Obligatory Exercise #2 (Part 1 and Part 2) INF5150 2007

This obligatory exercise must be done in groups of 3-5 participants. The groups will be formed by the lecturer. It is not possible to perform this obligatory exercise alone.

"Survival of the SMSest" – the game

This is a survival game where the players send SMS to try and strike out other players and to guard themselves against strikes from others. The following services should constitute the game. The project groups must themselves make decisions about those details that are necessary to get the game to function, but that are not given in this exercise text.

Announce game

A game administrator will announce a game to a set of potential players. (How this potential set of players shall be defined, is up to the project groups themselves)

Register for game

A (potential) player may register for a game. (Make this go well with the "Announce game" service and the "Start game" service)

Start game

The game administrator will start the game by sending an appropriate message to all the registered players.
- Each player receives a predefined, initial sum of points cited in the starting message
- Each player also receives an initial basic shield value

Light up area

A player may light up an area around himself.
- the range of the light is a parameter
- the cost is a function of the square of the range
- the player will receive a message naming all players within the lighted area
    o the message will also contain information about the player's remaining points
- the other players within the lighted area will get a message that says that the first player has lighted up the area and that they have been seen (by him)

Put up an extra protective shield

Once spotted the player may choose to apply some of his remaining points to protect himself by putting up a shield.
- The protective shield has parameters strength and duration
- The protective shield may gradually be reduced over the duration
- The cost of the protection is a function of the product of strength and duration

Strike

A player may strike with a given force for a given duration against another given player.
- The cost of a strike is a function of the product of the force applied and its duration
- The strike is fatal, meaning that the stricken player is eliminated, if the stricken player's shield is reduced to zero or below. Therefore it is necessary to make a procedure for how the shield is affected by a strike.

- o The procedure should be based on the force of the strike and the distance between the striker and the stricken
  - o The procedure should also have a random element
  - o The force may reduce in value over its durations
- If a player is eliminated the striker will get the stricken player's points and boost his basic shield by some value
  - o The basic shield boost is based on the received points

Visualize through GoogleEarth

The game administrator may send a message that records the position of each player and the critical information about each player (points left and shield value). This information shall be placed on a GoogleEarth map. No information should be sent to the players.

"Survival of the SMSest" – Security Analysis

Assume that the players buy their points from the game administrator in real money (1 EURO per point + 20%). Assume also that the winner of the game may cash-in the points in real money (1 EURO per point). Conduct a security risk analysis on behalf of the game administrator according to the seven steps of the BT Technology Journal article.

The diagrams should be prepared in the CORAS editor.

Technicalities of Oblig 2

Delivery

- Absolute deadline!
- A report in pdf sufficient for the evaluators to read to understand the system
  - o The pdf-file shall have the following naming convention:
    G*n*-Oblig2.pdf
    where *n* is your group number, and be placed on top level of your group area
  - o The report shall be sufficient to understand your system in detail. The report shall also contain the security analysis including the CORAS diagrams.
- The emx-file (the UML model)
  - o The emx-file shall have the following naming convention:
    G*n*-Oblig2.emx
    where *n* is your group number, and be placed on top level of your group area

Peer-review

- Each project group will be reviewed by another project group
- The evaluating project group will produce a *test specification* with UML Testing Profile for the evaluated project.

Demonstration

- We shall during the final session of the course run the projects
- We may try and run several projects in parallel
- The test specifications will be executed by users that are neither designers nor peer-reviewers

Evaluation

- The lecturers will grade each project and give their qualitative evaluation
- Some individuals may be selected for individual examination of their work in Oblig2. Individuals may be failed even when the whole group passes.