**College Capital**

**Sprint 2 Retrospective**



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**What Went Well**

In general, the workflow for this sprint went incredibly smoothly compared to the last sprint. As a whole, it felt like every member of our group had a much more solid understanding of our technologies which allowed us to build off of the groundwork that we had previously laid. As a result, we got to develop some of our more intricate user stories, giving our app features such as transactions, visualizations, and a support contact form.

**User Story #9**

As a user, I would like to be able to visualize my current financial status.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for visualization page** | **4 Hours** | **Jethro** |
| **2** | **Create algorithm to generate visualization from data** | **6 Hours** | **Jethro** |
| **3** | **Create algorithm to retrieve data for visualization** | **6 Hours** | **Jethro** |
| **4** | **Create tests to validate functionality** | **1 Hour** | **Justin** |

**Completed**

Our visualizations page includes a pie graph and several line graphs that demonstrate fiscally current expenditures by day, month, and year. These graphs are based on the data input into our database on the transactions page, updating in real time immediately after the user inputs their data. Further, the users have the option to export the individual visualizations in a variety of formats.

**User Story #11**

As a user I would like to be able to export my visualizations

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create algorithm to export visualizations in a variety of formats** | **3 Hours** | **Jethro** |
| **2** | **Create Ui for exporting visualizations** | **2 Hour** | **Jethro** |
| **3** | **Create algorithm to retrieve visualization for export** | **2 Hours** | **Jethro** |
| **4** | **Create tests to validate functionality** | **1 Hour** | **Charlie** |

**Completed**

On every visualization on the visualizations page, there is a dropdown menu that allows the user to select their desired format, PNG, JPG, PDF, SVG, CSV, or XLSX and once a choice is made a popup is generated where the user can save their exported visualization as the chosen file type and specify the name they want to save the file with and the location they wish to save the file in.

**User Story #13**

As a user, I would like to be able to update my transaction history.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for create/update transaction** | **8 Hours**  **(each)** | **Charlie,**  **Muhammad** |
| **2** | **Create algorithm to retrieve original state of transactions** | **4 Hours** | **Jeremy** |
| **3** | **Create algorithm to populate page with original state of transactions** | **4 Hours** | **Jeremy** |
| **4** | **Create algorithm to update transaction in database** | **4 Hours**  **(each)** | **Jeremy, Muhammad** |
| **5** | **Create tests to validate functionality** | **1.5 Hours** | **Charlie** |

**Completed**

Our transactions page includes a table displaying all of the previously input expenditures, as well as two buttons for creating an additional transaction and exporting what is already in the table. Creating a new transaction redirects the user to another page with a form to create a new expenditure, including required fields for all relevant data.

**User Story #14**

As a user, I would like to be able to view my transaction history.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for view transaction** | **8 Hours** | **Charlie** |
| **2** | **Create algorithm to retrieve transaction history** | **6 Hours** | **Jeremy** |
| **3** | **Create tests to validate functionality** | **1 Hour** | **Charlie, Muhammad** |

**Completed**

The transaction history is displayed immediately upon navigating to the transactions page. It is presented in a table that allows the user to highlight a specific transaction for ease of use. Further, information such as date, vendor, and amount is shown for a complete expenditure understanding.

**User Story #15**

As a user, I would like to be able to export my transaction history.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for exporting transaction** | **7 Hours** | **Charlie** |
| **2** | **Create algorithm to retrieve transaction to export** | **6 Hours** | **Jeremy** |
| **3** | **Create algorithm to export transactions** | **6 Hours**  **(each)** | **Jeremy,**  **Muhammad** |
| **4** | **Create tests to validate functionality** | **2 Hour** | **Charlie** |

**Completed**

On the transactions page, below the transactions table, there is an export button that allows the user to download the table in both JSON and CSV formats. These formats allow for easy data storage and manipulation in financial tools such as Excel.

**User Story #16**

As a user, I would like to be able to categorize my expenses.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for specifying expense category** | **6 Hours** | **Justin** |
| **2** | **Create algorithm to store expense category in database** | **4 Hours** | **Matthew** |
| **3** | **Create UI to filter expense by category** | **6 Hours** | **Justin** |
| **4** | **Create algorithm to apply filter** | **6 Hours** | **Matthew** |
| **5** | **Create tests to validate functionality** | **1 Hour** | **Charlie** |

**Completed**

When creating a new transaction, users are presented with a variety of common categories such as dining, travel, tuition, grocery, bar & coffee shop, as well as general fees. These categories will help us in later user stories, but they also provide additional information to the user to help manage their finances.

**User Story #17**

As a user, I would like to be able to specify categories when updating my funds.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for specifying fund category** | **2 Hours** | **Jeremy** |
| **2** | **Create algorithm to store updated category in database** | **2 Hours** | **Jeremy** |
| **5** | **Create tests to validate functionality** | **1 Hour** | **Jeremy** |

**Completed**

When creating a new fund, users are able to choose from a variety of categories for the source such as PayPal, Dining Dollars, Boiler Express, Financial Aid, and bank. This allows our users greater control and understanding of their finances, especially when relating it to our expenditures module.

