**LevelDB Implementation**

**LevelDB Database**

We decided to implement the key-value Database for user (for the reasons specified above).

To manage the data the class LDBManager has been implemented.

LDBManger creates (if not exists) a new File named UserDB.

**LevelDB content format**

For each user has been decided to store the data in a human readable string.

Database content for each user:

user:<userId>:username=<userUsername>

user:<userId>:password=<userPassword>

user:<userId>:firstName=<userFirstName>

user:<userId>:lastName=<userLastName>

user:<userId>:matriculationNumber=<userMatriculationNumber>

**LevelDB collision inside the UserDB file**

The userId is formatted in this way: FirstName\_FirstCharacter.LastName

Following the format above can happen that two or more different users result having the same userId. To avoid collisions between users we have decided to add to the userId a parameter.

This parameter is an integer number set during the Sign up process representing the number of users registered before already existing in the Database having the same userId.

Example.

Mario Rossi sign up -> userId=”m.rossi”

Marco Rossi sign up -> Collision with “m.rossi” -> userId=”m.rossi1”