Documentation

Web Database

Fire Entertainment Plaza

Updated March 2017

DOCUMENTATION

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1.0 General

1. GENERAL DOCUMENTATION

1.1 Sources

- SQLite .jar files available from website
    - http://sqlite.org/2017/sqlite-tools-linux-x86-3160200.zip
    - Ability for use by the public on any medium
    - Copyright remains to SQLite company
- Images from various authors retrieved from various icon databases
    - **See section 1.2**
- Java pre-imported libraries from Eclipse Java IDE
- Java Material Design .jar library from JFoenix
    - http://jfoenix.com/documentation.html#License

1.2 Image Documentation

- Fire Logo
    - https://www.iconexperience.com/g_collection/icons/?icon=fire
    - Icons were sold for Free on the website
    - Ability for use by the public on any medium
    - Copyright remains to original author
- Caution Icon
    - http://www.clker.com/clipart-warning-icon.html
    - Icons were sold for Free on the website
    - Ability for use by the public on any medium
    - Copyright remains to original author
- Printer Icon
    - http://www.freepik.com/free-icon/printer_737446.htm
    - Icons were sold for Free on the website
    - Ability for use by the public on any medium
    - Copyright remains to original author

1.3 Creation

- Programs used
    - Eclipse Java IDE and Eclipse Java SDK
    - Mozilla Firefox's SQLite Database GUI
    - Oracle JavaFX Scene Builder
- Time
    - Approximately 44 hours

1.4 Reasoning

Usually, web database programs are online and program communicate with a respective database via the internet. However, in the world we live in today, security is a large issue. This program handles sensitive information such as employee address and birthdate. Therefore, this program has been created for local use for the sole reason of safety. The Fire Entertainment Plaza believes in prioritizing employee safety and so every retail metric will be inserted on a local computer.

The file "FEP.sqlite" contains all the information and can only be accessed through a special program in the hands of IT. If there is a need to switch computers, simply move the program AND the sqlite file onto the new computer. Make sure that the program executable and the sqlite are in the same folder. If this is not fulfilled, the program will not be able to effectively retrieve the data.

2.0 Versions

2. VERSION HISTORY

2.1 Previous Version(s)

- 1.0
    - Contains the basic editing/adding/viewing employees
    - Contains basic creating/editing/viewing schedules
    - Contains basic printing

2.2 Current Version

- 2.0
    - Improved material design
    - Updated documentation and user manual
    - Added the ability to keep create a schedule for specific year AND week number
    - Added the ability to filter for names when viewing current employees, schedule, and attendance
    - Added Settings Menu
        - Ability to add a new fiscal year
        - Ability to delete a fiscal year
        - Moved the option to change admin password from it's own menu into the settings menu

2.3 Future Versions

- 3.0
    - Ability to add customers to a membership database and add their weekly attendance
    - Further security
    - Ability to simply click either Clock ON/OF and program will automatically insert current time of current day into database.
    - Ability to select Week Start/End dates from a GUI Calendar

3.0 Program Design

3. ARCHITECTURE/DESIGN

3.1 Packages

The Fire Entertainment Web Database program contains 4 packages: **FEP, FEP.control, Images, and Table.** These 4 packages contain 4 relatively important components of the application.

The **FEP** package contains the .fxml files and the Main.class that initialize startup and layout of the program. Each .fxml file contains the code that designs and handles layout of each window.

The **FEP.control** package contains all the controllers. In JavaFX, each .fxml file must interact with a controller that contains the code that handles all actions. Each controller class has various methods that perform various actions depending on the respective window. Also, this package contains the connection classes. These classes allow the program to communicate with the sqlite file that contains all the data.

The **Images** package contains all the images that are being used in the program

The **Table** package contains 3 classes: **Attendance, Employee,** and **Customer**. These classes are used for viewing employees, schedules, and attendances. In JavaFX, the TableView component requires a array list containing anonymous classes. The classes handle each row in the sqlite database. Please refer to the Source Code (**Section 3.3**) for further clarification.

3.2 JavaFX

JavaFX is a new method that uses Java to create a better designed GUI. In Version 1.0, this programmed utilized JFrame which limited design abilities. However, with JavaFX, I was able to not only improve the program by incorporating the ability to filter tables, but it also allowed me to increase the appeal of the program. In every computer science program, design is key because it contributes to ease of use. Without a proper GUI design, the program is virtually useless. Therefore, by using JavaFX and their uniquely design components, I was able to create a complex yet appealing program.

3.3 Accessing Source Code

In the original package that included the program, there is a folder named “Code” in the same directory as the program folder. This code includes all classes, .fxml files, and all libraries used in the making of this program. Each class and .fxml file included comments that help the user better understand the purpose of all components of the program.

4.0 System Requirements

4. SYSTEM REQUIREMENTS

System requirements are also available in the user manual.

4.1 Windows

- Operating system must be Windows XP or above
- Operating system must have the latest Java SE Runtime Environment Installed
    - As of March 2017, the latest update is Java SE Runtime Environment 8u121
- Computer must have at least 512 Mb of RAM
- Computer must have at least 500 Mb of hard drive storage allocated for the program

4.2 Macintosh

- Operating system must be Mac OS X Mountain Lion or above
- Operating system must have the latest Java SE Runtime Environment Installed
    - As of March 2017, the latest update is Java SE Runtime Environment 8u121
- Computer must have at least 512 Mb of RAM
- Computer must have at least 500 Mb of hard drive storage allocated for the program