You Won't Do It Tomorrow: A Habit Tracker for Overcoming Procrastination

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Introduction

- Procrastination can sometimes be attributed to suboptimal heuristics, where people are swayed by present bias to make decisions based on immediate costs/benefits rather than more important long-term consequences (Callaway et al., 2019)
- Building good habits can potentially overcome this present bias, also leading to more productivity in the long run and eventually overcoming procrastination
- The purpose of developing this website was to construct a free habit-tracker that people could use to develop a low-level habit (drinking water)
- If effective, the website could eventually be developed further to help with avoiding procrastination for more advanced tasks

Methods

Design:

- Our design incorporated features including built-in reminders, daily and weekly water intake tracking, and a water goal to meet for each day (8 cups)
  - These features were all conducive to motivate the user and keep them accountable
- Gamification was also included to motivate users with a virtual "plant" that drinking water would keep alive
  - Through restructuring the problem so that the reward (a living plant) is easily achieved (by drinking water), the user is enabled to procrastinate less and make better decisions faster (Chen et al., 2019)
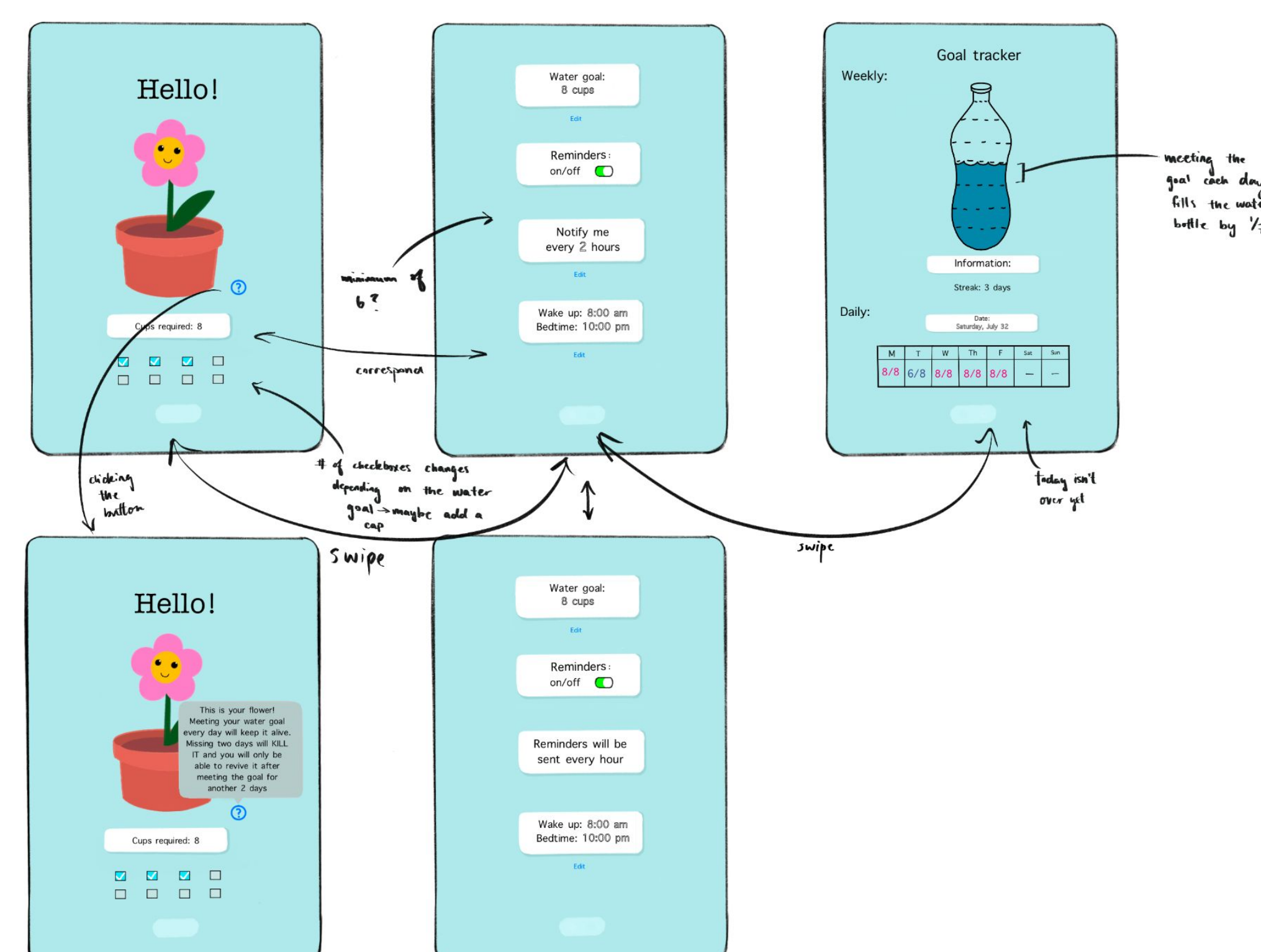

