario	
8	Update GB5 Question	M	Upgrade System	

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1. PROJECT OVERVIEW

1.1. Project Description

Project code	GB5	Contract type	Internal Project
Customer		End-User	
Project Type	Internal	Project Manager/ Scrum master	Loc, Nguyen Tien
Project Category	Development	Business domain	

1.2. Scope and Purpose

1.2.a Project Propose

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

- GB5 Dashboard: Support for create 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) and predicts linkings between big5 traits and environmental impacts.

  Implemented through 3 steps:
    1. Expert models: expert users use the dashboard to specify the linkings between big traits -facets and environmental keywords structured in tree formats.
    2. Questions are defined and generated based on the expert model (1).
    3. Predict and verify expert model by using answer results of (2), Based on that. we can verify if the expert model is apllied for which group(s) of users.

- GB5 App (Update): GB5 Application receives user activity data by listening to the event, the state, of the system emitted through Intent so that the system can find out the user's location based.

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.

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.
- ♦ For the Database (GB5 Database):
    - ➢ Storage user's information.

- ➢ Storage user's personality traits.
- ➢ Storage, Big5 Question
    - ◆ For the Dashboard:
        - ➢ Visualize the user's Big5 personality traits.
        - ➢ Visualize data into a chart....
        - ➢ Create question from keywords connect big5 indicator trait
        - ➢ See the direct the user follows the environtment theme
        - ➢ Send a question to the whole user to see the flow.

Language:
- ◆ English

Duration:
- ◆ 12 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 must 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	01-March-22	
End Date	dd-mmm-yy	16-May-22	
Duration	days	75 days	
Team Size	4 Person (s)	4 Person (s)	
Billable Effort /	Person-day	220	
Number of work hours per day for one engineer	Person-hour	2.5	

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**	25- April-2022	
2	**GB5 Database**	27-March-2022	
4	**GB5 Dashboard**	10-May-2022	

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 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 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

2.1.1. 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 context.
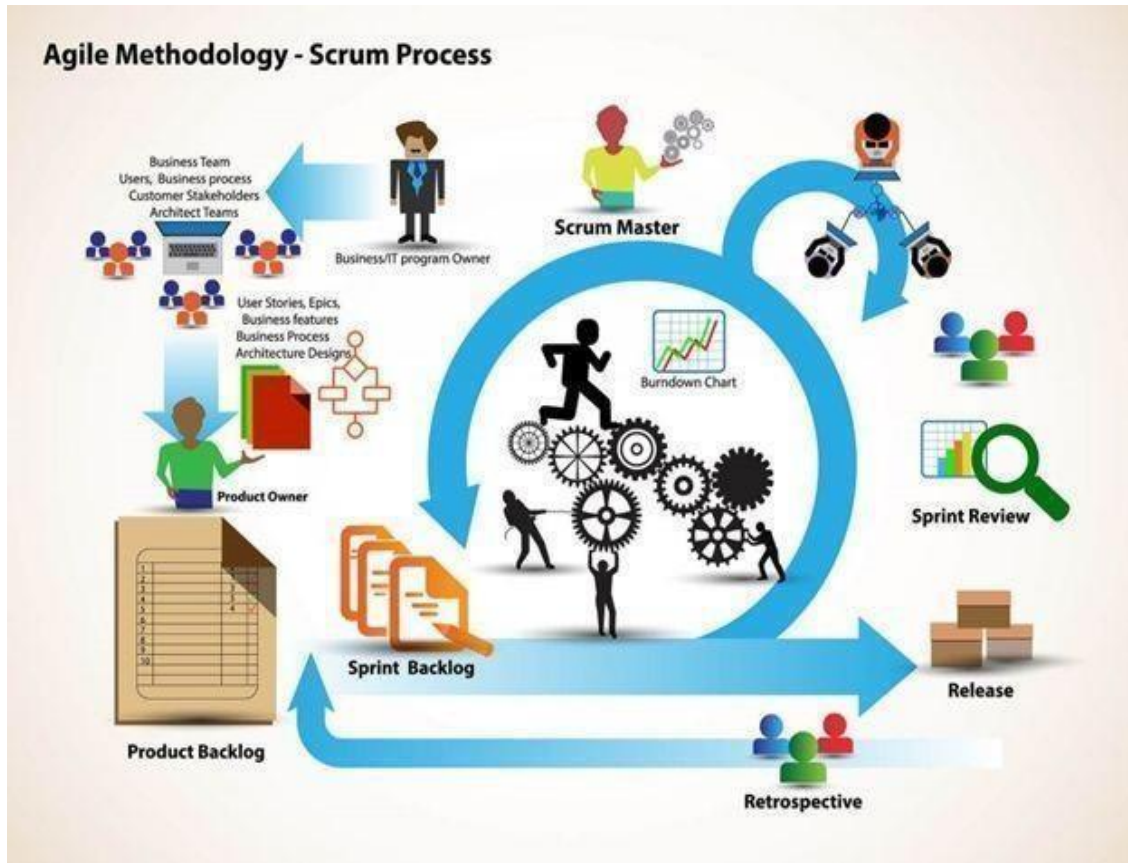
2.1.1.a. Scrum Process

