

**CAPSTONE PROJECT 2**

**PROJECT PLAN DOCUMENT**

**What should I eat today?**

**VERSION: 1.1**

**Mentor : Nguyen Thi Bao Trang**

**Project Team : 101dogS Team**

**Team Member : Le Nguyen Hoang Van**

**Luong Minh Hieu**

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**Nguyen Dinh Luu**

**03/08/2020**

**INTERNATIONAL SCHOOL OF DUYTAN UNIVERSITY**

**PROJECT INFORMATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PROJECT INFORMATION** | | | |
| **Project Acronym** | WIET | | | |
| **Project Title** | What should I eat today? | | | |
| **Start Date** | 02/12/2020 | **End Date** | 05/15/2020 | |
| **Lead Institution** | International School, Duy Tan University | | | |
| **Project Mentor** | Nguyen Thi Bao Trang | | | |
| **Product Owner & Contact Detail** | Le Nguyen Hoang Van | | | |
| **Partner Organization** |  | | | |
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**PRODUCT BACKLOG DOCUMENT**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **DOCUMENT NAME** | | |
| **Document Title** | Product Backlog Document | | |
| **Author(s)** | 101dogS Team | | |
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**REVISION HISTORY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Person(s)** | **Date** | **Description** |
| **1.0** | Le Nguyen Hoang Van | 03/08/2020 | Create Product Plan Document for project |
| **1.1** | Le Nguyen Hoang Van | 03/22/2020 | Fix Product Plan Document for project |

|  |  |  |  |
| --- | --- | --- | --- |
| **Document Approval**  The following signatures are required for approval of this document | | | |
| **Mentor** | Nguyen Thi Bao Trang | **Signature:** |  |
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| **Date:** |  |
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| **Date:** |  |
| **Team member(s)** | Nguyen Dinh Luu | **Signature:** |  |
| **Date:** |  |
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| Luong Minh Hieu | **Signature:** |  |
| **Date:** |  |

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1. **Introduction**
   1. **Purpose**

* The purpose of this document provides an overview of project, which proposes solutions include resources, technology, the benefits, priority and risks of solution.
* In addition, it is basic document used for discussion and agreement among the stakeholders.
  1. **Scope**
* This document provides an overview about product, process, and team in project.
* This is just a general plan then details plan will be updated throughout the life cycle of the project.
  1. **References**

|  |  |  |
| --- | --- | --- |
| **No** | **References** | **Document Information** |
| 1 | Proposal-Caps2-101dogS-ver1.0.pdf | Proposal document of the project |

* 1. **Definition, Acronyms and Abbreviations**

|  |  |  |
| --- | --- | --- |
| **No** | **Term** | **Definition or Description** |
| 1 | WIET | What should I eat today? |
| 2 | SM | Scrum Master |
| 3 | PO | Product Owner |

1. **Team Organization**
   1. **Team Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Email** | **Phone** | **Position** |
| Nguyen Thi Bao Trang | [nguyenthibaotrang@gmail.com](mailto:nguyenthibaotrang@gmail.com) | 0915961750 | Mentor |
| Le Nguyen Hoang Van | lenguyenhoangvan18@gmail.com | 0935604934 | SM, PO |
| Luong Minh Hieu | minhhieudn98@gmail.com | 0399870055 | Developer |
| Nguyen Dinh Luu | dinhluu098@gmail.com | 0935883503 | Developer |
| Tran Quang Khai | tquangkhai98@gmail.com | 0976308098 | Developer |

***Table 1: Scrum Team Organization.***

* 1. **Roles and responsibilities**

|  |  |  |
| --- | --- | --- |
| **Role** | **Responsibility** | **Participant(s)** |
| Mentor | * Guide on the process. * Supporting team management skills, writing, technical and more. | Nguyen Thi Bao Trang |
| Product Owner | * Providing vision and direction to the Agile development team and stakeholders throughout the project and create requirements * Ensure that the team always has an adequate amount of prior prepared tasks to work on * Define product vision, road-map and growth opportunities * Provide backlog management, iteration planning, and elaboration of the user stories | Le Nguyen Hoang Van |
| Scrum Master | * Responsible for increasing productivity. * Using the Scrum framework. * Facilitates and coaches the team. * Owns the impediment backlog. | Le Nguyen Hoang Van |
| Development  Team | * Responsible for quality. * Responsible for delivering the potentially shippable product of the application each sprint. * Report progress based on remaining time. * Self-organized. * Owns the Sprint backlog. | All members |

