Test 1

**CS425 - Software Engineering**

**November 2, 2015**

**35 Points Total – Write all answers on the separate paper provided, except for problem 5 you can write the answer on the exam paper.**

1. **Use Case Description** (16pts)

Create a Use Case Description for the following new feature for MUMScrum. For this use case show the basic success flow.

We want a Scrum Master to be able to generate and save a release report for his or her release which shows:

* 1. Each sprint for a release
  2. The user stories for each sprint.
  3. The user stories that are in the release backlog and are not assigned to a Sprint.

Only the Scrum Master assigned to this release can generate this report for this release.

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# Scrum Master Generate Release Report

## Brief Description

## This use case allows a Scrum Master to generate and save a release report for his or her release.

## Actors

## Scrum Master

## Preconditions

Scrum Master is logged into the system and at the Scrum Master home page.

## Flow of Events

#### Basic Flow

|  |  |
| --- | --- |
| **User Action** | **System Response** |
| 1. The Scrum Master selects the Release Page | 1. The system retrieves the Releases that belong to this Scrum Master and displays them.   . |
| 2.Scrum Master selects a Release and selects generate report. | 2.1The system retrieves all the sprints assigned to this release and displays the sprint name and a list of User Stories assigned to the sprint.  2.2 The system retrieves all the user stories in the release that are not assigned to a sprint and displays a list of unassigned User Stories |
| 1. The Scrum Master selects save report | 1. The system saves this report to the MumScrumDataBase |

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## Post-Conditions

A new report is saved to the MUMScrumDataBase if the Scrum Master selects save.

## Business Rules

Scrum Masters cannot generate reports for releases that they are not assigned to

## Nonfunctional Requirements -- none

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1. (2pts) Describe an alternate flow for this use case.

*An alternate flow would be that a Scrum Master attempts to generate a report for a release they do not own. The System Response would be to generate a message saying the report can only be generated for the owning Scrum Master.*

1. (2pts) Describe a possible error flow for this use case.

*An error flow could be a system DB exception for not being able to read the release info. The system response would be to throw a DataBase read exception.*

1. **Use Case Analysis** (4pts).

**List** 4 analysis classes that will be used for this new Use Case that we have already defined as being used in our existing Use Cases for MUMScrum. For each analysis class indicate which analysis class stereotype it is

*Any 4 of the following are correct:*

* 1. *Release -- Entity*
  2. *UserStory -- Entity*
  3. *Sprint—Entity*
  4. *MUMScrumDBInterface -- Boundary*
  5. *ScrumMaster HomeForm -- Boundary*

1. **Use Case Analysis** (3pts). **List** 3 analysis classes that will be new for this new Use Case. For each analysis class indicate which analysis class stereotype it is
   1. *ReleaseReport - Entity*
   2. *ReleaseReportForm– Boundary*
   3. *ReleaseReportController -- Controller*
2. (2pts)What is the purpose of Architecture Analysis Mechanisms? Give an example of an architecture analysis mechanism that we use for MUMScrum.

*An Architecture Analysis Mechanism is a system wide decision for how we will solve common design problems for MUMScrum. They are valuable because we can then all use the same approach when we do our Use Case Analysis.*

*Any of the following are correct:*

*a)Provides common solutions*

*b)increases reuse*

*c)ease of maintenance*

*ORM or Web Application are good examples from MUMScrum.*

1. (2pts) For that analysis mechanism give an example of one effect it has on a Use Case Realization.

*Since we know we are using ORM our sequence diagrams will assume that our DB interface boundary class will return Objects from DB reads. We can all use the same style for CRUD operations on Entity classes.*

*Since we know we are using a Web Application we can all show the Page or Form Boundary classes and not worry about page details during Use Case analysis.*

1. (4pts)In RUP we have:

* Problems *1 , not-testable, Vision Doc*
* Needs *2, not-testable, Vision Doc*
* Features *3, not-testable, Vision Doc*
* Use Case Definition *4, testable, SRS*

For these 4 items:

1. Indicate the level of detail provided for these items ( 1 is least detailed, 4 is most detailed.)
2. Indicate which of these items must be testable
3. Indicate the name of the RUP document these items are included in