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 standarddefect 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	Improvement in quality as overall defect removal efficiency will improve; some benefits in productivity as defects will be detected early
leader, developer, and one consultant.	
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, Thanh Nguyen	Initial
Project plan Project schedule CM Plan				Group review	Binh, Thanh Nguyen Loc, Tien Nguyen Chung, Bao Hoang Kha, Ngo Van Vinh,Do Quang	End of Initiation stage
Business analysis and requirements specification document, Use Case catalog				Group review	Loc, Nguyen Tien Chung, Hoang Bao Kha, Ngo Van Vinh, Do Quang	End of 70% requirement
Design document, object model				Group review	Loc, Tien Nguyen Chung, Bao Hoang Kha, Ngo Van Vinh, Do Quang	End of 90% design
Stage plans				One-person review	Binh, Thanh Nguyen	Beginning of each stage
Complex/ first specsinl. diagrams	time test	Gener atedca ses	progam interactive	Group review	Binh, Thang Nguyen Kha, Ngo Van Chung, Hoang Bao Loc, Tien Nguyen Vinh, Do Quang	End of detailed design
Code				Group review	Kha, Ngo Van Chung, Hoang Bao Loc, Tien Nguyen Vinh, Do Quang	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 complete 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
- *Automation strategy:*
  - Automation Testing or Test Automation is a software testing technique that performs using special automated testing software tools to execute a test case suite.
  - The automation testing software can also enter test data into the System Under Test, compare expected and actual results and generate detailed test reports. Software Test Automation demands considerable investments of money and resources.
  - Testing tools: Katalon Studio, Appium.
- *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	*Nominal*
Development Flexibility	*Nominal*
Architecture / Risk Resolution	*Nominal*
Team Cohesion	*Very High*
Process Maturity	*Nominal*

The Size estimation is documented in Page 18-19

Software Cost Drivers			
Product		**Personnel**	
Required Software Reliability	*Nominal*	**Analyst Capability**	*High*
Database Size	*Nominal*	**Programmer Capability**	*High*
Product Complexity	*Nominal*	**Personnel Continuity**	*Nominal*
Developed for Reusability	*High*	**Application Experience**	*High*
Documentation Match to Lifecycle Needs	*Nominal*	**Platform Experience**	*High*
		Language and Toolset Experience	*High*
Project		**Platform**	

Use of Software Tools	*High*	Time Constraint	*Nominal*
Development	*Nominal*	Storage Constraint	*Nominal*
Required Development Schedule	*Nominal*	Platform Volatility	*Nominal*

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 19-20

Activity/Process	Total budgeted Effort Usage (pd)	Total % budgeted Effort Usage (%)	<Stage 1/ Sprint 1>		<Stage 2/ Sprint 2>		<Stage 3 / sprint 3>		<Stage 4/ sprint 4>	
			No	%	No	%	No	%	No	%
Requirement	25	10.5	8	21	4	10	3	7	2	5.9
Design	11	5	3	7.9	2	5.3	2	5	2	5.9
Coding	100	40	10	26	1	36	1	45	1	47.1
Unit testing	11	5	0	0	2	5.3	3	7	2	5.9
Testing	22	10	3	7.9	4	10	4	10	4	11.8
Deployment	11	5	0	0	2	5.3	2	5	2	5.9
Support for Acceptance Test	10	4.1	0	0	2	5.3	1	2	1	2.9
Project Planning	9	4.1	4	10	1	2.6	1	2	1	2.9
Project monitoring	14	6.4	3	7.9	2	5.3	3	7	2	5.9
Quality Assurance	14	6.4	2	5.3	2	5.3	3	7	2	5.9
Trainning	8	3.6	5	13	3	7.9	0	0	0	0
Total	**235**	**100.1**	**38**	**99**	**23**	**98.3**	**23**	**97**	**19**	**100.1**