1. **Project Overview**
   1. **Project Name**

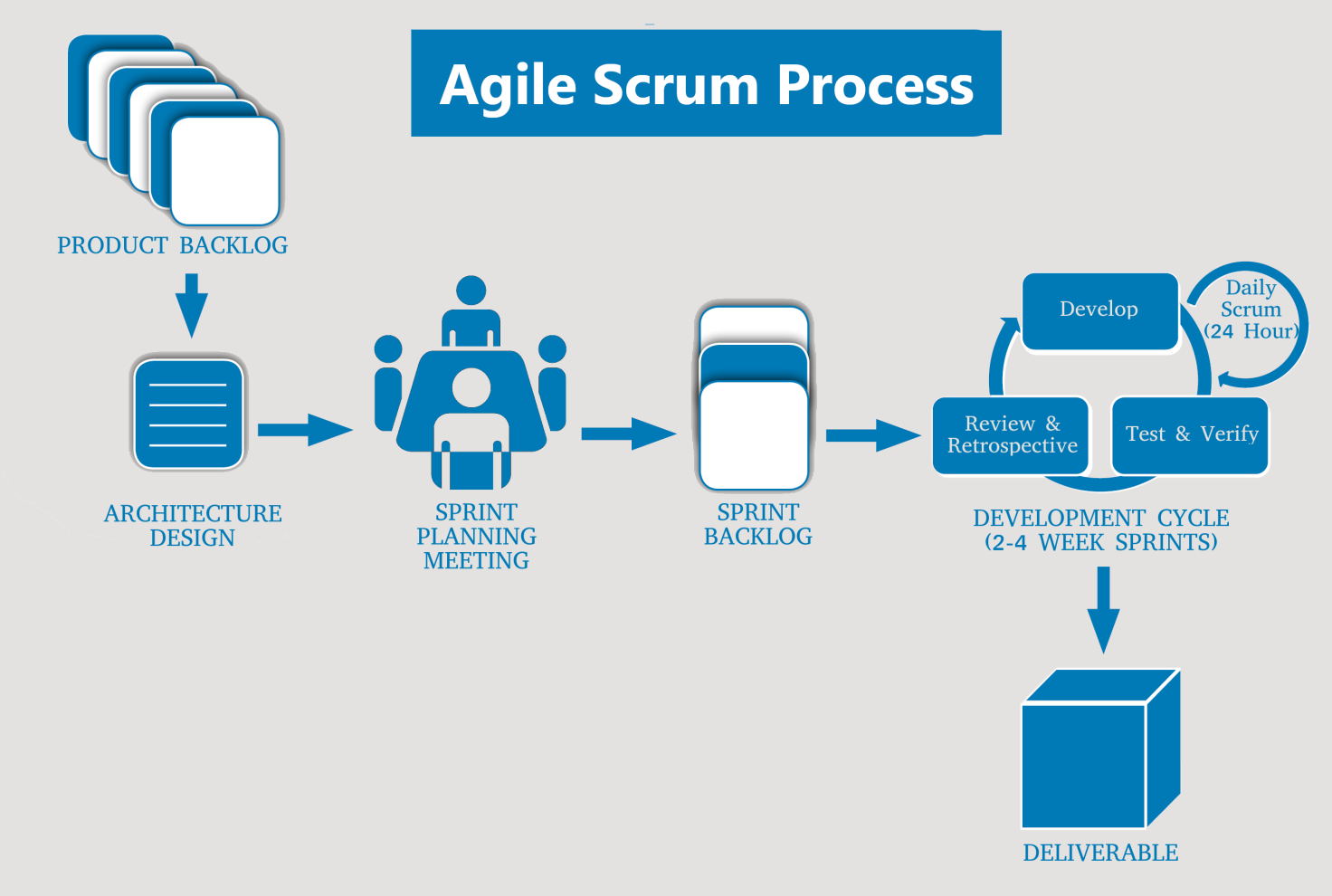
The project's name is: **What should I eat today?**

* 1. **Project Duration**
* Project will be started on: 02/12/2020.
* Project will be finished on: 05/15/2020.
  1. **Project Goal**

In this project, we provide users a solution to decided which dishes they want to eat today:

* Decided dishes easier.
* Recommend base on favorite, vegetarian, allergy, other uses.
* Recommend full meals, and weather.
* Find a restaurant easier
* Detail food information
* Booking with Now and Grab
  1. **Project Vision**

Creating an application helps users decide which dishes they want to eat easier and effectively.

