

**INTERNATIONAL SCHOOL**

**PROJECT 1**

**CMU-CS 246 BIS**

**CALCULATOR SYSTEM – CS**

Version: 2.0

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Da Nang, 01/2024

**PROJECT INFORMATION**

|  |  |
| --- | --- |
| **Project Acronym** | CS |
| **Project Title** | Calculator System | | | |
| **Start Date** | Jan 20, 2024 | **End Date** | Mar 02, 2024 | |
| **Lead Institution** | International School, Duy Tan University | | | |
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**DEFINED PROCESS DOCUMENT**

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**REVISION HISTORY**

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| **1.0** | All members | Jan 20th, 2024 | Draf |
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**TABLE OF CONTENTS**

[1. PROJECT DESCRIPTION 6](#_Toc157159460)

[2. PROJECT DEVELOPMENT APPROACH 6](#_Toc157159461)

[2.1. TECHNICAL PROCESS 6](#_Toc157159462)

[2.1.1. REASON FOR SELECTING 6](#_Toc157159463)

[2.1.2 WATERFALL METHODOLOG 7](#_Toc157159464)

[2.1.3. WATERFALL PROCESS 8](#_Toc157159465)

[3. REFERENCES 9](#_Toc157159466)

**TABLE OF FIGURES**

[Figure 1: Waterfall Process 8](file:///D:\Code%20block\Application%20Dev\CMU_CS%20246%20BIS_DefinedProcess_Team2_v1.1.docx#_Toc157159350)

# 1. PROJECT DESCRIPTION

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| --- | --- | --- | --- |
| **Project code** | CS | **Contract type** | Internal Project |
| **Customer** | N/A | **End-user** | Staff |
| **Project type** | Internal | **Project Manager** | Nghia, Bui Thanh |
| **Project category** | calculator | **Business Domain** | Software |
| **Application type** | Java Swing Application |  |  |

# 2. PROJECT DEVELOPMENT APPROACH

## 2.1. TECHNICAL PROCESS

We use linear and sequential software development model in our project, besides using software tools to manage work, assign tasks to team members such as Google Drive.

### 2.1.1. REASON FOR SELECTING

The selection of the Waterfall model for our project stems from a careful consideration of its characteristics and requirements. One paramount factor influencing this decision is the stability of our project's requirements. In situations where the scope is well-defined and unlikely to experience substantial changes, the Waterfall model provides a structured and sequential approach. This ensures that each phase, from requirement analysis to deployment, is completed in a linear fashion, with comprehensive planning at the outset. Such a methodology suits our project's need for a clear roadmap and minimal changes during development.

Waterfall model is chosen for our project due to its compatibility with stable requirements, the expertise of our team, and alignment with regulatory standards. This decision underscores our commitment to a methodical and predictable development process, ultimately contributing to our project's success.

### 2.1.2 WATERFALL METHODOLOG

* The Waterfall methodology, originating in the manufacturing and construction industries, was initially developed as a structured and sequential approach to software development.
* The primary goal was to establish a systematic and well-defined process that progresses through distinct phases, each building upon the completion of the previous one.
* The Waterfall model typically consists of stages such as requirements, design, implementation, testing, deployment, and maintenance. Each phase has its dedicated set of tasks, and the project team moves from one phase to another in a predetermined order.
* While the Waterfall approach may not provide the flexibility of Agile, its structured nature and focus on comprehensive documentation make it suitable for this project with well-defined and stable requirements.

### 2.1.3. WATERFALL PROCESS

Figure 1: Waterfall Process

Figure 1: Waterfall Process

* Enables large or changing teams to move toward a common goal that's been defined in the requirements stage;
* Forces structured, disciplined organization;
* Simplifies understanding, following and arranging tasks;
* Facilitates departmentalization and managerial control based on the schedule or deadlines;
* Reinforces [good coding habits](https://www.techtarget.com/searchsoftwarequality/feature/Learn-5-defensive-programming-techniques-from-experts) to define before implementing design and then code;
* Enables early system design and specification changes to be easily done; and
* Clearly defines milestones and deadlines.

# 3. REFERENCES

1. https://www.techtarget.com/searchsoftwarequality/definition/waterfall-model#:~:text=The%20waterfall%20model%20is%20a,the%20edge%20of%20a%20cliff.