3.3. *Schedule*

3.3.1. *Project Milestone & Deliverables*

1. Deployment GB5 Scenario
2. Deployment Application
3. Deployment Database
4. Deployment Dashboard
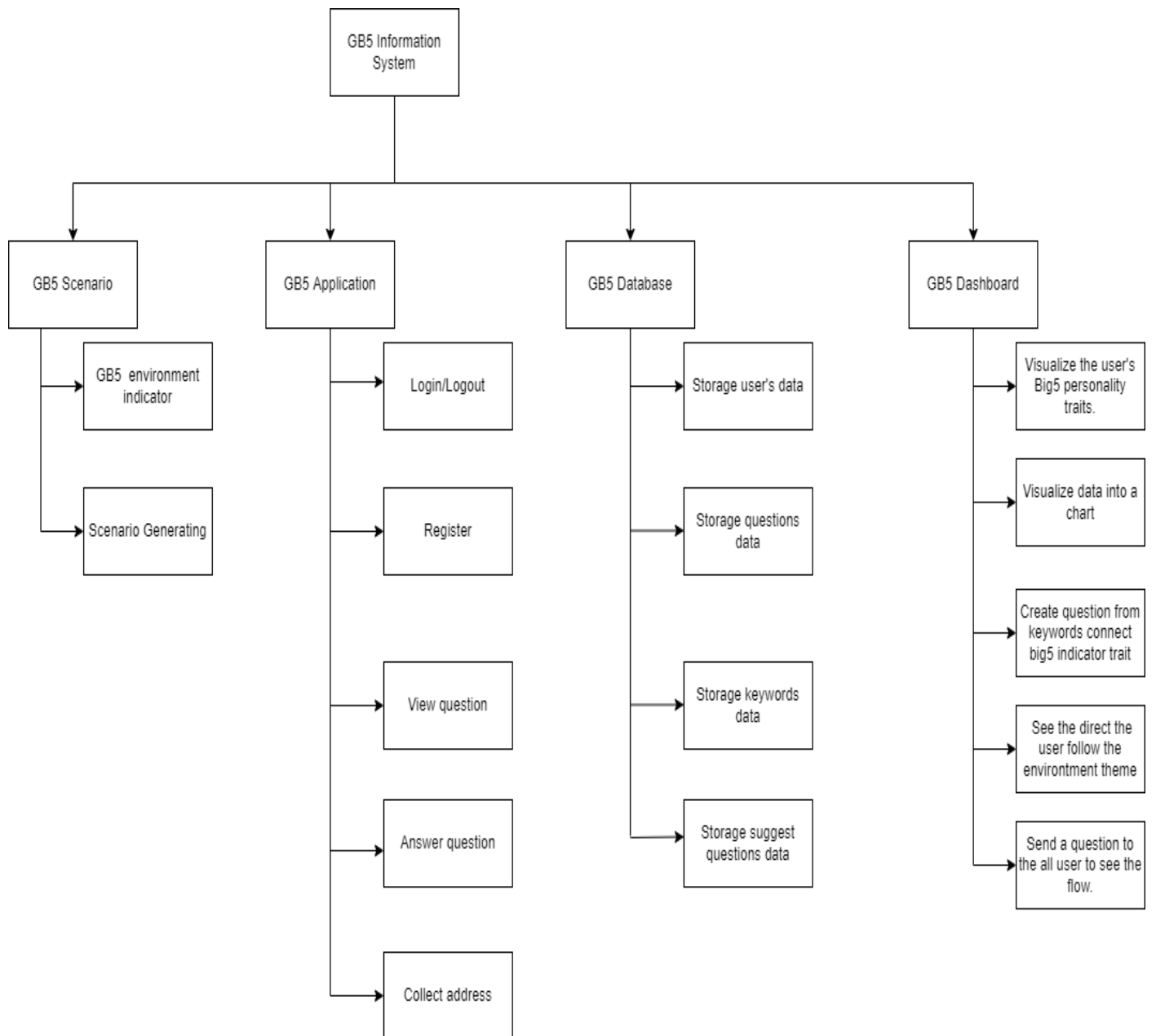
3.3.2. Work Breakdown Structure

Table 3.3.2: *WBS*

3.3.3. Detailed Schedule

WBS	Task	Duration(s)	Start	End	Assign to
1	**Initial**	**7**	**15Aug 2022**	**22 Aug 2022**	**Team, Mentor**
1.1	Project's Kick-off Meeting	**1**	**18 Feb 2022**	**19 Feb 2022**	**Team, Mentor**
1.2	Collect and analyse requirements	**4**	**19 Feb 2022**	**23 Feb 2022**	**Team, Mentor**
1.3	Setup Development Environment	**1**	**24 Feb 2022**	**24 Feb 2022**	**Team, Mentor**
2	**Develop**	**75**	**1 March 2022**	**16 May 2022**	**Team**
2.1	**Sprint 1**	**33**	**1 March 2022**	**4 April 2022**	**Team**
1	Research big5 model				**Team**
2	Research technical, source code,doc of project				**Team**
3	Research create question from keywords				**Team**
4	Research model use for AI				**Team**
2.2	**Sprint 2**	**19**	**4 April 2022**	**23 April 2022**	**Team**
1	Create model AI for create question and predict big5 trait				**Team**

