Software Quality
Reflective Journal

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Abstract

Contents

List of Figures

List of Tables

Chapter 1

Introduction

This document is a portfolio for CS4157, Software Quality, taught by Dr. Ita Richardson. It aims to illustrate and summarise the key concepts explored, and the learning process, within the module. Each week will be a briefly summary of the key points that I took from the lectures, and a discussion on any papers, and how useful, or useless, I found them. Summaries of meetings held by the group tasked with the module project will also be listed.

Chapter 2

Week 1

2.1 Learnings

The three key things I took from this weeks lecture were:

1. Eliminate testing by refining process
    - By following a quality process and focusing on quality throughout, the need for testing can be reduced.
2. Other things in software system
    - Be ware of other items in the software system: hardware, users, environment etc
3. Problem based learning
    - Tackle the issue and learn how to solve the problem by working on the problem

2.2 Paper

The paper that was looked at this week was "Understanding the implementation of software process improvement innovations in software organisations" (Kautz and Nielsen 2004). The goal of the paper is to "achieve a better understanding of the processes influencing the introduction, organizational implementation and adoption of software process improvement innovations in and by software companies" (Kautz and Nielsen 2004).

I found the paper a bit difficult to read, as it focused on a number of research methodologies that I am not familiar with, but I did like the breakdown on types of innovation.

Individualistic Perspective assumes that single individuals that the main source of innovation within an organisational structure. Actions by these people are "not seen to be constrained by external factors" (Kautz and Nielsen 2004). These individuals are self guiding, and focused, and any decisions they make are made in order to "maximise value or utility" (Kautz and Nielsen 2004)

Structuralist Perspective assumes that "innovation is determined by objectively existing organizational characteristics" (Kautz and Nielsen 2004). This view seems to place the chance of innovation on factors within the organisation, such as an "organisations size, its task structure differentiation, its task complexity, its employees job specialization and their professionalism" (Kautz and Nielsen 2004).

Interactive Process Perspective assumes innovation is "dynamic, continuous phenomenon of change over time" that is a result of both individual and organisational factors (Kautz and Nielsen 2004). It focuses on the interactions between individual and organisations. Innovation is the result of the "continuous interaction of the actions of individuals, structural influences and innovation itself" (Kautz and Nielsen 2004).

2.3 Meeting

No meeting held this week.

Chapter 3

Week 2

3.1 Learnings

1. Quality priority depends on perspective
    - I defined quality as the amount of reliability that a product or service has
2. When is it really important to ensure high quality?
    - The output, where it is being used? - Example: salt from fast food dissolved seat belts. All possibilities cannot be tested for!
3. 'Good Enough' software - for the purpose it is built for
    - Functions are right, the cycle time is right, the quality is right, development productivity is right - capability of process.

3.2 Paper

3.3 Meeting

Chapter 4

Week 3

4.1 Learnings

1. Project Capability
    -
2. Project Maturity
    -
3. Total Quality Management
    -

4.2 Paper

4.3 Meeting

Chapter 5

Week 4

5.1 Learnings

1. Improved process leads to improved product
   -
2. Regulations for software
   - FDA in America, EU directives within the EU.
3.
   -

5.2 Paper

5.3 Meeting

Chapter 6

Week 5

6.1 Learnings

1. Business importance of software increasing
    - 90% of the cost of a car is software
2. Business Benefits
    - Return on investment increases, productivity increases, overall effect decrease. More money, less work with a good process.
3. Software Process Improvement
    - Productivity up, Defects down, Error Rates down, Costs down, On Time Deliverables up, Rework down and savings in test time.
4. Software Process Models
    - Capability Maturity Model, ISO 15504, Configuration Management, Assessment of System

