Java Checkers Game Report

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Intermediate Java Programming

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Abstract

This report is a documentation for my Intermediate Java Project for first term of senior year, where I have detailed some information about my project, class diagram and ERD, my research requirement, how this application works, and a basic user manual.

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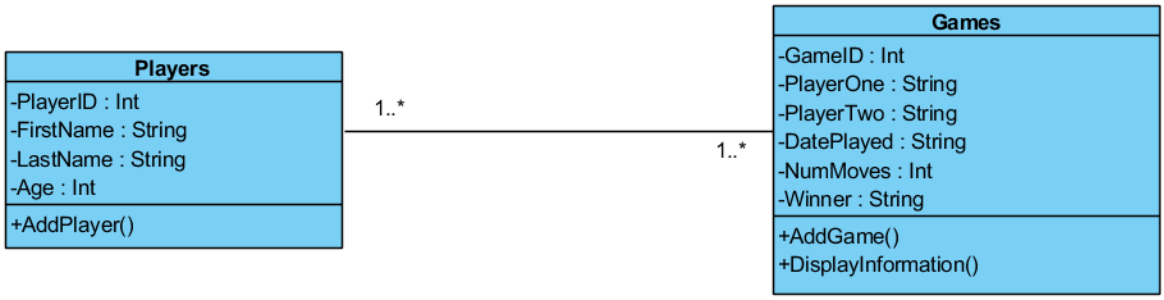
Introduction

This Checkers Game Report is an application that was created in Java, using SQLite database to save player, game and retrieve game, based on user's input. So the user could save their games played. This report explains how to use the application, a summary of what was done to implement it.

Class Diagram

Java Checkers Game Report Class Diagram



Java Checkers Game Report ERD

Research

To be able to complete this project, I was requested to use a database platform that we did not use in class, so I was asked to use SQLite as my research.

SQLite

For my research, I have had to download an SQLite program that I could create the database. So, I downloaded SQLite Studio Windows (installer) version InstallSQLiteStudio-3.2.1.exe linked here:

https://sqlitestudio.pl/index.rvt?act=download

Connecting to the database

To be able to connect to the database, I had to download the latest version of SQLite JDBC Driver linked here:

https://bitbucket.org/xerial/sqlite-jdbc/downloads/

As the research I have made, I found two websites that helped me creating the database connection. They are linked below:

https://www.sqlitetutorial.net/sqlite-java/sqlite-jdbc-driver/

https://www.javatpoint.com/java-sqlite

Functionality

In this Checkers Game Report application, in the “Add Player” tab the user can add as many different players as he/she wants. After adding at least two players in the application, they can choose the “Add Game” tab, where he/she can choose who is playing this match, the date that was played, number of moves and who was the winner. After adding at least one game, the user can retrieve it in the “Retrieve Game” tab, and all the information of that game will be displayed.

Testing

The Checkers Game Report application was tested iteratively. I started creating the database, and the add player functionality, after ensuring that the data was been saved to the database, I did the textboxes validation for the user’s input, to ensure that all data needed was inserted. After that, I had to fetch the players and display them in dropdown boxes. Then I had to figure out how I could get a date picker that I could work with. So, I found JCalendar jar, and I used JDateChooser. I was trying to save it in database as Date, so I could display it in the retrieve game tab, but the I figure out that would be easier if I used another JDateChooser there as well, so the date was saved in the database in milliseconds, and then converted back in date when retrieved. In the add game tab, I had validated if was chosen two different players, and choose a winner. On the retrieve tab, before we can retrieve any data from database, we must choose a game from the dropdown box, that was also validated.

Possible Extensions

The Checkers Game Report is a very simple application that could have other functionalities, like create a championship, with playoffs, going up to the grand final. For players with a big percentage of wins, could have like a golden badge, to show that he/she is like a champ.

Summary and Conclusions

For creating this Checker Game Report application, even being a very simple application, it exceeded my expectations. The application worked exactly how it was supposed to work. Adding a create championship feature and implementing the golden badge to the best players would be the next steps that I would like to implement.