2	Update register page in app				**Team**
3	Collect address of user.				**Team**
2.3	**Sprint 3**	13	**23 April 2022**	**6 May 2022**	**Team**
1	Create API for function python				**Team**
2	Connect keywords and big5 indicator trait become a tree				**Team**
2.4	**Sprint 4**	10	**6 May 2022**	**16 May 2022**	**Team**
1	Create question from keywords connect big5 indicator trait				**Team**
2	Save or send question				**Team**
3	Notification flow of model AI and the staus of question				**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 App	**5-March-2022**	**All Member**	
	Review: Work App	**23-April-2022**	**All Member**	
	Review: Work Dashboard	**6-May-2022**	**All Member**	
Project Tracking				
	< GB5 Scenario> milestone review meeting	**4-March-2022**	**All Member**	
	<GB5 Application> milestone review meeting	**24-April-2022**	**All Member**	
	<GB5 Dashboard> milestone review meeting	**03-May-2022**	**All Member**	

3.4. Infrastructure

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

Hardware & Software			
1GB space on server	Installation package	Initiation stage	
Pycharm	Development	Initiation stage	
Android Studio	Development	Initiation stage	
MongoDB	Database	Initiation stage	
Rational Rose	Design	Initiation stage	
Other Tools			
CVS	Source version control	Definition stage	
Nunit	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	

3.5. Training Plan

Training Area	Participants	When, Duration	Waiver Criteria
Technical			
Python Language		17 days	If already trained
Flutter Framework		8 days	If already trained
Process			
Quality system		3 hrs	Mandatory

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

4. PROJECT ORGANIZATION
4.1. Organization Structure

Scrum Master	- 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 members' progress, and protecting the team from distractions.	Loc, Nguyen Tien

Product Owner	• 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.	Loc, Nguyen Tien
Developer	• 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	• 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
Loc, Nguyen Tien	Scrum Master, Dev-team
Chung, Hoang Bao	Product Owner, Dev-team
Do, Quang Vinh	Dev-team
Kha, Ngo Van	Dev-team

5. COMMUNICATION & REPORTING

Communication Type	Method / Tool	When	Information	Particiants / 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	In Excel file and via project weekly meeting	Weekly		Poject leader technical
Project Meeting				
Kick-off Meeting	Face to face Googe meet Slack	Initiation stage	Project introduction; Project plan review; Risk identification; Obtainment of commitent Of relavant stakeholders	Project Mgr(s), Project Senior Manager, Project Team Members, QA
Project Progress Review Meetings	Face to face Googe meet Slack	Weekly	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 Googe meet Slack	Before milestones	Projectobjective 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/i nformation	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 status report, Issue requiring clarifications, escalation, if any	Project Manager Sub-Project Managers
Project Meetings with customer	Teleco nference /TV Meeting	<2pm Tuesday, Weekly>	As above	Project Manager

Requiremet gathering/clarification	Face to face Meeting Google meet	During requirement analysis phase	As in Q&A list	Project Manager Business Analyst
Communication with Senior Management				
Review Project Plan & Project schedule	Slack	Significant changes to WO, PP and Project schedule (scope, objectives Organizatio n,HR, major milestone, deliverables)		Project Mgr
Project Progress Review	Slack	Weekly	Project status report, Issue requiring clarifications, escalation, if any	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,QAHR, Training, Recruitment,etc)	Calllog. 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**	**1-March-2022**	**https://www.atlassian.com/agile**	
			https://www.cprime.com/res ources/what-is-agile-what-is-scrum/	
			https://www.agilealliance.or g/agile101/	
			The Scrum Framework by International Scrum Institute	
2	**COCOMO II**	**1-March-2022**	**https://www.rose-hulman.edu/class/csse/cs se372/201410/SlidePDFs/ session12.pdf**	
3	**Software Standards**	**4-April-2022**	**https://www.nws.noaa.gov/o h/hrl/developers_docs/G eneral_Software_Standards.pdf**	
			https://standards.ieee.org/st andard/12208-2017.html	
			https://sw-eng.larc.nasa.gov/	

DEFINITIONS AND ACRONYMS

Aconym	Definition
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 Big5