Figure 1. Planning diagram of website interface

Programming Languages/System Architecture:

- HTML and CSS were chosen to create the front end to ensure users would interact with an accessible, properly formatted interface
- Data inputted by the user in the front end was saved to Google Firebase, which allowed for different users to save their login information and their unique data securely
- Django was used to add functionality to the website by linking the pages together and connecting the database to the display
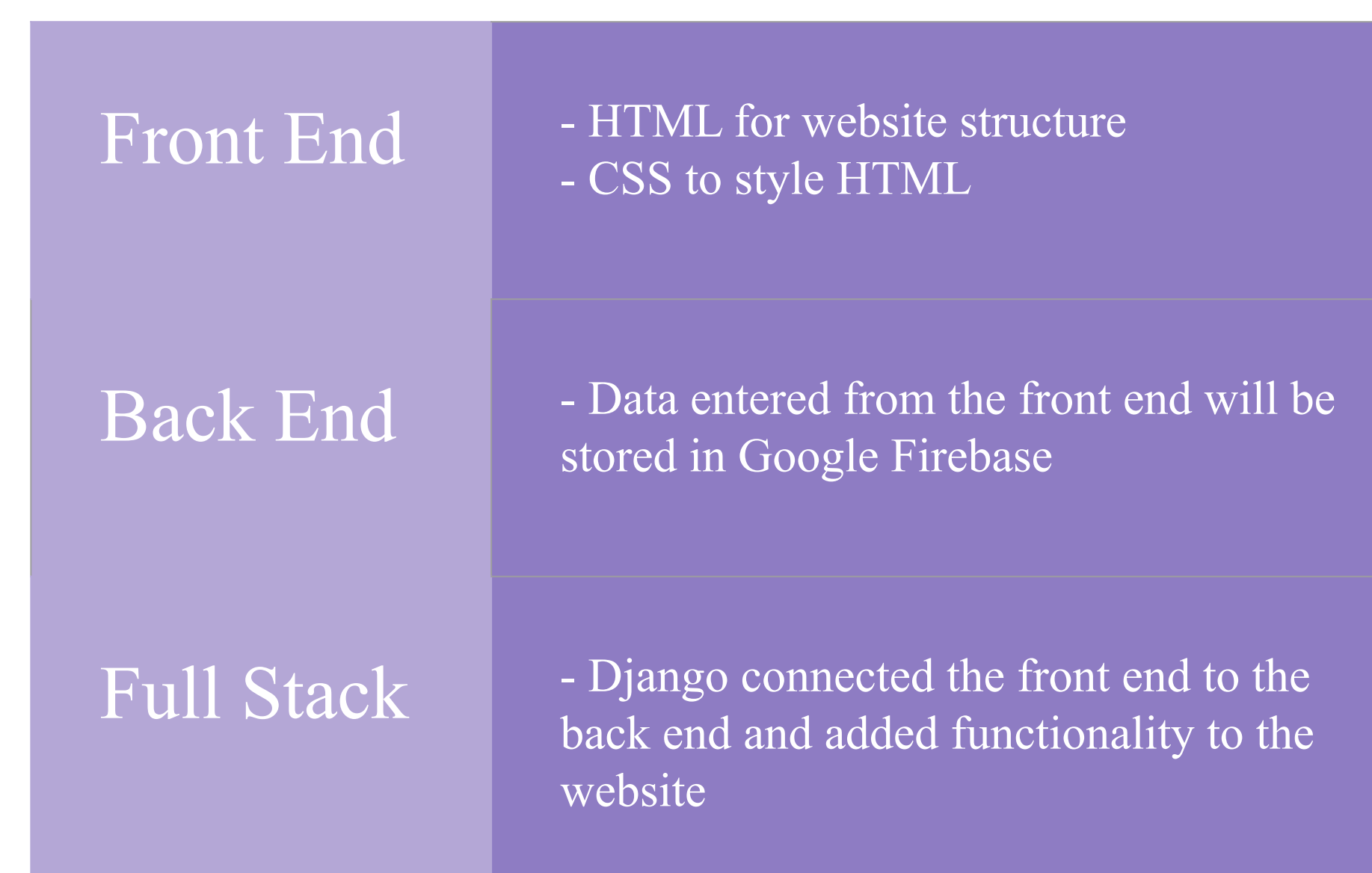
Front End	- HTML for website structure - CSS to style HTML
Back End	- Data entered from the front end will be stored in Google Firebase
Full Stack	- Django connected the front end to the back end and added functionality to the website

