

**INTERNATIONAL SCHOOL**

**APPLICATION DEVELOPMENT PRACTICE**

**CMU-CS 246 NIS**

**DEFINDED PROCESS DOCUMENT**

Version: 1.2

**Java Calculator Application**

**Mentor: Nguyen Dang Quang Huy**

**Team Member:**

**Nguyen Minh Nguyen**

**Nguyen Thi To Loan**

**Huynh Van Thien**

**Nguyen Van Tu**

**Ngo Xuan Bach**

**Nguyen Phuc Sang**

**Approved by Huy Nguyen Dang Quang**

**Project Plan Review Panel Representative:**

Name Signature Date

**Application Development Practice- Mentor:**

Name Signature Date

Da Nang, 09/2022

**PROJECT INFORMATION**

|  |  |
| --- | --- |
| **Project Acronym** | CALC |
| **Project Title** | Java Calculator Application | | | |
| **Start Date** | 03 – March –2025 | **End Date** | 10 – March –2025 | |
| **Lead Institution** | International School, Duy Tan University | | | |
| **Team Member** | **Name** | **Email** | | **Phone** |
| 28210228514 | Nguyen Minh Nguyen | minhnguyennn786@gmail.com | | 0772015981 |
| 29209038949 | Nguyen Thi To Loan | toloan19052005@gmail.com | | 0903533084 |
| 29219024989 | Huynh Van Thien | van123thien123@gmail.com | | 0835650230 |
| 29219021310 | Nguyen Van Tu | nguyenvantu03848@gmail.com | |  |
| 29211552045 | Ngo Xuan Bach | xuanbach7302005@gmail.com | |  |
| 29219039500 | Nguyen Phuc Sang | sanghandsome1812@gmail.com | | 0905293654 |

**PROJECT PLAN DOCUMENT**

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| **Author(s)** | CMU-CS 246 NIS | | |
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**SIGNATURE**

**Document Approvals:** The following signatures are required for approval of this document.

|  |  |  |  |
| --- | --- | --- | --- |
| **Mentor** | Huy, Nguyen Dang Quang | **Signature:** |  |
| **Date:** |  |
| **Scrum master** | Nguyen Minh Nguyen | **Signature:** |  |
| **Date:** |  |
| **ProDuct**  **Owner** | Nguyen Thi To Loan | **Signature:** |  |
| **Date:** |  |
| **Team member(s)** | Huynh VanThien | **Signature:** |  |
| **Date:** |  |
| Nguyen Phuc Sang | **Signature:** |  |
| **Date:** |  |
| Ngo Xuan Bach | **Signature:** |  |
| **Date:** |  |
| Nguyen Van Tu | **Signature** |  |
| **Date:** |  |

**REVISION HISTORY**

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**TABLE OF CONTENTS**

[**1. PROJECT DESCRIPTION 6**](#_Toc116910138)

[**2. PROJECT DEVELOPMENT APPROACH 9**](#_Toc116910147)

[**2.1. TECHNICAL PROCESS 9**](#_Toc116910148)

[**2.1.1. REASON FOR SELECTING 9**](#_Toc116910149)

[**2..1.2 AGILE METHODOLOG 9**](#_Toc116910150)

[**2.1.3. SCRUM PROCESS 9**](#_Toc116910151)

**Table**

**Table 1: Project Description........................................................................................5**

**Figuare**

**Figure1: Scrum master..............................................................................................11**

# 1. PROJECT DESCRIPTION

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| --- | --- | --- | --- |
| **Project code** | CALC | **Contract type** | Internal Project |
| **Customer** | N/A | **End-user** | General Users, Students, Professionals |
| **Project type** | Internal | **Project Manager/**  **Scrum Master** | Nguyen Minh Nguyen |
| **Project category** | Mathematical Computation & User Assistance | **Business Domain** | Software Development |
| **Application type** | Desktop Application |  |  |

# 2. PROJECT DEVELOPMENT APPROACH

## 2.1. TECHNICAL PROCESS

## We are developing an advanced calculator system that includes both basic arithmetic and scientific functions, along with a history tracking feature. The calculator is being built using Java Swing, with a modern user interface that supports both Dark Mode and Light Mode. The system will be able to perform basic operations, advanced mathematical calculations (like factorials, logarithms, and trigonometric functions), unit conversions, and more. Additionally, it will offer enhanced functionality for storing and searching through calculation history.

## Our development approach follows the Agile methodology, ensuring iterative development with continuous feedback and improvements. The goal is to progressively implement new features and refine existing ones to meet evolving user needs. Each iteration or sprint focuses on a subset of features that are tested and evaluated before moving on to the next phase. This flexibility allows us to adapt the application to new requirements and improve its user experience based on real-time feedback.

## 2.1.1. REASON FOR SELECTING

## To keep up with rapidly evolving technology trends, we aim for a flexible and efficient project development model that can easily adapt to change. Our calculator system will continue to evolve with new features in the future. We will regularly update and integrate new technologies to enhance the system’s functionality and user experience.

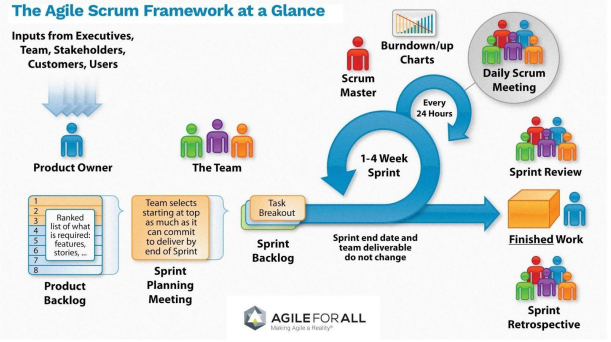
## In an Agile project, the team does not develop all features at once. Instead, we implement a subset of features in each sprint, allowing developers to focus on refining them before release.

## By breaking work into small, manageable tasks, we maintain team motivation and efficiency. Since our team is relatively small and has limited experience in software development, we anticipate challenges throughout the development process. Additionally, requirements may change over time to better suit user needs. Traditional development models, which require extensive planning and rigid management, may not be ideal for us. By applying the Agile Scrum model, we can address these challenges effectively, gain valuable experience, and achieve optimal project performance.

## 2.1.2 AGILE METHODOLOG

* The Agile methodology was firstly developed for the software industry.
* The task was to optimize and improve the development process and to try to identify and quickly correct problems and defects.
* This methodology allows providing better output, more quickly, through short and interactive sessions/sprints.
* In the era of digital transformation, where many organizations are migrating to a digital workplace, the Agile methodology suits perfectly companies that are looking to transform the way in which projects are managed and the way they operate as a whole.

**2.1.3. SCRUM PROCESS**

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**Figure1:** Scrum master

* The project can respond easily to change.
* Problems are identified early.
* The customer gets the most beneficial work first.
* Work done will better meet the customer’s needs.
* Improved productivity.
* Ability to maintain a predictable delivery schedule.