* 1. **Project Scope**
* Consists these functions:
  + Authentication
  + Get user’s information (date of birth, vegetarian, allergy)
  + Survey
  + Recommendation for today
  + Recommendation for meals, weather
  + Search dishes
  + Comment on the dishes
  + Location of restaurant
  + Food information
  + Redirect to Now and Grab for booking
* Duration: 98 days
  1. **Project Process**

***Figure 1: Scrum process overview***

* + 1. **Reasons for selecting process**

We use Scrum to do the project **Swimming Go** because Scrum is a process suitable for small and medium software, implementation time short and easy change request Scrum is a process popular in present with the advantages and benefits such as: Timeline Flexibility - can later or earlier than originally planned; good product quality and reduce production risk; low cost; interoperability between clients and developers among team members are set to high; the growth rate faster; saving time and errors detected earlier.

* + 1. **Description Scrum**

**Principle and different stages**

The SCRUM methodology relies on the incremental development of a software application while maintaining a completely transparent list of upgrade or correction demands to be implemented (backlog). It involves frequent deliveries, usually every four weeks, and the client receives a perfectly operational application that includes more and more features every time.

This method requires four types of meetings:

* Daily meetings: the entire team meets for approximately 15 minutes every day in order to answer the following three questions, usually while standing: what did I do yesterday? What am I going to do today? Is there a cumbersome impediment today?
* Planning meetings: the entire team gathers to decide on the features that will make up the following sprint
* Work review meetings: during this meeting, every member presents what he has done during the sprint. They organize a demonstration of the new features or a presentation of the architecture. This is an informal meeting lasting for approximately 2 hours which is attended by the entire team.
* Retrospective meetings: at the end of each sprint, the team analyzes both successful and unsuccessful elements of their activity. During this meeting lasting between 15 and 30 minutes where everyone is invited and speaks on their own behalf, a vote of confidence is organized in order to decide on the improvements to be made.

**Scrum Organization**

The SCRUM methodology involves the following three main players:

* Product owner: In most projects, the product owner is the leader of the client's project team. He is the one who will define and prioritize the product features and choose the date and content of each sprint based on values (workloads) that the team communicates to him.
* Scrum Master: He is a genuine facilitator on the project as he makes sure that everyone works at their full potential by eliminating impediments and protecting the team from exterior interferences. Moreover, he pays particular attention to the respect of the different SCRUM phases.
* Development team: a team is typically made up of 3-9 people and groups together all the IT specialists who are necessary on a project. The team is self-organizing and remains unchanged during an entire sprint.

**Scrum Advantages**

Scrum differs from other development methods through its advantages which turn it into a pragmatic response to product owners' current needs:

* Iterative and incremental method: this allows to avoid the "tunnel effect", i.e. the fact of seeing the result only at the final delivery, and nothing or almost nothing during the entire development phase, which is so frequent with [V-cycle](http://www.pentalog.com/approach/v-cycle-methods.htm) developments.
* Maximum adaptability for product and application development: the sequential composition of the sprint content allows to add a modification or a feature which was not initially planned. This is precisely what renders this method "agile".
* Participatory method: every team member is asked to express his opinions and can contribute to all the decisions taken on the project. He is therefore more involved and motivated.
* Enhancing communication: by working in the same development room or being connected through different communication means, the team can easily communicate and exchange opinions on the impediments in order to eliminate them as early as possible.
* Maximizing cooperation: daily communication between the client and the team enables them to collaborate more closely.
* Increasing productivity: as it removes certain "constraints" of the classical methods, such as documentation or exaggerated formalization, SCRUM allows to increase team productivity. By adding to this the qualification of each module which allows to determine an estimation, everyone can compare their performance to the average team productivity.
* Our team apply Scrum process to the project because it fit with our project. Fit with the size of our team and the scope of the project, moreover the project duration is less than 3 months that why we use Scrum to maximize the work performances.
  1. **System Development Environment**

|  |  |
| --- | --- |
| **Component** | **Development Environment** |
| Operating system | Mobile Android Operation |
| Database | PostgreSQL – Google Cloud Platform |
| Server | Compute Engine – Google Cloud Platform |
| Framework/Libraries | Flask |
| Programming Languages | Java Android, Python |
| Version Control System | GitLab, Trello |

***Table 3: System development environment***

1. **Schedule/Time Management**
   1. **Work Breakdown Structure**
   2. **Milestone and Deliverables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Phase** | **Iteration** | **Start** | **Finish** |
| 1 | Initial | INI | 02/14/2020 | 02/14/2020 |
| 2 | Start Up | SUP | 02/17/2020 | 02/17/2020 |
| 2 | Development | SPR1 | 02/18/2020 | 03/03/2020 |
| SPR2 | 03/03/2020 | 03/17/2020 |
| SPR3 | 03/17/2020 | 03/31/2020 |
| SPR4 | 03/31/2020 | 04/14/2020 |
| SPR5 | 04/14/2020 | 04/28/2020 |
| SPR6 | 04/28/2020 | 05/12/2020 |
| 3 | Final Submission | FSU | 05/13/2020 | 05/15/2020 |
| 4 | Final Release | FRE | 05/15/2020 | 05/15/2020 |