Figure 2. System Architecture. The Front-end is what the user actually sees and interacts with, the Back-end is everything (server, application, database) the user doesn't see. Full stack refers to the two being combined

Final Prototype:

- Opening up the website leads to both a login and registration page
- Creating an account also creates an entry in Firebase, with the user identification (UID) as a unique identifier for each individual user and pre-assigned data stored in nodes under each UID
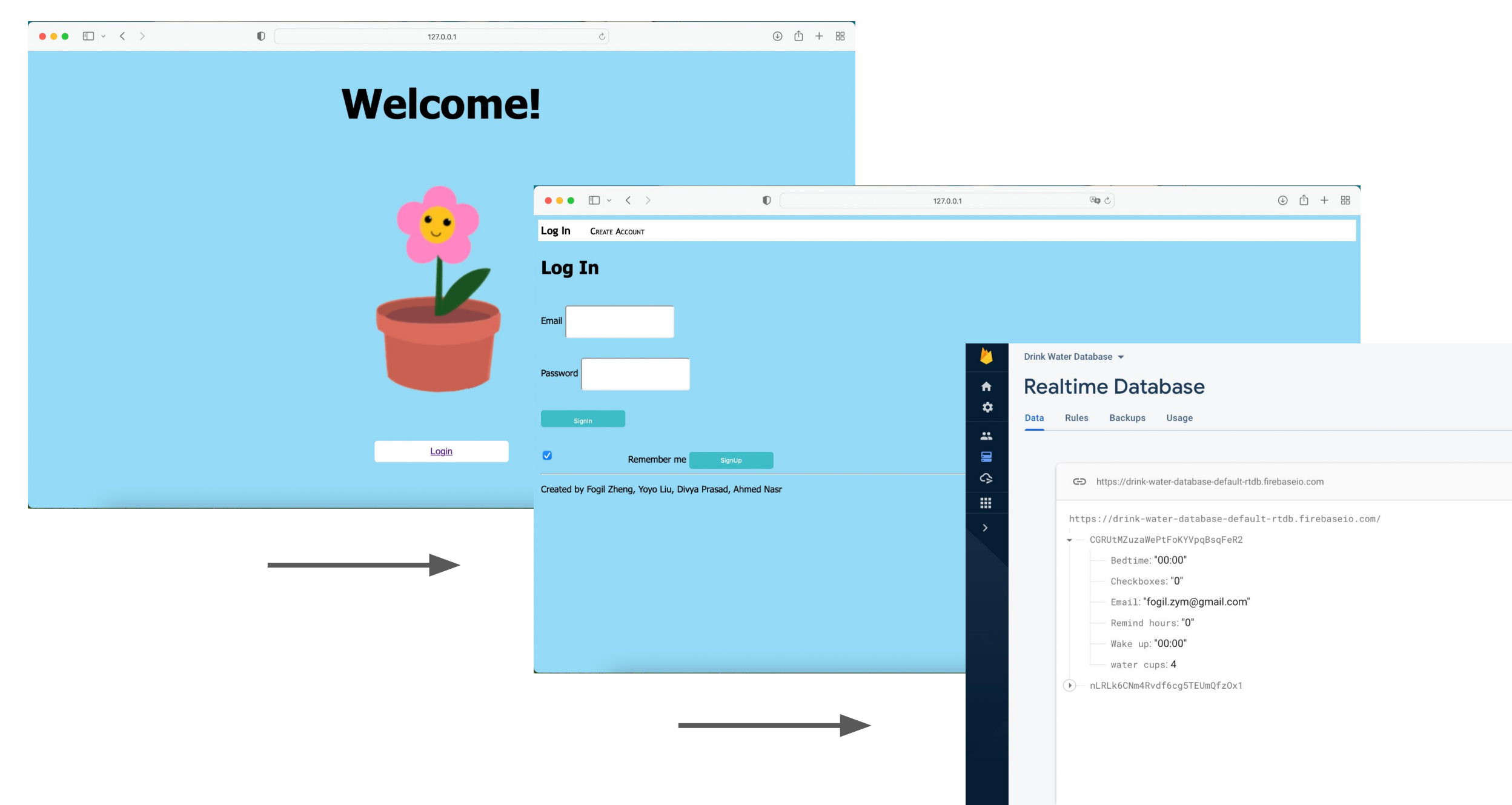

