**International School, Duy Tan University**



CAPSTONE PROJECT 2

An Phu Farm System

**PROCESS DESCREIPTION DOCUMENT**

Version 1.0

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1. **Overview**
   1. **Purpose**

This document is to present a process for team follow. It description detail of each phase for team and stake holder easy to tracking and implement.

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

Table 1.1 Definition, Acronyms

|  |  |
| --- | --- |
| **Acronyms** | **Definitions** |
| URD | User Requirement Document |
| SRS | Software Requirement Specification |
| DDD | Detail Design Document |
| UI | User Interface |

1. **Description process**
   1. **Introduce**

Intinial (Requirement)

Analysis and Design

Testing

Controlling

CloseOut(Maintenance)

Coding and Debuggin



Figure 2.1 Waterfall Process

Initiate

Planning

Requirement

Analysis

Design

Coding and debugging

Testing

Deployment and Maintenance

Initiate

Planning

Requirement

Analysis

Design

Coding and debugging

Testing

Deployment and Maintenance

* The waterfall model is a sequential design process, often used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of Conception, Planning, Requirement, Analysis and Design, Coding and Debugging, Testing, Costrolling and Maintenance.
* As software development is large process so work begins by establishing requirements for all system elements and then allocating some subset of these requirements to software. The view of this system is necessary when software must interface with other elements such as hardware, people, and other resources. System is the very essential requirement for the existence of software in any entity. In some cases for maximum output, the system should be re-engineered and spruced up. Once the ideal system is designed according to requirement, the development team studies the software requirement for the system.

**2.2.Detail Descreiption Phase**

* + 1. **Requirement**

Software Requirement Analysis is also known as feasibility study. In this requirement analysis phase, the development team visits the customer and studies their system requirement. They examine the need for possible software automation in the given software system. After feasibility study, the development team provides a document that holds the different specific recommendations for the candidate system. It also consists of personnel assignments, costs of the system, project schedule, and target dates.

The requirements analysis and information gathering process is intensified and focused specially on software. To understand what type of the programs to be built, the system analyst must study the information domain for the software as well as understand required function, behavior, performance, and interfacing. The main purpose of requirement analysis phase is to find the need and to define the problem that needs to be solved.

Important document output is:

* SRS- Software Requirements Specification.
  + 1. **System Analysis and Design**

In System Analysis and Design phase, the whole software development process, the overall software structure and its outlay are defined. In case of the client/server processing technology, the number of tiers required for the package architecture, the database design, the data structure design etc are all defined in this phase. After designing part a software development model is created. Analysis and Design are very important in the whole development cycle process. Any fault in the design phase could be very expensive to solve in the software development process. In this phase, the logical system of the product is developed.

Important documents output is:

* Design document: database design, interface design, system design…
* Description of classes and methods and diagrams showing the relationships among the classes.
  + 1. **Coding And Debugging**

In Code Generation phase, the design must be decoded into a machine-readable form. If the design of software product is done in a detailed manner, code generation can be achieved without much complication. For generation of code, Programming tools like Compilers, Interpreters, and Debuggers are used. The right programming language is chosen according to the type of application.

Output is:

* Complete code
  + 1. **Testing**

After code generation phase the software program testing begins. Different testing methods are available to detect the bugs that were committed during the previous phases. A number of testing tools and methods are already available for testing purpose.

Output is:

• Survey System complete.

• A report or the test and their results.

* + 1. **Maintenance**

Software will definitely go through change once when it is delivered to the customer. There are large numbers of reasons for the change. Change could happen due to some unpredicted input values into the system. In addition to this the changes in the system directly have an effect on the software operations. The software should be implemented to accommodate changes that could be happen during the post development period.

Output is:

* Modify, add or remove function system.
  1. **Advantages and Disadvantages**
     1. **Advantages**

The waterfall model is the oldest and most widely used model in the field of software development. There are certain advantages of the waterfall model, which causes it to be the most widely used model as yet. Some of them can be listed as under.

* Needless to mention, it is a linear model and of course, linear models are the most simple to be implemented.
* The amount of resources required to implement this model is very minimal.
* One great advantage of the waterfall model is that documentation is produced at every stage of the waterfall model development. This makes the understanding of the product designing procedure simpler.
* After every major stage of software coding, testing is done to check the correct running of the code.
  + 1. **Disadvantages**

The question that must be bothering you now is that with so many advantages at hand, what could be the possible disadvantages of the waterfall model. Well, there are some disadvantages of this widely accepted model too. Let us look at a few of them.

* Ironically, the biggest disadvantage of the waterfall model is one of its greatest advantages. You cannot go back, if the design phase has gone wrong, things can get very complicated in the implementation phase.
* Many a times, it happens that the client is not very clear of what he exactly wants from the software. Any changes that he mentions in between may cause a lot of confusion.

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