Milestone 3 - Dawg Bots

Proto.io link
https://pr.to/9K27HI/

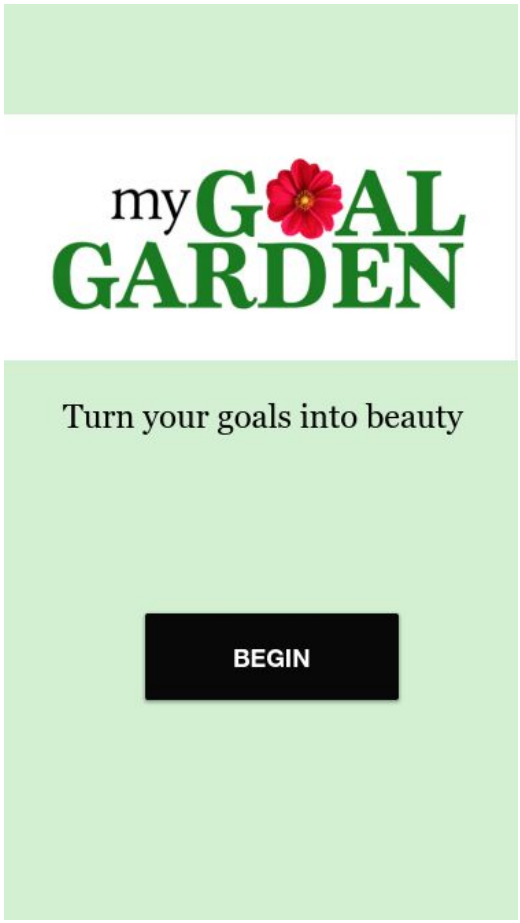
Introduction

For our prototype, we used Proto.io. This website allowed us to build a high fidelity prototype of our application “My Goal Garden”. High fidelity prototypes are extremely useful because they provide a functional layout of how potential applications would be used. In addition, using a high fidelity prototype allows us to be able to test out our ideas on potential users. We decided to go with one of our design options from Milestone 2. We decided this was a user friendly design option. There is little room for a potential user to be confused in the functionality of our application, and it is simple and easy to use. This makes the application much more engaging, as a user will not become frustrated when navigating the application. Our high fidelity prototype shows this in real time. It is fully functioning, so it is possible to see exactly how the application will function when it is created. Before beginning, we had to take time to brainstorm how we wanted this to function and considered many different situations in which the user would be interacting with the app. The prototyping stage is time consuming, but provides very valuable data on working towards the final product.

Screenshots of our Prototype

When the application opens, the user is confronted with a screen where they will select begin. This will lead them to their “Garden” page. Here, the user can see their current goals and have the option to add new goals. If they select a current goal, the user can then select whether or not they have completed the goal for the day. If they have achieved the goal for the day, they will increase the day count and grow their plant. If they want to add a new goal, they will be directed to the screen to do so when they select to “+” option. If the user goes to their “Completed Goal” section, they will have the ability to see all of their completed goals. When they select a specific goal, they will see a more detailed look at their goal, including how long it took and when it was completed.

Screen 1: Begin Screen



On the home page, the user has the opportunity to press “Begin”. “Begin” wil take the user to Screen 2.

