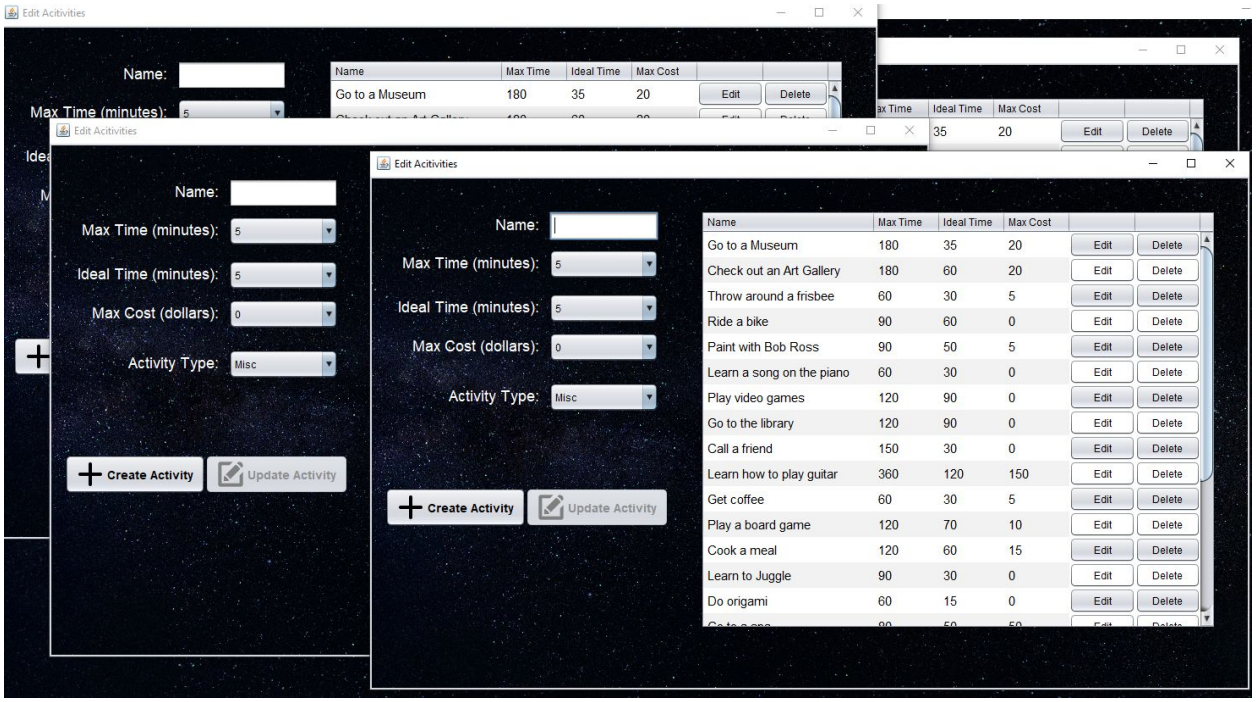
Working Prototype Known Problems Report
Plan-it!
Team Rocket
12/1/19

Edit Activities Window:

Location: MainWindow.java and CurrentActivities.java
We implemented a feature that when Edit Activities is clicked, the ‘edit activities’ button is grayed out. This is so that not more than one Edit Activities window is open concurrently, as it can cause issues with the database and/or main algorithm. However, we realized that if the Edit activities is clicked really fast it will actually take too long too gray out the edit activities button to become grayed out. Thus, there can be issues.

(ex: above is what the button is supposed to become immediately after being clicked)