***Table 4: Milestone and Deliverables***

* 1. **Project Schedule**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Task** | **Duration** | **Starting Day** | **Ending Day** | **Assign to** |
| **1** | **Initial** | **1 day** | **02/14/2020** | **02/14/2020** |  |
| **1.1** | Project’s Kick-off Meeting | 1 day | 02/14/2020 | 02/14/2020 | Team |
| **2** | **Start Up** | **1 day** | **02/17/2020** | **02/17/2020** |  |
| **2.1** | Create Proposal Document | 1 day | 02/17/2020 | 02/17/2020 | Team |
| **3** | **Development** | **60 days** | **02/18/2020** | **05/12/2020** |  |
| **3.1** | **Sprint 1** | **10 days** | **02/18/2020** | **03/03/2020** |  |
| **3.1.1** | Create GitLab repository | 0.5 days | 02/20/2020 | 02/20/2020 | Team |
| **3.1.2** | Adjust backlog | 0.5 days | 02/20/2020 | 02/20/2020 | Team |
| **3.1.3** | Move the tickets to the TODO status | 0.5 days | 02/20/2020 | 02/21/2020 | Team |
| **3.1.4** | Config Firebase Mobile | 0.5 days | 02/21/2020 | 02/21/2020 | Team |
| **3.1.5** | Config GCP | 0.5 days | 02/24/2020 | 02/24/2020 | Team |
| **3.1.6** | Config Firebase Back-end | 0.5 days | 02/24/2020 | 02/24/2020 | Team |
| **3.1.7** | Firebase authentication | 1 day | 02/24/2020 | 02/25/2020 | Team |
| **3.1.8** | Authentication Facebook | 1 day | 02/25/2020 | 02/26/2020 | Team |
| **3.1.9** | Authentication Google | 1 day | 02/26/2020 | 02/27/2020 | Team |
| **3.1.10** | Create prototype | 1 day | 02/27/2020 | 02/28/2020 | Team |
| **3.1.11** | Create workflow | 1 day | 02/28/2020 | 03/01/2020 | Team |
| **3.1.12** | API document | 1 day | 03/01/2020 | 03/02/2020 | Team |
| **3.1.13** | Build UI Login Screen | 1 day | 02/02/2020 | 03/03/2020 | Team |
| **3.2** | **Sprint 2** | **10 days** | **03/03/2020** | **03/17/2020** |  |
| **3.2.1** | Create TAG | 0.5 days | 03/03/2020 | 03/03/2020 | Team |
| **3.2.2** | Create META-TAG | 0.5 days | 03/03/2020 | 03/03/2020 | Team |
| **3.2.3** | Create SUPER-META-TAG | 0.5 days | 03/04/2020 | 03/04/2020 | Team |
| **3.2.4** | User information | 1 day | 03/04/2020 | 04/04/2020 | Team |
| **3.2.5** | Survey | 2 days | 03/04/2020 | 03/06/2020 | Team |
| **3.2.6** | Recommendation | 5 days | 03/06/2020 | 03/16/2020 | Team |
| **3.2.7** | Release | 0.5 days | 03/16/2020 | 03/17/2020 | Team |
| **3.3** | **Sprint 3** | **10 days** | **03/17/2020** | **03/31/2020** |  |
| **2.3.1** | Sprint Plan Meeting | 1 day | 03/17/2020 | 03/17/2020 | Team |
| **2.3.2** | Create Sprint Backlog | 1 day | 03/17/2020 | 03/18/2020 | Team |
| **2.3.3** | Coding/ testing | 7 days | 03/18/2020 | 03/30/2020 | Team |
| **2.3.4** | Release Sprint 2 | 1 day | 03/30/2020 | 03/31/2020 | Team |
| **2.4** | **Sprint 4** | **10 days** | **03/31/2020** | **04/14/2020** |  |
| **2.4.1** | Sprint Plan Meeting | 1 day | 03/31/2020 | 03/31/2020 | Team |
| **2.4.2** | Create Sprint Backlog | 1 day | 03/31/2020 | 01/04/2020 | Team |
| **2.4.3** | Coding/ testing | 7 days | 01/04/2020 | 04/13/2020 | Team |
| **2.4.4** | Release | 1 day | 04/13/2020 | 04/14/2020 | Team |
| **2.5** | **Sprint 5** | **10 days** | **04/14/2020** | **04/28/2020** |  |
| **2.5.1** | Sprint Plan Meeting | 1 day | 04/14/2020 | 04/14/2020 | Team |
| **2.5.2** | Create Sprint Backlog | 1 day | 04/14/2020 | 04/15/2020 | Team |
| **2.5.3** | Coding/ testing | 7 days | 04/15/2020 | 04/27/2020 | Team |
| **2.5.4** | Release Sprint 4 | 1 day | 04/27/2020 | 04/28/2020 | Team |
| **2.6** | **Sprint 6** | **10 days** | **04/28/2020** | **05/12/2020** |  |
| **2.6.1** | Sprint Plan Meeting | 1 day | 04/28/2020 | 04/28/2020 | Team |
| **2.6.2** | Create Sprint Backlog | 1 day | 04/28/2020 | 04/29/2020 | Team |
| **2.6.3** | Coding/ testing | 7 days | 04/29/2020 | 05/11/2020 | Team |
| **2.6.4** | Release Sprint 5 | 1 day | 05/11/2020 | 05/12/2020 | Team |
| **3** | **Final Submission** | **1 day** | **05/13/2020** | **05/15/2020** | Team |
| **4** | **Final release** | **1 day** | **05/15/2020** | **05/15/2020** | Team |

