Lutemon Combat: Documentation

Igor Zimarev

igor.zimarev@student.lut.fi

CT60A2411 Olio-ohjelmointi

General work description

I was alone in the group CatchEmAll. I did all the practice work by myself, so all the code was done by me.

The work was done based on the suggested practice work topic, so the Lutemon game. It contains Lutemons of 5 different factions (white, green, pink, orange, and black). Lutemons of each factions have their default stats set in a similar manner as described in the practice work instructions. The player can create new Lutemons, list them, delete and edit them, move them to Training and Arena locations. Also, the player can see a variety of different stats for each Lutemon.

The game was made as an Android application where the user can interact with the app purely through graphical means. After a Lutemon is created, it is placed into HomeStorage, which is the primary storage of this game. After that, the player can move the Lutemons either to TrainingStorage or ArenaStorage. When a Lutemon is trained, it gets experience (XP). There are 3 training intensity choices: light, medium and heavy. Each intensity gives a different amount of XP to each Lutemon (light 1, medium 2, heavy 3). Each gained XP point adds 1 attack point to a Lutemon.

The fights are turn-based, and on each turn one Lutemon attacks the other one on their respected turns. The fights are performed on the Arena. A fight lasts until one Lutemon's health (HP) gets to 0 or below. The lutemon that wins gets one XP point. Then, the fight statistics are recorded, both Lutemons are sent back to HomeStorage, and their HP is replenished. If a Lutemon dies, he loses all his progress (Gained XP and attack points).

The statistics of each Lutemon that is in HomeStorage are displayed on the Statistics screen. There are fight statistics and training statistics.

Class diagram
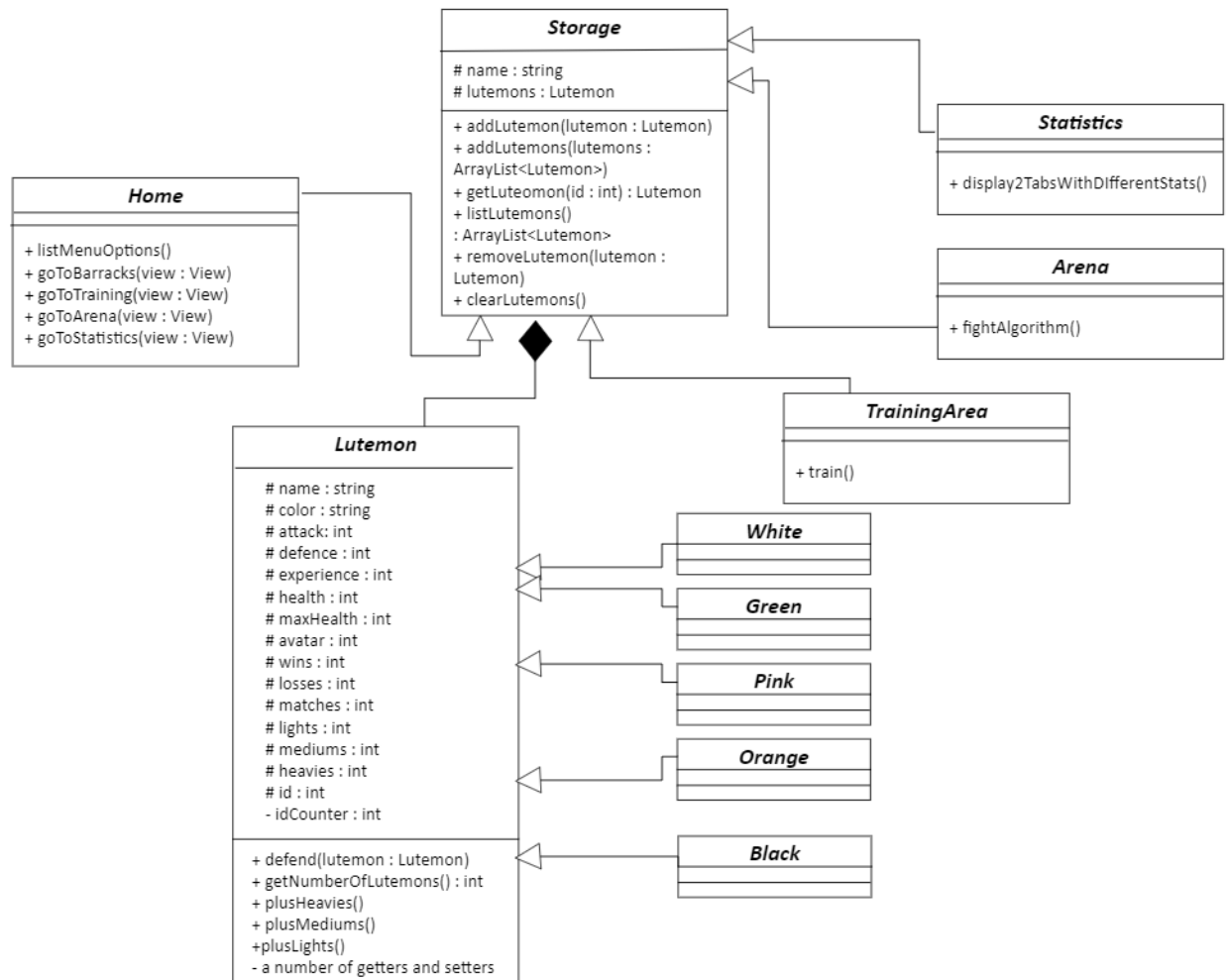
Implemented functionalities