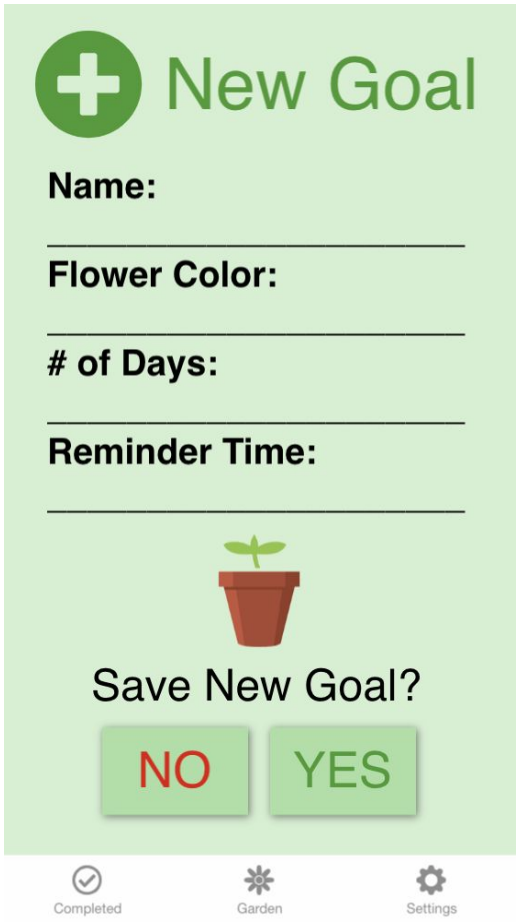
Screen 2: Garden

On screen 2 the user is able to view their goal garden. All the in process goals will be shown as well as the opportunity to add a new goal. Now, there are two options the user can take from the garden screen. They can either select a current goal or choose to add a new goal to their garden. If they choose to select one of their existing goals, they will go to screen 3. If they want to add a new goal, they will go to screen 4.

Screen 3: Current Goal Check In

On screen 3 the user will select yes or no depending on if they achieved the goal for the day. If the user selects yes, they will be directed to screen 5 where the day count will increase and their plant will grow. If they select no, nothing will happen.

Screen 4:New Goal



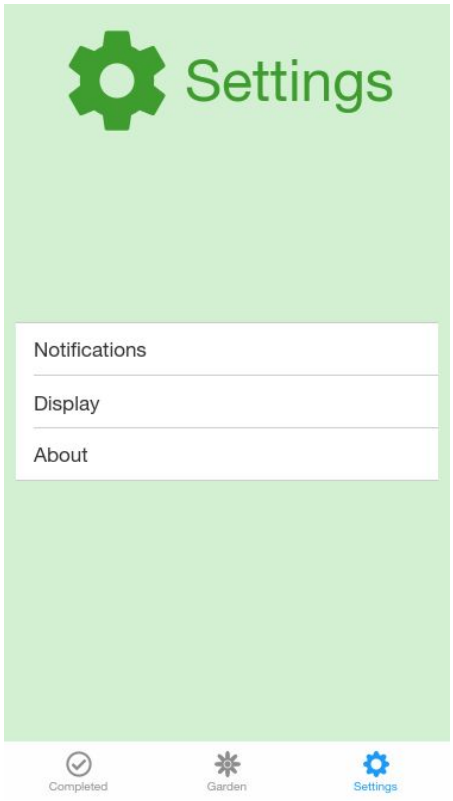
On screen 4 the user can enter a new goal to work towards.

Screen 5: Daily Goal Completed

Once the user selected yes on screen 3, screen 5 will appear. The only difference is that the plant has grown and the day count has gone up.

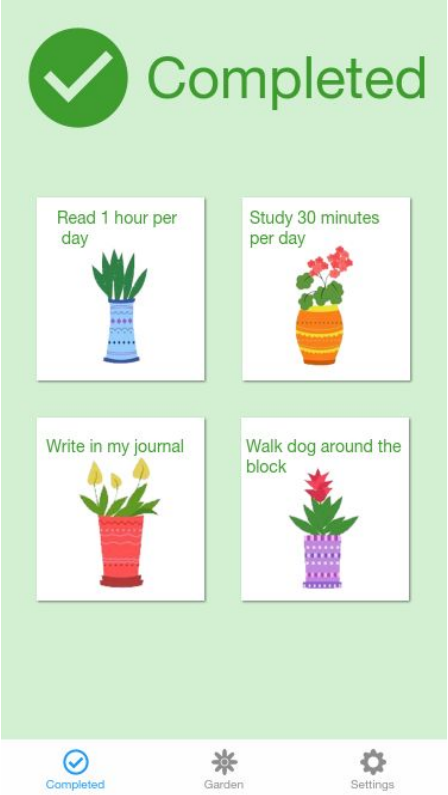
On the bottom of the application, the user has the ability to move to a different section of the app. They can choose between “Completed”, “Garden”, and “Settings”. The next screenshots will represent the screens for the “Completed” and “Settings” pages.