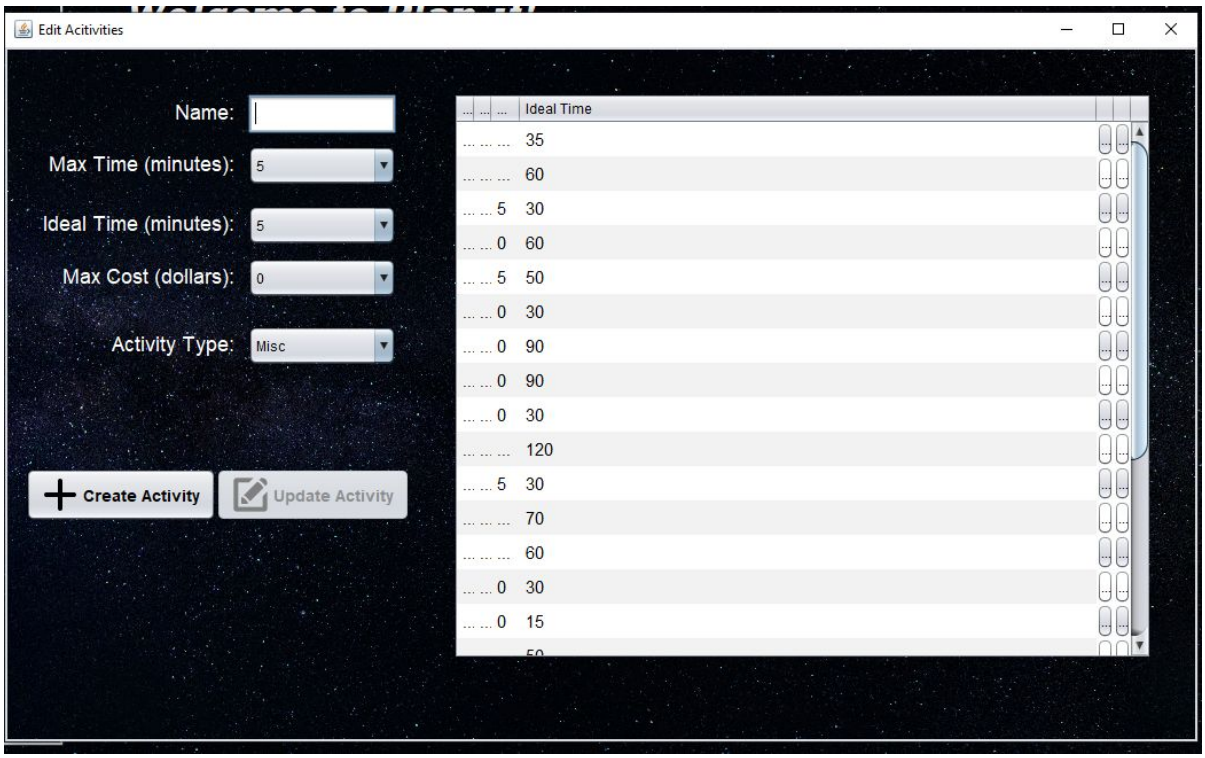


(ex: above demonstrates how the many Edit Activities windows can open, if user clicks on the button fast.)

Possible solution:

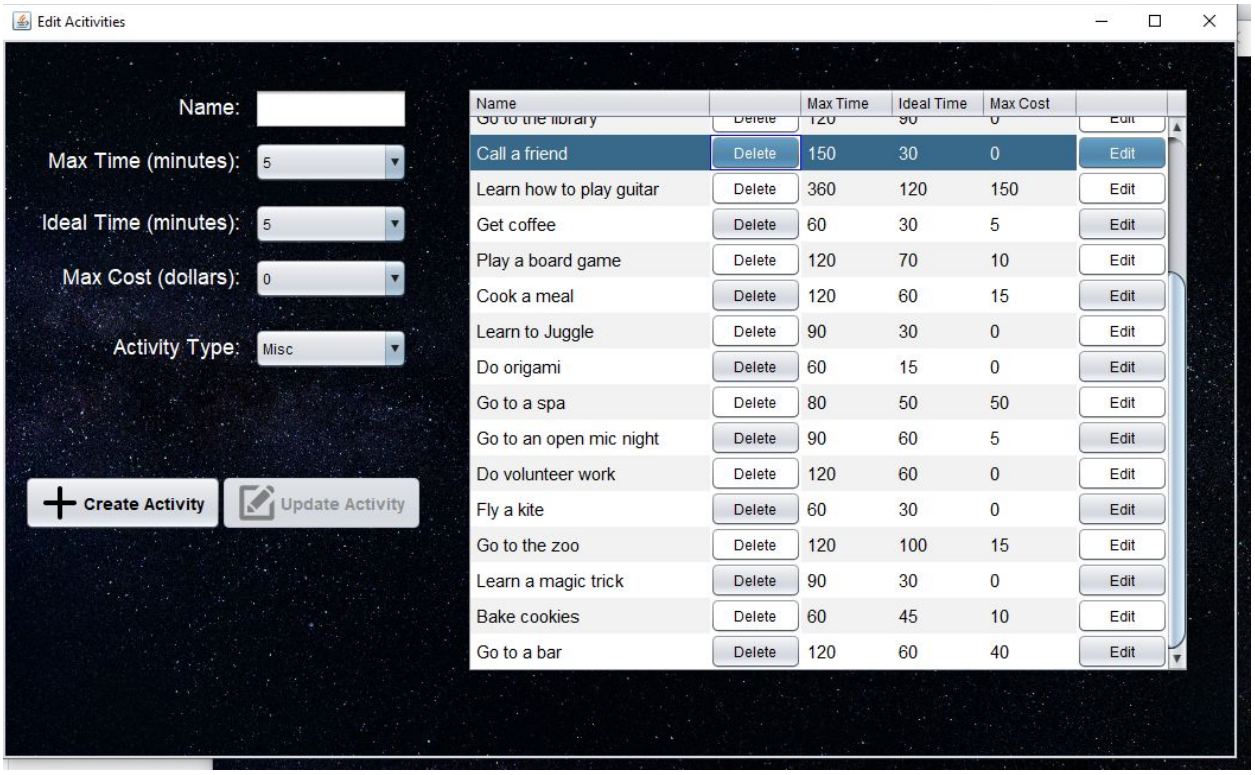
Editable Column Names for JTables:
Location: both ActivityPlan.java and CurrentActivities.java