Functionality	Description	Points
Oliokoodia	Ohjelma on koodattu olioparadigman mukaisesti	Pakollinen
Koodi on englanniksi	Ohjelman kaikki koodi ja kommentit ovat englanniksi. Dokumentaatio ja käyttöliittymäelementtien tekstit voivat olla suomeksi.	Pakollinen
Ohjelma toimii Androidilla	Ohjelman tulee toimia erilaisilla Android-puhelimilla ja se on koodattu Javalla Android-studiolla	Pakollinen
Ohjelma sisältää perustoiminnallisuuden	Ohjelma kattaa kaikki ne ominaisuudet, jotka ylempänä on määritetty, joten sillä voidaan pelailla Lutemonien kanssa	Pakollinen
		15 points

RecyclerView	The game contains multiple RecyclerViews (6 all together). They can be seen in Lutemon Barracks, Statistics, Train Lutemons, and Fight screens.	3
Lutemons have pictures	When a Lutemon is created the user can choose a picture for him. The picture is assigned to the Lutemon and displayed consistently throughout the game.	2
1	The game keeps track of the different statistics for each Lutemon. It displays how many victories, losses, total matches, and Kill/Death (K/D) ratio for each Lutemon that is in the HomeStorage in the Statistics screen. The statistics screen has 2 fragments, one displays the fighting statistics described above, and the other one displays the training statistics (how much light, medium, and heavy trainings a Lutemon had).	2
No death	When a Lutemon loses a fight, it doesn't die, but the loss is recorded into the statistics. The stats (XP and increased attack) of the Lutemon are returned to the original state.	1
Randomness	During a fight, the algorithm implements random effects. First of all, the choice of which Lutemon attacks first is randomized. There is also a 20% chance for a Lutemon to get a Critical Hit, where the dealt damage will be multiplied by 2. Also, Non-Crit attacks are slightly randomized, where first the damage multiplier with values ranging between 0.7 and 1.2 is multiplied by the originally intended attack. The multiplication result is then rounded to the nearest integer. This system generates attack values that are slightly fluctuating from the original values to both sides.	1
Fragments	The work uses fragments in places where they are appropriate. The Lutemon Barracks is an activity that handles functionalities that are rather similar (in a sense that they all manage Lutemons). So, it was divided into 3 sections using TabLayout and fragments (Add Lutemons, List Lutemons, Move Lutemons). The Statistics section also uses fragments, where statistics related to fights are displayed in Fights – tab, and statistics related to training are displayed in the Training tab.	3
Saving and loading from file	In Lutemon Barracks, in the Move Lutemons tab, all selected Lutemons can be saved into file by clicking a button. Also, there is a button that allows the user to load Lutemons from the file.	2
Functionality X	Come up with and evaluate a custom functionality.	0 − 5

Removing and editing Lutemons	In the Barracks Activity, when Lutemons are Listed in a RecyclerView, the user gets an option to remove Lutemons by clicking a button next to each Lutemon. Also, there is an Edit button below it. When it is clicked, there appears a field to edit Lutemon name and a saving button. When the name is inserted and Save-button is clicked, the name is now changed and the fields disappear. This allows the user to better manage all existing Lutemons.	2
Design choices	I worked on the design on this project to make it more aesthetically pleasant. I added custom buttons instead of the of the default purple buttons and added a timed pop-up text to indicate that the training is successful, which disappears after 2 seconds of being displayed. Also, I made the UI as pleasant as possible.	1
Total points		32 points