Software Engineering Design Project First Report

From Manuel Schildknecht and Samuel Alves Santos.

1. **If not done already, install and get acquainted with magicDraw.**

    We already downloaded and installed Magic Draw.

2. **Write down use cases to evaluate the requirements.**

Name -	Lottery-Game
Description -	n-users type their name into the System and type 6 Numbers. After all users are finished the System gives 6 random numbers and show the names and the numbers of the n-users. If their is a user who typed the same numbers as the numbers which were randomly generated by the system, this user wins.
Actors -	**Primary user:** Every user with the executable game
Trigger -	The user is asked to press one of four keys to start a functionality
Preconditions -	User can see a menu where he is asked to press one of four keys
Postconditions -	The player can see the result of the lottery. Then a new lottery starts
Normal Flow -	**1.** Minimum of 1 user should press 1 in the menu to acces his ticket, to write his name and his choosen 6 numbers **2**. Then it is pressed 2 to generate the 6 random numbers **3.** At last it is pressed 3 and everyone can see the generated numbers and all users and their numbers. Furthermore the user with the most correct numbers is highlighted. Then a new lottery starts
Alternative Flow -	You also could possibly just let the first step aside and only let the program generate some numbers and then print them with the third command. Or you could just end the program by pressing 0.
Use case history -	Lottery, Manuel Schildknecht, Samuel Alves Santos, 20.5.15

3. **Please publish your organizational structure and name the selected process model!**

    The two members of the Group: Samuel Alves Santos and Manuel Schildknecht will work together at the documentation and the program.
    For the process model we choose a Sprial model also we use the extreme programing method for the prgramimg.

4. **Setup tools you plan to use during the development, e.g., SCM, programming language, etc., and give an explanation, why you made the selection!**

   As SCM we will be using git and as service to share the source code and to simplify the process we will be using github.
   The programing language we will be using is java. We choose this programming language because it is the programming language we got the most expirience in.
   Furthermore we willl be using the Eclipse IDE to help us program in java.

5. **Prepare a documentation structure within your chosen SCM tool!**

   https://github.com/Nixcheck/SWE-D.git
   A README.md is provided for some basic information about the repository.
   And there are two more files the Lottery_v1_Changelog and the Lottery_v1_Goals where some information about our current goals and what we actually managed to do are listed.

6. **Prepare a first estimation:**
   a. **Revist the principles of metrics!**
      i. **Software quality metric:**
         A function whose inputs are software data and whose output is a single numerical value that can be interpreted as the degree which software posesses a given attribute that affects its quality.
   b. **Define suitable metrics for your project, application and development team!**
      i. **For the project we define the runtime metric as follows:**
         Critical points for this metric are the average development time, the milestones analysis and the project's deadline.
      ii. **For the development metric we define the effort metric as follows:**
         We give points to the different tasks and distribute them to the different team members.
         The points are divided in classes like productivity, effortstability, effortdistribution and effort deadline.
      iii. **For the software we define the product metric as follows:**
         This metric checks the range of the softwares (lines of code, reuseability, etc.) complexity, clean code, quality of the prototypes and of the final product.
   c. **Perform a first estimation!**
      A lottery programm could have approximately 100 to 150 lines of code which include a random number generator that consists of approximately 10 to 20 lines (with the use of the Math library in java). Furthermore we have the prompt and the user input.
      With these two implementations we also need some lines of error handling if the user is typing something wrong into the input.
      At last there is the output of the program. Since both teammembers know each other and since we already worked on some projects we are confident that we will work properly together and come to a good and satisfying end.

    d. Determine a perliminary project schedule and visualize it!

Project planning:	The team members are discussing the details of the software and the realization of the project.	19.05.2015
Software implementation:	The lottery program will be build with the help of many prototypes in the spiral model and with the help of the extreme programing method.	20.05.2015-22.05.2015
Final phase:	Last review, last implementation of improvements and minor bug fixing.	23.05.2015-24.05.2015
Final examination:	After the final phase the project will be submitted	24.05.2015

7. Please write a report about the tasks and put the source file (like TEX or docx) into your version control system and submit a pdf version in moodle!

    We alredy uploaded everything.

8. Be prepared to present the current project status!

    We are prepared!