Homework 1

Exercise 1

1. Form teams of 3-5, define a day and time outside my course, where you meet regularly.
   a. We agreed to communicate via e-mail and Skype as the team members cannot physically meet elsewhere than in the lecture. The main meeting will be held on Friday afternoon as then we still have time to discuss any problems with the task that is due in on Monday but also gives us 3 days to finish the homework material. The second meeting will be held on Sunday to finalize the task.
   b. For collaboration, we agreed to use Google Docs.
2. Give a list of the abilities/skills and one weakness of every team member concerning a software development project, add email address.

Name	Skills in software development	weakness	E-mail
David Chambers	Experience creating music technology (software) programs with 'Max for Live', an add on for the ubiquitous music sequencer Ableton Live. Some, though quite limited, experience writing C/C++ and Python programs	Limited coding experience	d_m_c hambe rs_@h otmail. com
Kristjan Krips	C/C++, Java and some JavaScript	No work experience	krips@ ut.ee
Timo Petmanso n	Mainly C/C++, Python, Java. Also some PHP, Haskell. Some working experience with Android+Java and doing smaller software with Python+C.	Insufficient knowledge of UML and modelling tools	timo_p @ut.ee
Lasse Hyyrynen	git, svn, and cvs experience. Has written a game in c++ (liero-clone, school assignment), website programming with php, research with perl and python.	Gets too excited to write good easy to read code. Not too much experience with Java.	lasse.h yyryne @hut.fi

3. Write one abstract why this combination of abilities makes a good developer team.

We have an educated and skilled international team with different skillsets with regards programming and its application. This doesn't make it ideal for developing a program but is great for learning new ways to do things and can potentially evolve into a great style of development and programming. Besides that, members of the team are motivated to study and further develop their skills.

Classwork:

Definition of Abstract:

Something that is non-tangible which exists in its own right as an extension of thought about a concrete, tangible instance.

A simplistic version that describes all possible concrete actualisation.

Definition of Concrete:

A specific, tangible thing that exists within a set of widely accepted properties and definitions.

Modelling:

Ignoring unimportant details. Abstract details from the concrete for the purpose of communicating ideas.

4 possible user stories:

1. Bill plans his university studies with the solver
2. Bill develops the solver
3. Professor Steven Mann adds a new compulsory module to the course
4. Bob updates the software for the solver to take into account changes to the system

We opted to select 1 and 3.

Title	Bill plans his university studies with the solver
Precondition	Bill doesn't know how he is going to complete his studies
Action	Bill visits the Study Right University webpage and navigates to the solver and executes it. He enters all the compulsory and desired subject and runs the solver which outputs the results.
Postcondition	Bill does now know how he is going to complete his studies

Title	Professor Steven Mann adds a new compulsory module to the course
Precondition	The Study Right University does not have Dance Studies as a compulsory module
Action	Professor Steven Mann informs the system administrator that there is a new compulsory module of Dance Studies. The system administrator informs Bob to update the system. Bob updates the system.
Postcondition	Dance Studies is now compulsory

Exercise 2

1. (Play Mancala!). Create 6 (conceptually different, not only different names) user stories for Mancala (compare for rules and experience gathering http://sm.ulno.net). User stories should be around 1/4-1/2 page long

User stories

Title	First move of the game
Precondition	The game table has been set to default. All the pieces have been set out in their respective places. No one has moved any of the seeds. Timo won the last game. The winner of a game automatically takes the first move of the following game. Timo is on the north side of the table and his opponent is on the south.
Action	It's Timo's turn to move and he begins to move his pieces. He takes three seeds from the rightmost house and distributes them. He places the first in his store, and consequently one in each of the leftmost houses of his opponent.
Postcondition	The game table is no longer in its default setup. Timo has now moved some

	of his pieces into the setup described in the action field above.

Title	Sowing seeds
Precondition	Bob's opponent is Alice. It will be Bob's turn to move and he has not yet started redistributing the seeds.
Action	1. Bob chooses a non-empty house on his side of the board 2. Bob redistributes the seeds in the houses one-by-one in counterclockwise direction including his Mancala (but not in Alice's Mancala).
Postcondition	The seeds are redistributed. It will now be Alice's turn.

Title	Getting a free second move.
Precondition	It is Oscar's turn and he has redistributed the seeds, such that the last seed ended up in his Mancala. The rules state that 'If the last sown seed lands in the player's store, the player gets an additional move. There is no limit on the number of moves a player can make in his turn.'
Action	Oscar obtains another move as a result of satisfying that particular condition of the rules of the game.
Postcondition	It is Oscar's turn to move.

Title	Capturing opponent's seeds.
Precondition	Bob has redistributed the seeds such that the last one ended up in a previously empty house on his own side.
Action	All seeds of Alice, his opponent, are removed from her house opposite Bob's house the last sowed seed ended up in. The captured seeds are put into Bob's Mancala.
Postcondition	It is Alice's turn to move.

Title	Bob gathers remaining seeds into his own Mancala
Precondition	Bob has pieces left on his side but John does not have any seeds left.
Action	Bob takes the remaining seeds from his houses and places them into the Mancala.
Postcondition	Bob does not have any seeds left on his houses. John also does not have any seeds left on his houses. The game ends.

Title	Declaring the winner
Precondition	Bob and John have both run out of seeds. Both players do not have seeds in their houses.
Action	Bob counts his seeds in his store and John counts the seeds in his store. Bob and John compare their number of seeds. The player with the greater number of seeds is declared the winner.
Postcondition	The game ended and one player has been declared to be the winner.

Exercise 3

1. 4 User stories (conceptually different, not only different names) for Mau Mau (http://en.wikipedia.org/wiki/Mau_Mau_%28card_game%29). User stories should be around 1/4-1/2 page long

User stories

Title	Initializing the game
Precondition	Anton, Bob, Charlie and Oscar decide to play Mau Mau and they have a deck of cards.
Action	The deck is shuffled and each player is dealt five cards. Also, the ace of spades is drawn from the deck and revealed to the players. Now they throw fingers and decide that Anton plays the first card.
Postcondition	The cards are dealt and Anton must play the first card.

Title	First card of the game is played
Precondition	No one has played a card. It has been decided that Anton will play first.
Action	A card is revealed from the drawing stack and Anton has a corresponding suite or value as the revealed card. Anton plays the corresponding card.
Postcondition	Anton has played a card.

Title	Last card of a player is played
Precondition	It is John's turn to play and he has only one card left. The last played card is a nine of spades and John's card is nine of diamonds.

Action	John plays the nine of diamonds and after that he is the first player without cards. The rest of the players count their cards and add up the penalty points.
Postcondition	The round has ended with John winning. The rest of the players got penalty points.

Title	Drawing a card from the stack.
Precondition	It is Charlie's turn to play, the deck contains 10 cards, the last played card is 8 of clubs and Charlie has no clubs or eights.
Action	Charlie draws 9 of spades from the deck. As he cannot play the card since according to the rules 'One can play a card if it corresponds to the suit or value of the open card' and so therefore he passes.
Postcondition	It is Oscar's turn to play a card.