

## Introduction to Software Engineering

Def:

Software Engineering is the engineering discipline that utilizes a systematic approach to the development, production, operation and maintenance of software

Advantages: 1. You learn from your mistakes

2. Can accurately estimate the term required for the job completion.

Task:

1 create quiz element

## Project BackStory

To design a quiz element which suits perfectly in online course ware

## Project Requirements

1. Front end we need Polymer and JavaScript

2. Back end we need Ruby on Rails

## Test Driven Development

1. Kent Beck wrote the book named Test-Driven Development by example(133 pages)

2. Software designers were cruising along happily and successfully with a set of assumptions

3. Combination of comprehensive and confidence generating test

## Importance of Test Driven Development

1. You need not to be one of the top 10 SE's on the planet to do a new or daunting project

2. You just need to follow some set of techniques that any SE can follow which encourages

## Product Life Cycle

Every product undergoes through a bunch of phases. Similarly every product during

its development goes through some steps. Before the development of product we

need to

1. analyze the need of the product

2. idea behind the development of the product

3. Product's design

4. develop the code

5. deploy(execute) the code

6. maintain the product

7. provide the necessary updates if required.

## Typical Product Lifecycle

Though this model is not suitable to all our requirements,

but still this can be modified according to the users requirement.

## Verification and Validation model (the V model)

V-Shaped life cycle is a sequential path of execution of processes. Each phase must be completed

## Advantages

Each activity on the Left Hand Side is balanced by an activity on the Right Hand Side

Each major activity is tested

## Disadvantages

Testing is done only after development

The longer the testing is delayed, the more likely the subsequent operations cause errors.

## Royce's Model

1. popularly known as waterfall Model

2. particularly useful when dealing with large projects which involves many risks

3. In this Model, each step is sequential, i.e., you have to complete one step before moving on to the next step.

3. In this model, at each step we have two phases that is activity along with

It has 8 steps-

1. System Requirements
2. Software Requirements
3. Analysis
4. Design
5. Coding
6. Testing
7. Maintenance
8. Working(Functionality)

## Engineering Notebook

Act as memory aid so that we can refer to the things

## Introduction to Requirements

Why is a requirement ?

Requirement is a thing that is needed or wanted component/capability requested by a client

How to gather requirements ?

Requirements are gathered from stake holders either by discussion or surveys or interviews

## RISK MANAGEMENT

It is a process of identifying risk, assessing risk, taking necessary actions to reduce risks to an acceptable level.

Risks can come from uncertainty in financial markets, threats from project failures (at any stage - design, development, production or testing) as well as because of uncertain or unpredictable issues.

Why do we need risk Management ?

Purpose of risk Managements to identify possible risks and reduce risks provide a rational basis

The Risk Analysis process involves these steps :

- 1) Identify the risk
- 2) Assess the risk
- 3) Develop Responses to the risk
- 4) Preventive measures for risk

## Product backlogs

Start quiz Go to level homepage, select start quiz, question appears with choices

Select Ans Click on the right choice, click on submit, if correct, next question appears else another

Use Hint Appears – screen idle for 30 secs or wrong ans submitted in previous attempt

Click on hint button, popup will show hint, popup disappears when click anywhere on the screen


Next question Appears after second attempt is wrong, click on button, next question will

Finish button Appears after last question is answered, on click final score shown

Course map button Appears on final score screen, on click goes to course map

Redo Appears on final score screen, on click goes to previous level

Next level Appears on final score screen, on click goes to next level



–Last Saved–Dec 15, 2014 17:19:58  
–Last Saved–Dec 15, 2014 17:33:20  
–Last Saved–Dec 15, 2014 17:35:43  
–Last Saved–Dec 15, 2014 17:37:51  
–Last Saved–Dec 15, 2014 17:38:02  
–Last Saved–Dec 15, 2014 17:42:38  
–Last Saved–Dec 15, 2014 17:44:13  
–Last Saved–Dec 15, 2014 17:44:23

## Deliverables

Delivearables				
Videos on Risk	watch all videos of risk	accomplished	36 min	60 min
Video on Engineering Notebook	watch all videos	accomplished	22 min	50 min
Test Driven Development	watch all videos	accomplished	21:57 min	

## Lessons Learned

Reflections	
Test Driven Development	learned TDD
Videos on Risk	learned the importance of risk

Plan for next week

Plans	
Hint	display hint when the screen is idle for 30 secs or when wrong ans selected
lives	avoid hacking of answers by users
Create objects	to reduce code complexity