Fundamentals of Software Engineering

(M1l322908)

This Tutorial is based on questions from the book Software Engineering 10 by Ian Sommerville and is based on the material covered in chapters 4 and 5 and in the material on Use Cases.

Week 5 Tutorial

Requirements Engineering and Modelling

1.

When would you recommend against the use of an agile method for developing a software system?

2.

Discover ambiguities or omissions in the following statement of requirements for part of a ticket-issuing system:

An automated ticket-issuing system sells rail tickets. Users select their destination and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged. When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination. Once a destination has been selected, users are requested to input their credit card. Its validity is checked and the user is then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued.

3.

Write a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and response time.

4.

Using your knowledge of how an ATM is used, develop a set of use cases that could serve as a basis for understanding the requirements for an ATM system. You should use the Use Case Diagram that was presented in the Week 5 lecture and you should concentrate on developing the textual description for the following Use cases.

- Withdraw Cash
- Display Balance
- Print Statement
- Change PIN
- Deposit Cash

Suggested layout for Use case description

Use case name
Actors
Inputs
Outputs
Normal Operation
Exception
Incorrect PIN