**User Story #23**

As a user I would like to be able to see a snapshot of my daily usage.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create algorithm to parse current months data from database into day by day format** | **7 Hours** | **Muhammed** |
| **2** | **Create algorithm to visualize data** | **2 Hour** | **Jethro** |
| **3** | **Create algorithm to retrieve data for visualization** | **2 Hours** | **Muhammed** |
| **4** | **Create tests to validate functionality** | **0.5 Hours** | **Charlie** |

**Completed**

When the visualization page is opened, a line graph (with an x axis that measures time in days of the current month and a y axis that measures spending in dollars) is generated from the current user’s transaction data retrieved from the database. Further, the users have the option to export the individual visualization in a variety of formats.

**User Story #24**

As a user I would like to be able to see a snapshot of my weekly usage.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create algorithm to parse current months data from database into week by week format** | **7 Hours** | **Muhammed** |
| **2** | **Create algorithm to visualize data** | **2 Hour** | **Jethro** |
| **3** | **Create algorithm to retrieve data for visualization** | **2 Hours** | **Muhammed** |
| **4** | **Create tests to validate functionality** | **0.5 Hours** | **Charlie** |

**Completed**

When the visualization page is opened, a line graph (with an x axis that measures time in weeks of the current month and a y axis that measures spending in dollars) is generated from the current user's transaction data retrieved from the database. Further, the users have the option to export the individual visualization in a variety of formats.

**User Story #25**

As a user I would like to be able to see a snapshot of my monthly usage.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create algorithm to parse current years data from database into month by month format** | **7 Hours** | **Muhammed** |
| **2** | **Create algorithm to visualize data** | **2 Hour** | **Jethro** |
| **3** | **Create algorithm to retrieve data for visualization** | **2 Hours** | **Muhammed** |
| **4** | **Create tests to validate functionality** | **0.5 Hours** | **Charlie** |

**Completed**

When the visualization page is opened, a line graph (with an x axis that measures time in months of the current year and a y axis that measures spending in dollars) is generated from the current users transaction data retrieved from the database. Further, the users have the option to export the individual visualization in a variety of formats.

**User Story #32**

As a user, I would like to be able to message support 24/7 when I need help with the app.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI for Support Page** | **7 Hours** | **Muhammad** |
| **2** | **Create UI for messaging module from User to Support** | **6 Hours** | **Jethro** |
| **3** | **Create algorithm for delivering message from User to Support** | **5 Hours** | **Jethro** |
| **4** | **Add encryption for messages** | **5 Hours** | **Jethro** |
| **5** | **Create tests to validate functionality** | **1 Hour** | **Charlie** |

**Completed**

On the support page, users are presented with a simple input that allows the user to describe their issue and then message support. This stores the message in the database, and then sends the support account email a message with the user’s new “ticket”. Further, their currently open ticket appears on the user’s page, with the option to close it should they resolve their issue on their own.

**User Story #33**

As an administrator, I would like to be able to respond to support messages 24/7.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Create UI to view messages** | **5 Hours** | **Justin** |
| **2** | **Create UI to manage messages (mark as completed and delete)** | **4 Hours** | **Justin** |
| **4** | **Create user roles in database** | **4 Hours** | **Muhammad** |
| **4** | **Create algorithm to retrieve messages** | **4 Hours** | **Matthew** |
| **5** | **Create tests to validate functionality** | **1 Hour** | **Charlie** |

**Completed**

By implementing the email functionality of support messages, both users and administrators can respond to support tickets on their own time, 24 hours a day, 7 days a week. This allows for ease of use and communication between both the user and support team.

**User Story #34**

As an administrator, I would like to be able to respond to support messages when the user is offline.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Description** | **Estimated Time** | **Owner** |
| **1** | **Add implementation for storing messages into database** | **7 Hours** | **Matthew** |
| **2** | **Add security for global messaging module** | **1 Hour** | **Matthew** |
| **3** | **Add functionality for global messages from Support to all users** | **5 Hours** | **Matthew** |
| **4** | **Create tests to validate functionality** | **1 Hour** | **Charlie** |

**Completed**

In addition to the email functionality, messages are stored separately in our database, allowing for viewing offline on a user by user basis. Furthermore, regarding global messages, our users can see notifications sent by support to all users.

**What Did Not Go Well**

Compared to the last sprint, our communication on the technical aspects of our project has gotten worse. While we were able to complete all of our user stories and everyone contributed fairly, the implementations were not what all members expected, leading to some compatibility and functionality issues. Further, since transitioning to distance learning, we’ve had some schedule issues making working together difficult at times.

**Ways We Can Improve**

Due to current affairs as well as challenges we experienced over the duration of Sprint 2, over the course of the next sprint, it will be incredibly important for us to maintain high levels of communication using the technology we have available to us. We need to incorporate things such as screen sharing, video chat, and frequent scheduled meetings using software such as Discord in order to ensure each member has a technical understanding of our implementations. As with Sprint 1 and 2, Slack is our first and primary line of communication, so it will be important that each of us are readily available and responsive on that application. These measures will not only address the facets of this sprint that did not go well, but will allow us to develop a more robust app.

In addition to ensuring that we are all communicating frequently, openly, and clearly, we need to work on our overall workload pacing. We did well with fixing workload distribution from last sprint, but now we need to focus on spreading our work out evenly over the duration of the upcoming sprint - it seems we rely too heavily on “crunch time” in the last week or so leading up to the review. This causes a small degree of chaos, which does not help with our communication. Therefore, by pacing ourselves, we will not only improve our technical understandings of the implementation of our user stories, but we will also be able to achieve our goals with much less stress and much more correctness.