Screen 6: Settings



Here the user can manage their notifications, display, and see our about page.

Screen 7: All Completed Goals



On this page, the user can see their completed goals. The completed goal time is determined by whatever the user entered on screen 2 when they created these goals. When the user selects a specific goal, they will be taken to screen 8 to view their fully grown plant.

Screen 8: Completed Goal

The user can see their selected completed goal and fully grown plant. They can see how many days it took them to complete as well as the date completed.

Our Proto.io link

https://pr.to/9K27HI/

Feature List

- Menu: Where user is able to choose where they would like to navigate in the application
- Completed Goals button: where user is able to look at their garden and see how their garden has developed over time
- Add goals: Where user can add as many goals as they'd like and place specifications/requirements on a give goal
- Settings: can manage their notifications, display, and see our about page
- Notifications available for users who would like to be reminded of their goals
- Nonfunctional features:
    - Light green theme with vibrant plant colors
    - Animations for plant growth
    - Variety of plants to choose from

Usability Specifications

One of the most important aspects we considered when creating our prototype was ease of use. We want all types of users with any level of experience to be able to use our app without any stress or confusion. Therefore, it was imperative that the benchmark tasks could be completed in a reasonable amount of time and without too much effort. The table below describes the benchmark tasks, the minimum number of clicks required to complete the task and the amount of time it takes to complete the task.

Task	**Minimum Clicks**	**Time**
Add new goal	11	30s
Select a goal and say you made progress in that goal	3	7s
Select a goal and say you did not make progress in that goal	3	7s
Go to setting page, and then return to garden screen	3	3s

Evaluation Plan

We needed to establish some benchmark tasks to help us create our prototype. These tasks would be used by the user to help evaluate the system. Benchmark tasks answer the question of what to do. One aspect we really wanted to focus on was making our application user friendly. The prototype was created with keeping it as simple as possible to navigate in mind. With that said, there are the tasks the user needs to carry out to make the app function. This includes selecting certain buttons to get to the screen they desire. All of these buttons are clearly marked for the user and will aid in making the application user friendly. They will need to navigate to the screen where they can create a new goal. From here they will need to check daily whether or not they were successful in achieving their goal. They will also need to be able to view all of their completed goals as well as see an in detail look at the completed goal. Finally, the user will need to locate the settings option at the bottom menu in order to access the settings portion of our application.

As mentioned before, having a high fidelity prototype is beneficial because it can be used to receive feedback from real life users. Using this prototype, we can use subjective questionnaires, as well as interviewing potential users about our prototype. Subjective questionnaires would record participants' opinion and satisfaction rather than observing performance. This is extremely beneficial because we can know how the participant feels about our application before we even begin making the application. This will allow us to make changes

before beginning the most time consuming aspect of creating the application. We can do this by sending out our working prototype along with a google survey, allowing the participant to leave helpful feedback. We can also schedule feedback interviews to get some more in depth feedback on the application. Both of these steps could be taken before and after the participant interacts with our prototype.

The benchmark goals we give the participant to try to accomplish will be:

1. Add a new goal to the goal garden.
2. Go to the 'Cook Healthy Dinner' goal and say you made progress on that goal.
3. Go to 'Do Yoga' goal and say you did not make progress on that goal.
4. Go to setting page, and then return to "Garden" screen.

Before the participant interacts with our prototype, we will ask them about their demographic information, specifically their age, sex, and level of experience in using mobile apps. When inputting their level of experience, the participant could select one answer from the following options:

1. Never used a mobile application
2. Have used mobile applications some, but am not confident in using them
3. Have use mobile applications regularly and can generally get them to work as intended.
4. Use mobile applications frequently and am confident that in my use of mobile applications.