***Table 5: Schedule***

1. **Cost/Budget Management**

|  |  |  |
| --- | --- | --- |
| **Category** | **Detailed** | **Description** |
| **Start date** | 02/12/2020 | Start up the project. |
| **End date** | 05/15/2020 | The end date of project. |
| **Duration** | 98 days | Total days of project. |
| **Working days (1)** | 65 days | Total working days of the project |
| **Working time (2)** | 8 hours/day | In one day and for one member. |
| **Total effort (3) = (1) \* (2) \* 5** | 960 hours | For five team members and entire project. |
| **Labor cost (4) = (3) \* 1** | $960 | For five team members and entire project ($1/hour/member) |
| **Equipment** | $1740 | 4 laptops |
| **Other cost** | $1000 | Internet, foods, drinks, meetings, fuel… |
| **Total cost** | **USD $3700** | |

***Table 6: Estimated cost of the project.***

1. **Communications Management**

* We hold a meeting every week to assign task to each member.
* We will be meeting face to face on Thursday weekly to discuss about the issues, as well as make plan for next week.
* In addition, we also use Gmail, Facebook, Slack and Trello in order to connect stakeholder’s project together.
* All meeting must be documented.
* We use Bitbucket to manage the source code

|  |  |  |  |
| --- | --- | --- | --- |
| **Audience/Attendees** | **Topic/Deliverable** | **Frequency** | **Method** |
| Scrum Master  Product owner  Development team | Daily Meeting | Daily | Direct meeting |
| Scrum Master  Product owner  Development team | Sprint Planning Meeting | When start each sprint | Direct meeting |
| Scrum Master  Product owner  Development team | Sprint Review Meeting | When finish each sprint | Direct meeting |
| Scrum Master  Product owner  Development team | Sprint Retrospective Meeting | Once Sprint Review Meeting is finished. | Direct meeting |
| Scrum Master  Product owner  Development team  Mentor | Work report | One day of a week | Direct meeting |

***Table 7: Communication Management***

1. **Risk Management**

In this part of document, it contains several risks that could happen to development team in the future. It also includes probability, severity and mitigation strategy for each risk.

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

***Table 8: Rating for likelihood and seriousness for each risk.***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk** | **Definition** | **Probability** | **Severity** | **Mitigation Strategy** |
| Lack of coding experiences | A few team members haven’t worked with this programming language before. | H | M | Spend more time for learning and training to each other. |
| Member conflict | All member can conflict with each other while working together. | H | H | All members must calm down, explain the ideals again from beginning, asked a mentor for solution. |
| No unified | The idea of the members is not approved by everyone. | H | M | Together analyze, exchange and unify the idea. |
| Schedule not unified | Each member has different schedule | H | M | Schedule an available day of the week to meet mentor and working together at night. |
| Incorrect requirement | Developing the product which does not meet requirements of the customer. | H | H | We need to sit together, discuss, review and come up with a remedial direction. |
| Behind schedule | During the develop, members leave the project or have a trouble leading to project is delayed | R | H | Ask to the help of other capstone teams.  Increase our working hours or reduce workload by prioritizing important tasks. |

***Table 9: Project Risk.***