The Column names can be swapped around and stretched out by simply clicking,



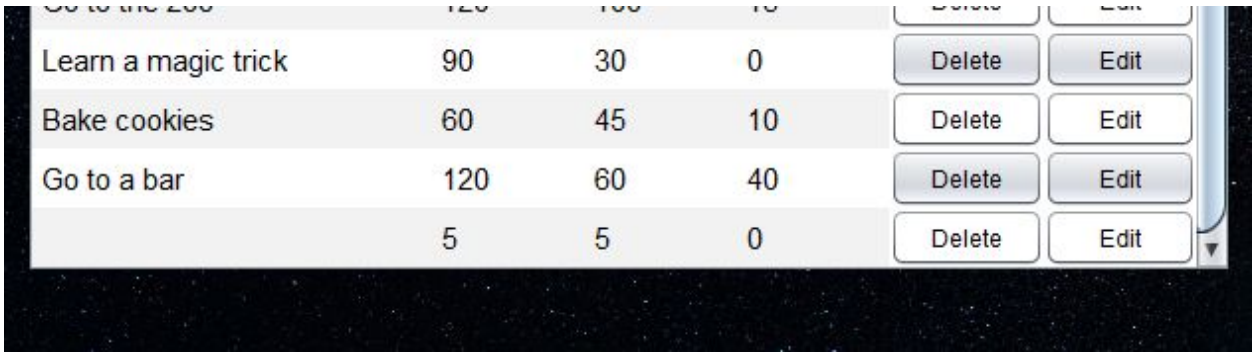
(ex: above demonstrates the columns being stretched)

This can cause issues because when delete and edit are moved around they either won't work or take a while.



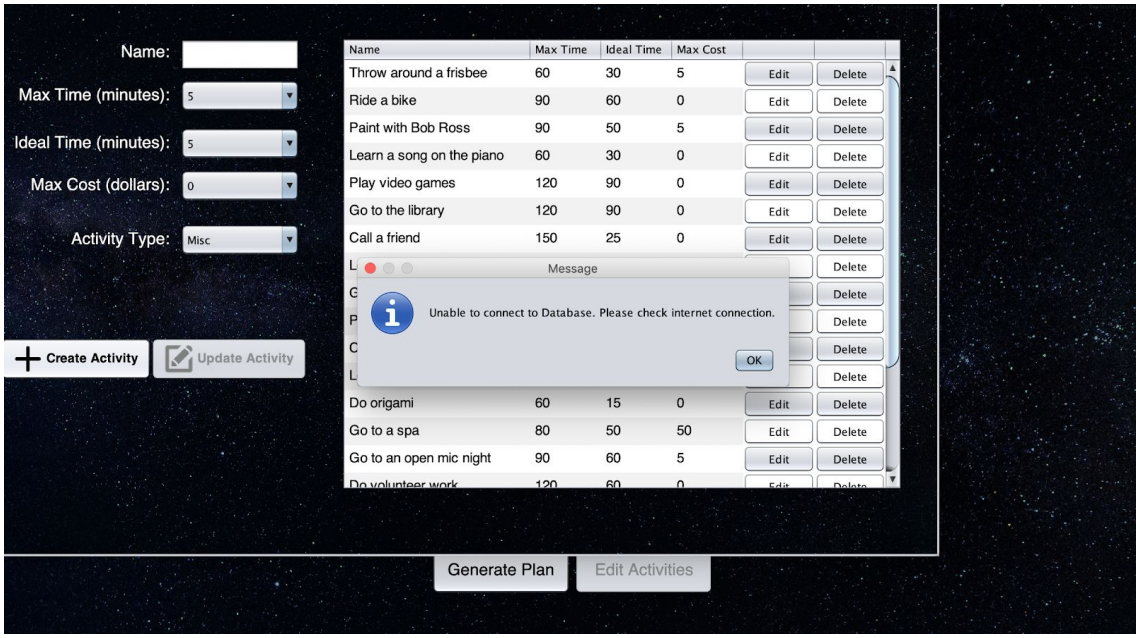
(ex: as seen above, if the delete button is swapped like this, it will lag. However, no errors.)
Possible Solution:

Adding an empty activity:
Location: CurrentActivities.java
An empty string may be added as an activity, this may cause issues when generating a plan.



In addition, SQL injections, etc. may be possible from open textfield, and patching up this vulnerability would require further research/case handling.

Additionally, if the program loses internet connection during execution, the program will continue to alert the user until the connection is restored, which works fine...



However, upon disconnecting from the server, the terminal immediately throws several exceptions, none of which crash the program, but which are a bit annoying, considering the cases are currently handled.

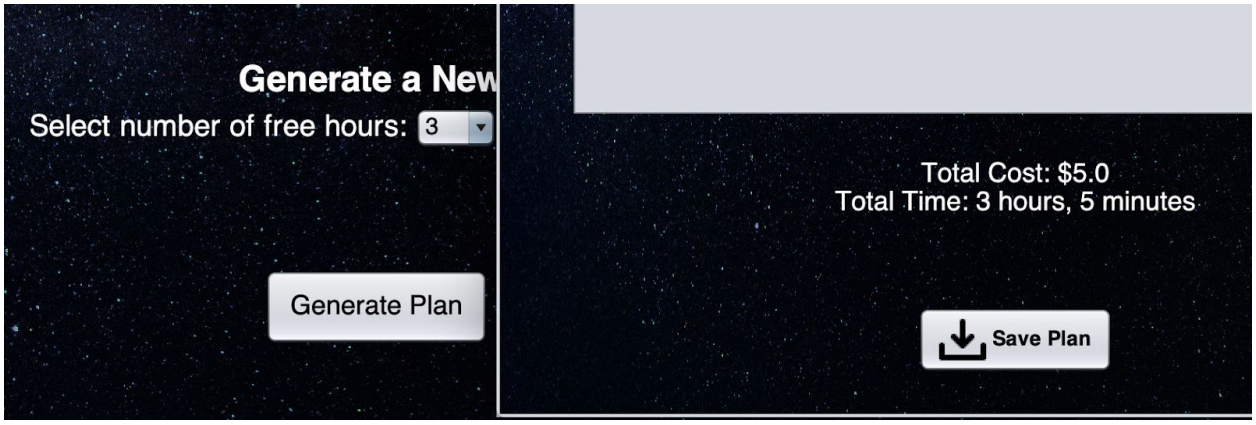
```
        at java.awt.EventQueue$3.run(EventQueue.java:709)
        at java.awt.EventQueue$3.run(EventQueue.java:703)
        at java.security.AccessController.doPrivileged(Native Method)
        at java.security.ProtectionDomain$JavaSecurityAccessImpl.doIntersectionPrivilege(ProtectionDomain.java:76)
        at java.security.ProtectionDomain$JavaSecurityAccessImpl.doIntersectionPrivilege(ProtectionDomain.java:86)
        at java.awt.EventQueue$4.run(EventQueue.java:731)
        at java.awt.EventQueue$4.run(EventQueue.java:729)
        at java.security.AccessController.doPrivileged(Native Method)
        at java.security.ProtectionDomain$JavaSecurityAccessImpl.doIntersectionPrivilege(ProtectionDomain.java:76)
        at java.awt.EventQueue.dispatchEvent(EventQueue.java:728)
        at java.awt.EventDispatchThread.pumpOneEventForFilters(EventDispatchThread.java:201)
        at java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThread.java:116)
        at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:105)
        at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:101)
        at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:93)
        at java.awt.EventDispatchThread.run(EventDispatchThread.java:82)
aused by: com.mysql.cj.exceptions.CJCommunicationsException: Communications link failure

he last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any packets from the server.
        at sun.reflect.NativeConstructorAccessorImpl.newInstance0(Native Method)
        at sun.reflect.NativeConstructorAccessorImpl.newInstance(NativeConstructorAccessorImpl.java:62)
        at sun.reflect.DelegatingConstructorAccessorImpl.newInstance(DelegatingConstructorAccessorImpl.java:45)
        at java.lang.reflect.Constructor.newInstance(Constructor.java:423)
        at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:59)
        at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:103)
        at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:149)
        at com.mysql.cj.exceptions.ExceptionFactory.createCommunicationsException(ExceptionFactory.java:165)
        at com.mysql.cj.protocol.a.NativeSocketConnection.connect(NativeSocketConnection.java:92)
        at com.mysql.cj.NativeSession.connect(NativeSession.java:152)
        at com.mysql.cj.jdbc.ConnectionImpl.connectOneTryOnly(ConnectionImpl.java:982)
        at com.mysql.cj.jdbc.ConnectionImpl.createNewIO(ConnectionImpl.java:852)
        ... 46 more
aused by: java.net.SocketException: Network is unreachable (connect failed)
        at java.net.PlainSocketImpl.socketConnect(Native Method)
        at java.net.AbstractPlainSocketImpl.doConnect(AbstractPlainSocketImpl.java:350)
        at java.net.AbstractPlainSocketImpl.connectToAddress(AbstractPlainSocketImpl.java:206)
        at java.net.AbstractPlainSocketImpl.connect(AbstractPlainSocketImpl.java:188)
        at java.net.SocksSocketImpl.connect(SocksSocketImpl.java:392)
        at java.net.Socket.connect(Socket.java:589)
        at com.mysql.cj.protocol.StandardSocketFactory.connect(StandardSocketFactory.java:173)
        at com.mysql.cj.protocol.a.NativeSocketConnection.connect(NativeSocketConnection.java:66)
        ... 49 more
```