References and Bibliography

SQLite JDBC Driver

https://bitbucket.org/xerial/sqlite-jdbc/downloads/

Connect to SQLite Database

https://www.javatpoint.com/java-sqlite

SQLite Studio

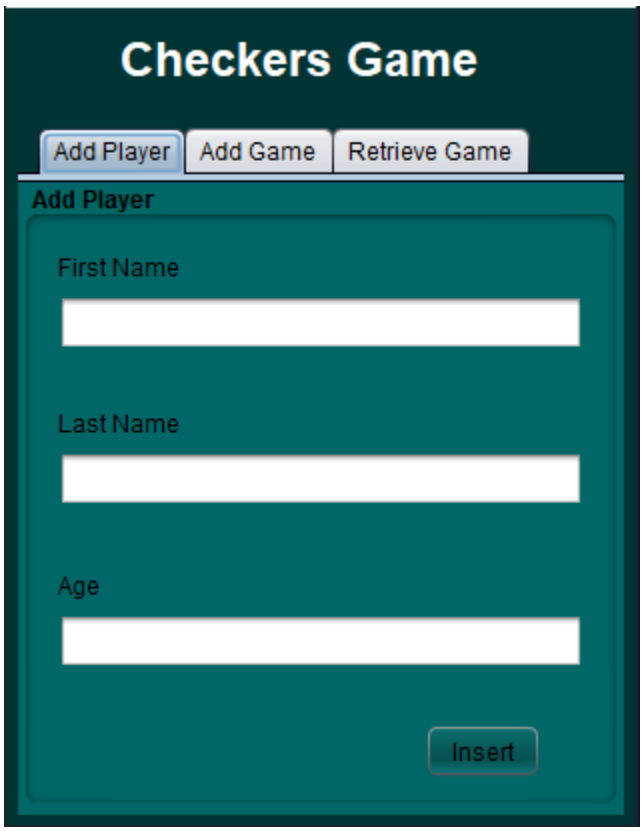
https://sqlitestudio.pl/index.rvt?act=download

JCalendar

https://toedter.com/jcalendar/

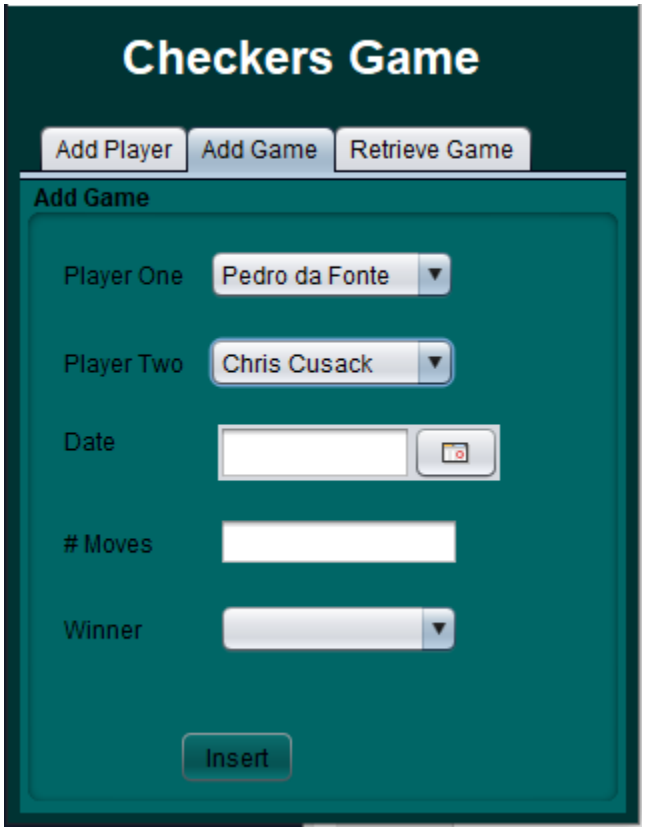
User Manual

As soon as the app start, the user will be at the main page of the application, that is to create a new player. The user is asked to input his/her first name, last name and age.



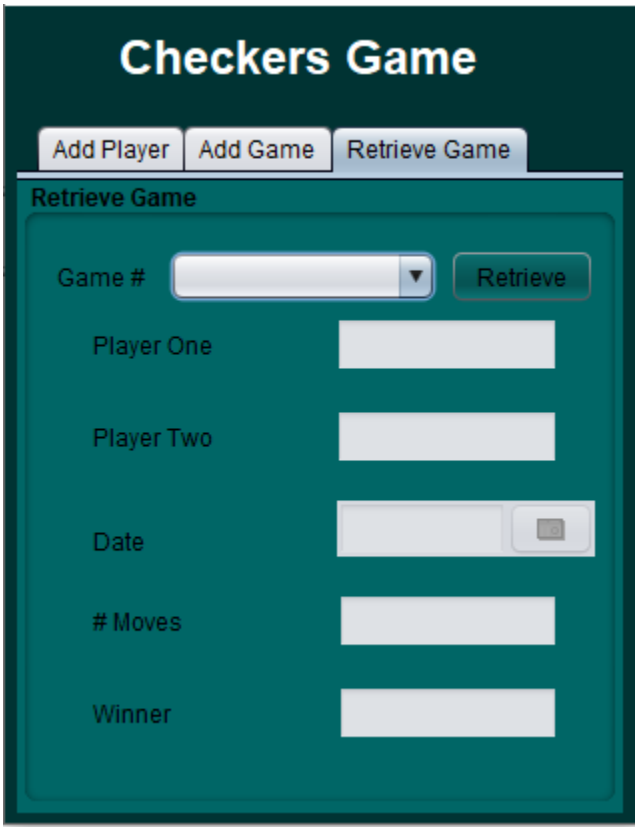
Add Player Tab

After creating, of if you had already saved, at least two players, the user can add a game played. So here the he/she will have to choose the two players that played against each other, the date played, number of moves and who was the winner.



Add Game Tab

After adding, or if you had already in your database, you can choose a game to retrieve, where is going to display again all information that was inserted when that game was saved. If the user wants to leave the application, they just need to press the “X” button on the top right corner of the application window.



Retrieve Game tab