

## ADR-Third and Final Sprint

### Context

This Sprint was the final Sprint as a result the website had to offer a polished and enhanced user experience. This also meant all loose ends pushed to this Sprint had to be tied up. Going into this sprint most APIs required to improve the general UI, data storage and security of the website had already been added in the last Sprint. The focus on this Sprint was to fully utilise all the features of these APIs to further improve the website application. The stories planned for this Sprint were as follows:

- As a developer, I need to implement a feature that notifies other users that a particular user has posted an expense. Estimated duration: 2 days, Sprint Value:4
- As a developer, I need to implement a functionality that authenticates users and acts as a protection layer to web pages . Estimated duration: 3 days, Sprint Value:4
- As a developer, I need to implement functionality that keeps track of sessions and authorization of users. Estimated duration: 3 days, Sprint Value:5
- As a user, I need to be able to invite my friends to our household group via email so that we can share expenses. Estimated duration: 1day, Sprint Value:5
- As a user, I need to be able to view the household members so that I can know the friends in my group. Estimated duration: 2 days, Sprint Value:5
- As a developer, I need to implement a functionality that splits the expenses equally so that they can be shared amongst the members. Estimated duration: 3 days, Sprint Value:5
- As a user, I need to be able to specify the group that I belong to when I post an expense, so that the expense can be posted in the correct household group. Estimated duration: 3 days, Sprint Value:4
- As a user, I need to be able to confirm my password when I sign up so that I can be sure of my password. Estimated duration: 1 day, Sprint Value:4
- As a developer, I need to create an about page so that users can see a summary of the functionality offered by the web application. Estimated duration: 1 day, Sprint Value:3
- As a developer, I need to implement a functionality that allows a user to create a group for his/her household such that the group is stored on the database. Estimated duration: 3 days, Sprint Value:5
- As a user, I need to manage my account so that it can stay up to date. (Epic)
- As a user, I need to use the bill splitter app so that I can interact with other household members. (Epic)
- As a developer, I need to implement a functionality that allows users to see what a particular member has paid for. Estimated duration: 2 days, Sprint Value:5
- As a user, I need to be able to delete my account so that I can be freed from bills should I decide to leave my household. Estimated duration: 2 days, Sprint Value:5
- As a developer, I need to implement an option that allows users to see a log of all recent activity in the household. Estimated duration: 4 days, Sprint Value:5
- As a developer, I need to implement a functionality that allows a user to add a display picture so that other members can view the picture. Estimated duration: 3 days, Sprint Value:2
- As a user, I need to use the bill splitter app so that I can manage expenses. (Epic)

- As a user, I need to be able to post expenses so that the website can divide them equally amongst members. (Epic)
- As a user, I need to visit the website so that I can create an account. (Epic)
- As a developer, I need to implement a functionality that allows users to see debts of a particular member. Estimated duration: 4 days, Sprint Value:3
- As a user, I need to receive notifications about all activities in the bill splitter app so that I can stay up to date. (Epic)
- As a developer, I need to implement functionality to allow users to view debts so that they can make payments. Estimated duration: 2 days, Sprint Value:5
- As a developer, I need to create a payment option so that users can settle their expenses. Estimated duration: 3 days, Sprint Value:5
- As a user, I need to be able to see my balance in the household at any point in time. Estimated duration: 3 days, Sprint Value:5

### **Decision**

The main architectural decision that was taken during this Sprint is to use express-session and memorystore to track users. All other required APIs were already being used. These are SQL database, Nodemailer and Bcrypt. This Sprint was characterised by heavy styling of pages as a result of earlier Sprint focussing more on improving the functionality of the web app.

### **Status**

Accepted.

### **Consequences**

Using the SQL database continued to trouble the development team building on from the last Sprint. Most of the stories planned for this Sprint relied heavily on making the right SQL queries. Time and internet constraints were an enormous factor as the team had to meet a lot using MS Teams and at times even Whatsapp calls. Most of the meetings were scheduled to discuss SQL queries. Expression sessions also proved difficult to grasp, building on from the last Sprint. This was also compounded by the fact that the member assigned to stories related to sessions was changed. The team struggled to manage its time well as a result of pushing back a significant number of stories to the last Sprint. This added an insurmountable workload, as these stories compounded on those originally meant for the last Sprint. This being the last Sprint, stories which proved difficult to implement due to various reasons, unfortunately could not be delayed any further and simply meant that the team did not manage to implement them. The team felt that another Sprint would have been useful. The stories which the team did not manage to carry out are mentioned in the retrospective. Moreover, styling most of the pages during the last Sprint, also compounded the pressure, timewise on the team. Despite the difficulties faced by the team as a result of being exposed to SQL for the first time, the successful queries that the team managed to implement, helped to greatly improve the UI of the website. Using express-sessions helped to improve the security of the web app, by ensuring that users needed to be signed in, in order for them to access the different pages of the website.