

**INTERNATIONAL SCHOOL**

**COURSE PROJECT 1**

**CMU-CS 246**

**DEFINED PROCESS DOCUMENT**

Version: 2.0

**CALCULATOR SYSTEM - CS**

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Da Nang, 01/2024

**PROJECT INFORMATION**

| **Project Acronym** | CS |
| --- | --- |
| **Project Title** | Calculator System | | | |
| **Start Date** | 22 – Jan –2024 | **End Date** | 22 – Jan –2024 | |
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# 1. PROJECT DESCRIPTION

| **Project code** | CS | **Contract type** | Internal Project |
| --- | --- | --- | --- |
| **Customer** | N/A | **End-user** | Duy Tan’s students |
| **Project type** | Internal | **Project Manager** | Hue, NguyenThi Kim |
| **Project category** | Calculator System | **Business Domain** | AI |
| **Application type** | Winform |  |  |

# 2. PROJECT DEVELOPMENT APPROACH

## 2.1. TECHNICAL PROCESS

Our project is structured around the Waterfall development methodology. We manage tasks and facilitate team communication using tools like Google Drive and Zalo. NetBeans serves as our Integrated Development Environment (IDE) for web development with a backend supported by a database. This combination ensures a sequential and linear progression through project stages, characteristic of the Waterfall approach.

## 2.1.1. REASON FOR SELECTING

The choice of the Waterfall model as the technical process for project development is driven by several considerations that align with the nature and requirements of the project:

* Sequential Structure: The Waterfall model follows a structured and sequential approach to development. This is particularly suitable for projects where requirements are well-defined and unlikely to change significantly during the development lifecycle.
* Clear Milestones: Waterfall divides the project into distinct phases, each with clear and predefined milestones. This provides a systematic and measurable way to track progress, making it easier to manage timelines and expectations.
* Comprehensive Documentation: Waterfall places a strong emphasis on documentation at each phase of development. This ensures that requirements, design, and implementation details are well-documented, facilitating ease of understanding and knowledge transfer among team members.
* Predictability: The Waterfall model is known for its predictability. Since each phase must be completed before moving on to the next, it provides a stable framework that allows for better estimation of project timelines and resource requirements.
* Client Involvement: Waterfall often involves less client involvement during the development process, making it suitable for projects where clients prefer to provide input primarily at the beginning and then receive the final product at the end.

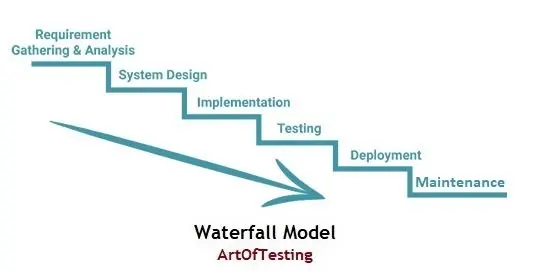
## 2.1.2 WATERFALL MODEL

The Waterfall model is a traditional, linear approach to software development that consists of the following sequential phases:

* Requirements: Gather and document project requirements comprehensively before moving to the next phase.
* Design: Based on the gathered requirements, create a detailed system design, including architecture, database design, and overall system structure.
* Implementation: Develop the system based on the design specifications, utilizing the documentation created in the previous phases.
* Testing: Conduct thorough testing to ensure that the system meets the specified requirements and functions as intended.
* Deployment: Once testing is successful, deploy the system for use by end-users.
* Maintenance: Provide ongoing support and maintenance as necessary.

The Waterfall model is suited for projects where the requirements are well-understood and unlikely to change. It provides a structured and systematic approach to development, making it easier to manage and control each phase of the project.

## 2.1.3. WATERFALL PROCESS

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**Figure:** Waterfall

* It is easy to understand and implement.
* Each phase is processed at a time.
* There are specific deliverables in each phase of the life cycle.
* All the activities to be performed in each phase are clearly defined.
* It is perfectly suitable for projects where all the requirements are predefined and understood clearly. Requirements do not change throughout development.
* The release date and the final cost are already estimated before the development begins.
* It is easier to assign tasks to different team members.
* All processes, actions, and results are well documented.

# 3. REFERENCES

1. <https://artoftesting.com/waterfall-model>
2. [What Is Waterfall Project Management? (wrike.com)](https://www.wrike.com/project-management-guide/faq/what-is-waterfall-project-management/)
3. <https://www.revgenpartners.com/insight-posts/when-does-waterfall-project-management-make-sense/>