After the participant interacts with our prototype, we will ask specific questions about the functionality of our app in a questionnaire. The following questions will be asked, and the participant will give their answer by picking a number between 1 and 10:

1. How much did you enjoy using this app? (1 is 'did not enjoy at all', 10 is 'enjoyed very much')
2. How frustrating was it to use this app? (1 is 'not frustrating at all', 10 is 'extremely frustrating')
3. How helpful do you think this app would be in helping you maintain your goals? (1 is 'not at all helpful, 10 is 'extremely helpful')
4. What is the likelihood of you using this app if it was freely available to you? (1 is 'There is no chance I would use it', 10 is 'I would 100% definitely use it).
5. How likely are you to recommend this app to a friend? (1 is 'Not likely', 10 is 'Extremely Likely')

These questions will allow us to get a general idea on how easy or frustrating the participant found the experience of using the app to be and how helpful the app would be to them. The following questions will give the participant different options to choose from:

1. What kind of feeling did you have when you saw the plant grow when you said you made progress on a goal?
    a. Choice1- I had a very negative feeling
    b. Choice2- I had a somewhat negative feeling
    c. Choice3- I felt indifferent to it.
    d. Choice4- I had a somewhat positive feeling

    e. Choice5- I had a very positive feeling
2. How would you feel if your plant stopped growing or became unhealthy because you did not make progress on your goal?
    a. Choice1- I would have a very negative feeling
    b. Choice2- I would have a somewhat negative feeling
    c. Choice3- I would feel indifferent to it.
    d. Choice4- I would have a somewhat positive feeling
    e. Choice5- I would have a very positive feeling

These questions will allow us to get data on how the participant feels about the plant growing or not growing. Understanding this is key to our product because having the user be motivated to keep the plant growing is an element that keeps the user motivated to keep accomplishing their goals. Note that all of these questions have results that could easily be compared between different participants. This will allow us to see trends in user experience as they use our product.

We also would like to ask some open ended questions to the participants. These open ended questions will allow the participant to write whatever they want in response to the question. These will be harder to compare, but they will allow the participant to express their thoughts freely. This may be helpful for us in finding ways to make our app more user friendly. Here are the open ended questions:

1. What did you enjoy about using this app, if you enjoyed anything at all?
2. What did you not enjoy about using this app?
3. What changes could be made to this app that will make the experience of using this app more enjoyable?
4. Did you find any aspect of the app confusing- if so what was confusing?

Other evaluation techniques we may use include tracking the amount of time each participant takes to accomplish a goal and the number of clicks they have to make to achieve the goal. We will have what we consider to be a reasonable amount of time to achieve each goal and compare the time it takes the participants to achieve each goal with that amount of time. Similarly, for each goal we will have the least number of clicks possible to accomplish each goal. We will then compare how many clicks it took the participants to accomplish each goal with the minimum number of clicks. We will also be observing the participant while they use the app and we will count and make note of any errors the participant makes. For example, if when asked to go to the “settings” page, the participant instead goes to the “add a new goal”, we will record that as an error. We will also record the nature of that error. Specifically, we will record that the participant went to the “add a goal” page instead of the “settings” page. We will also record whether the participant realizes themselves that they have made an error, and how the participant corrects their error. These techniques will allow us to evaluate whether our application is intuitive to use or is confusing. We will also be able to easily compare data from different participants to see if there are any trends.

Conclusion

Our application enables users to keep track of their goals, create more goals, and watch as their garden grows with each goal accomplished. We have created our high-fidelity prototype based on what we believe users would enjoy. Our beautiful light-green theme with vibrant plant colors is appealing to users and will encourage them to continue using our application and therefore continue pursuing their personal goals. Our variety of screens and smooth transitions from each screen based on the user inputs/buttons pressed makes the application easy and fun to use and navigate. Our plant animations allow users to watch as they grow closer and closer to accomplishing their goal and thus grow a plant to its full potential and beauty. We will conduct extensive questionnaires and interviews in order to gather user feedback directly, and we will use our results to change our design accordingly and include or remove features based on the users' liking.