Possible solutions: Research MySQL connection exceptions being thrown, and figure out how to silence/handle them.

Generate Activity Plan Window:

Location: MainWindow.java, Plan.java and ActivityPlan.java

We implemented a rounding function to our plan generation algorithm, in order to clean up the final time values. For example, instead of a 21 minute activity, plus a 26 minute one, it would round the activities to 20 minutes, and 25 minutes respectively. However, as a result, the algorithm occasionally outputs values whose total times are 5 minutes over, or under the given time value. It seems like a simple problem to solve, but there are many considerations, such as the "stretch" between each activity's ideal time, and max time, which makes the problem more difficult to solve for all cases than it would appear.



Possible solutions: Implement a "trim" function that goes through and removes/adds 5 minutes to a random activity in order to make the output match the given input.

PDF writing:

Since the minimum time for an activity is 5 minutes, and the max time is 6 hours, lists can be generated of up to 72 lines. This may lead to errors with writing multi-page PDFs, which are optimized for shorter plans.

Possible Solution: Research iText API and figure out multi-page solution.

In addition, PDFs are unable to be named directly, defaulting to being called "My Plan," overwriting previous plans of the same name.

Possible Solution: Check for existing files, and rename saved file as “My Plan1,” “My Plan2,” etc. accordingly.

Suggested User Stories for Acceptance Test:

Coverage: All User Stores

Scenario:

-Run the program.
-Notice the “Generate Plan” button in the main window.
-Try resizing the main window.
-Press the “Edit Activities” button, and create an activity of your choice.
-Edit and update an activity or two.
-Try adding an activity with a duplicate name, leaving the name field blank, or adding a name of greater than 25 characters to observe feedback from the app.
-Toggle the edit button, and try deleting an activity.
-Scroll up and down the list to see all activities.
-Try to press the “Edit Activities” button again from the main window. Notice it is greyed out while another edit window is open.
-Close the edit window, and notice that the button becomes available again.
-Select a desired time, and budget, and press the “Generate Plan” Button.
-Try resizing the activity plan window.
-Try saving plan to your desktop, and open the generated PDF.
-Generate several plans, with various values, and see what you get.
-Exit the app.