6.2 Paper

6.3 Meeting

Chapter 7

Week 6

7.1 Learnings

1. •
2. •
3. •

7.2 Paper

7.3 Meeting

Chapter 8

Week 7

8.1 Learnings

1. •
2. •
3. •

8.2 Paper

8.3 Meeting

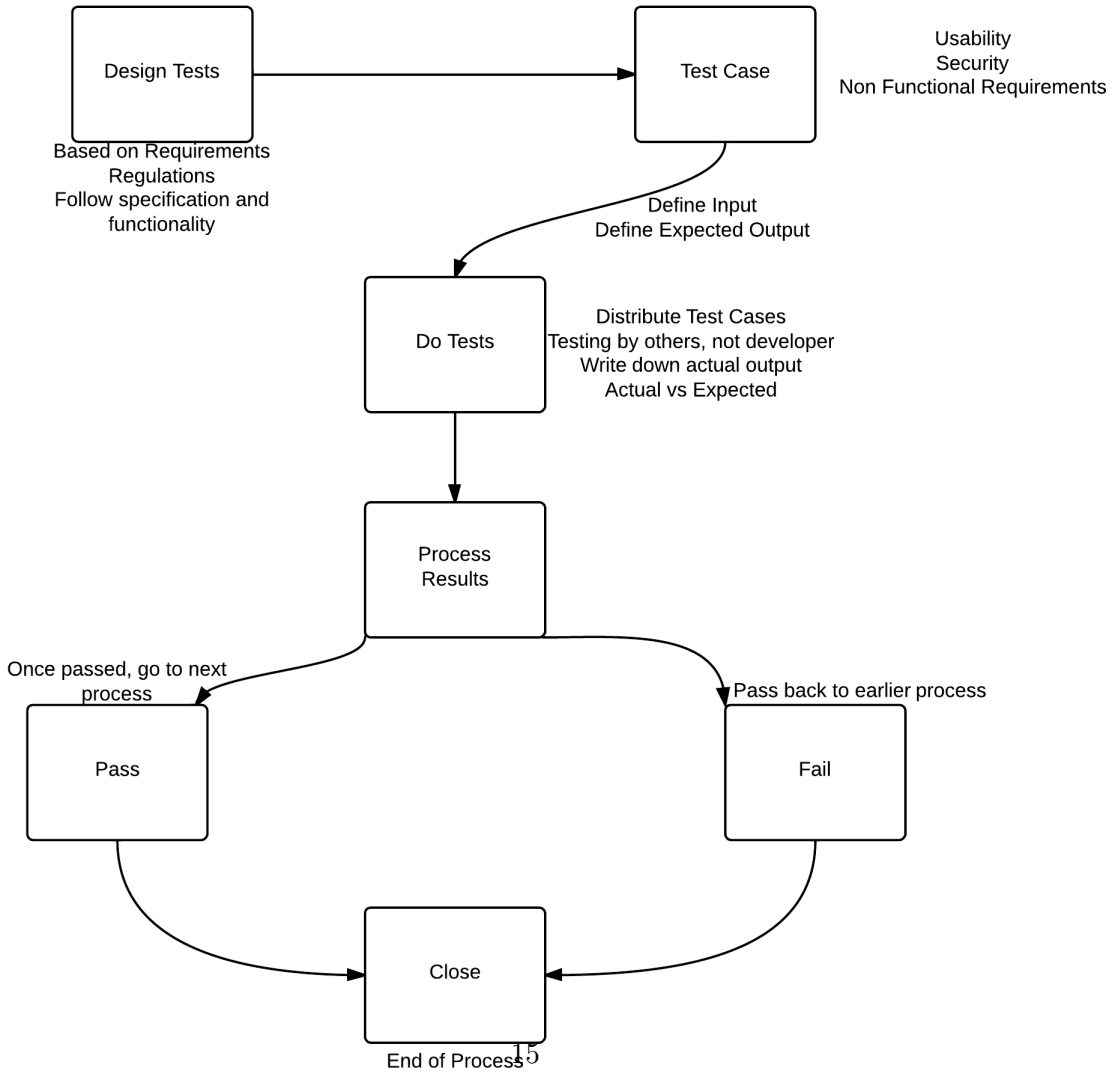
8.4 Question Prep

1. How difficult is it to integrate a connected health solution with an existing system?
2. Failures in connected health system? How are failures handled? Repercussions?
3. Integration of IT and Healthcare - What usability issues arise and how are they handled?

Chapter 9

Week 8

9.1 Learnings



9.2 Paper

9.3 Meeting

Chapter 10

Week 9

10.1 Learnings

1. •
2. •
3. •

10.2 Paper

10.3 Meeting

Chapter 11

Week 10

11.1 Learnings

1. FYPs are stressful
    -
2. The lab is pretty hot on demo day
    -
3. After demo day, any food seems like mana from heaven
    -

11.2 Paper

11.3 Meeting

Chapter 12

Week 11

12.1 Learnings

1. •
2. •
3. •

12.2 Paper

12.3 Meeting

Chapter 13

Week 12

13.1 Learnings

1. •
2. •
3. •

13.2 Paper

13.3 Meeting

Bibliography

Kautz, Karlheinz and Peter Axel Nielsen (2004). "Understanding the implementation of software process improvement innovations in software organizations". In: *Information Systems Journal* 14.1, pp. 3–22.