**Hochschule Rhein-Waal**

**Project 1-REPORT**

**Group members:** Tien Loi, Dang / 21009

Quang Minh, Dinh / 24211

**Course name:** Programming: Distributed Systems

**Faculty:** Communication and Information Engineering

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**Supervisor:** Mr. Pedro Ribeiro

# Project’s point of view:

Our goal is to create a game application that has 15 participants and can play at the same time. Technically, we need to create a way for participants to register and login to the server and then they will be grouped of three and selected a character. For us, it means to create a communication between clients and server. Depending on logic, server can group and help clients to choose the characters with the differences between them.

# Completed functionalities

## User registration and login:

### Sever Task Login class:

“Server Task Login ” are the place that keeps our clients account information, contain all relevant information for them and then save it to user.text.

The information that is saved within the class is relevant to different stages of the project and contains: username, password, level 0 when register , and after login a random level will be available that will use for making the group.

After registration, users will have an username and password which are saved in user.text. Following that, users can login to the server with their username and password that contain in user.text. The new random level will be updated and the grouped making is now started.

## Server and Clients:

Server and Clients class:

Server is accepting 15 clients join at the same time and starting with very basic functionalities( login and register) by using Excercutor.

Clients are able to join simultaneously however in the grouped process, which client join first will be dealt with first, however, in the grouping process every clients still has to wait until 15 people in array.

Grouping Process:

We will make an array of 15 people that will arrange from lowest to highest, and then starting to make a group of three. However, the condition is the difference between level of three participants that can not be bigger than 2. So by logical calculation, we take the third level minus the first level in 3 participants. If the difference is bigger or equals 2, we ignore the lowest and keep doing that from the second until we cannot do it anymore.

Participants who cannot join a team will be assigned in group 0, which 3 level that contains in a group will be assigned in group 1,2,3… and then show the parts of choosing charater and showing scripts.

**EXAMPLE:**

**For example 1, we have 15 random number from 1 to 5:**

**1,2,2,4,5,3,2,4,1,3,4,2,4,5,1.**

**that can be rearrage:**

**1,1,1,2,2,2,2,3,3,4,4,4,4,5,5 which is completed from group 1 to 5**

Incomplete functionalities and plans:

Using .XML:

We did try to use file .XML to save the information of clients but we did not success. That can success with one clients but cannot use Excercutor to do it with many clients. We have found some ways to complete it but time does not allow us to try.

Choosing a character, show scripts and update new level :

We did not finish this part because of time, but we have the ideas how to build it but did not try to combine it in the multithread way.