Figure 3. Individual users have specific information regarding their habit tracking progress saved into nodes in Firebase

- Logging in directs users to pages where they can access all the features described in the planning phase (Figure 1)
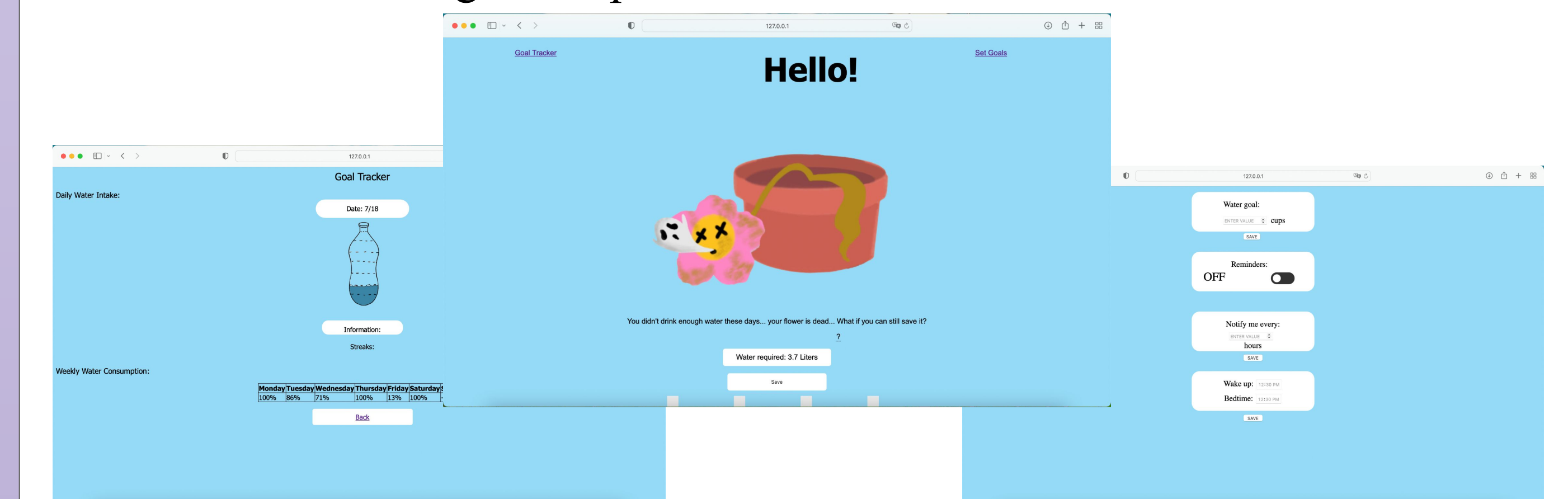 - Progress tracking, goal setting, notification reminders, and a visual game aspect

Figure 4. The final prototype includes all features required to motivate and help a user build a habit for drinking water

Conclusions and Future Work

- Now that we have a fully functioning habit-tracker website, the next steps would be to collect data into the database via real users
- The data would then be analyzed to see if the website was effective in developing a basic habit for the user
  - This would be quantified by looking at the consistency of the user in keeping their plant alive
- Extensions for the future include:
  - Offering a choice of habits to be built (e.g/. finishing homework, answering emails, etc.)
  - Seeing if different notification timings affect how soon the user finishes their goal each day

Acknowledgements

Works Cited

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