Wag-n-Purr

P4: Prototype & Evaluation

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1. Introduction

After creating and iterating upon our sketches, we focused the scope of our project and created an interactive prototype of the application's core experience: using the app to identify worthwhile activities to do with a pet.

2. The Prototype

We designed a mobile application to actively provide users with constructive recommendations for activities to do with their pet. Recommendations are designed to motivate pet owners to interact with their pet more often and in ways that may be unexpected or novel. Users interact with the application either by actively opening the application an initiating an activity or by receiving and responding to a notification that might encourage interaction. The user selects between two activities, each with a recommendation for why they should do it (*e.g.* why it's a good activity for their pet's health, behavior, *etc.*). Upon completing the activity for any amount of time, the user learns more about why the activity was beneficial and optionally inputs how their pet seemed to enjoy the activity, which influences future recommendations of that activity. Finally, the user sees their activity time added to a graph that marks their activity vs a recommended goal.

To evaluate what we had designed to be the primary tasks, we conducted informal user testing by building an interactive prototype and asking participants to step through the prototype as if they were real users. The prototype consists of a series of HTML pages that are interlinked.

To build our prototype, we created visual designs in Adobe Illustrator, then added a layer of interactivity via Adobe Fireworks. Though the flow of our prototype was fairly linear, we provided a few alternate paths and navigation backwards in order to see if users interacted differently than expected. Additionally, even though this application is for touchscreen devices, we recognized that users may get hints about how to interact with the system by noticing how the cursor changes (*e.g.* they may know where to "touch" because the cursor changes when hovering over a link, an affordance not present on touchscreen devices); to account for this, we made the entire screen of the prototype appear to be clickable so that the user didn't receive any leading cues. Though errant clicks didn't always lead somewhere new, we could at least see where users were trying to click and ask them to articulate what they expected to see or happen.

3. User Evaluation Methods

To evaluate the prototype, we had 5 users run through three primary tasks: (1) add a new pet, (2) manually initiate an activity, and (3) initiate an activity from a notification. During the test, we provided users with prompts for each tasks, as well as background information that would help them get into the mindset of a potential user.

In our first two tasks, our users assumed the role of a new pet owner who isn't sure what kind of ways they should be engaging with their new pet. Per Idris Hsi's recommendation, our prototype uses a ferret as the new pet; despite the fact that our app focuses on dogs and cats, Idris's recommendation satisfied the concern that some users may already be familiar with dog ownership and would therefore have trouble identifying with the first-time pet owner. Though this likely made little difference in our limited user testing, it's worth noting as a strategy for large-scale testing.

In our third task, the users assumed the role of a dog owner who is lazily sitting around the house when the application sends a notification encouraging him to interact with his dog.

The tasks and additional details are described below. During the tests, we asked users to think out loud, describing each decision and how they felt about each screen. It's important to note that our goal was to evaluate the usability, and not the desirability, of the application.

3.1 Add a New Pet

The first task of adding a pet was fairly straightforward, describing the context and asking the user to add their new pet ferret to the application:

> George is a brand new ferret that you just picked up from Petco. You are a little unsure how to best interact with George so you downloaded Wag-n-Purr. Put George's picture (he loves wearing his sweatshirt) and information into the application so you can get started learning.

3.2 Start an Activity Manually

The second task had the user start an activity manually. In this situation, the new ferret owner wants to learn some constructive activities that pet care experts have identified as being beneficial:

> You just finished dinner and have a spare hour, George your ferret walks over with a longing look. You have decision fatigue and have limited knowledge about how you can best interact with him. You pull out your phone and open up the Wag-n-Purr application to begin an activity.

Upon seeing the two activities, we played the role of the user's preferences by suggesting that they were interested in one of the activities:

> You think the second activity sounds fun and rewarding for you and George to do!

During the activity, we provided a sample scenario in which George the ferret was unhappy with the activity:

> George hasn't been very engaged during the activity and doesn't seem to enjoy it.

3.3 Start an Activity from a Notification

The third and final task had the user pretend to receive a phone notification encouraging them to interact with their pet, then choosing an activity:

> *It's 3pm on a Saturday, you and Griff, your dog, are watching a pretty awful movie on tv. Your phone buzzes with a notification from Wag-n-Purr. Check it out and start an activity with Griff.*

The user was advised that they would prefer to go for a walk:

> *You think that the second activity is one that you are willing to do.*

During the activity, the user was told that Griff was enjoying the walk:

> *Griff has been very excited throughout the whole walk.*

4. Resulting Design Changes

Though our testing process was not as formal as we would have prefered, we still found a number of interesting and revealing results that have helped us modify (and hopefully improve) our design. The following were changes that we incorporated into our prototype:

We restyled the main page (the page that shows your pets). Though it didn't cause usability issues, some users noted that there was a lot of whitespace and that it was underwhelming. We increased the size of the pet photos and tried to fill in the whitespace. In general, we changed the appearance of buttons so that they were more apparent and didn't just seem like text.

We changed the panic button from a "!" symbol to a labeled button to ensure users knew what it was for. **We also removed it from all screens except the home screen.** Users weren't sure why it was there, and our initial prototype did not demonstrate its functionality, so they couldn't see what it did.

We also changed the location of the settings from the lower left corner to the up right corner and changed the text to an icon to be more consistent with common iOS standards. Some users were distracted by its placement within the main page, and some thought that they would add the pet via Settings. Moving it into the top bar should help clarify that settings is for the app as a whole rather than the pets.

We added a branched path for adding a pet in case the user wanted to enter details before adding a photo. Though this wouldn't be a problem in implementation, some users were confused by our prototype when they tried to add details before the photo since our original prototype was linear. This change would let us test the application more realistically if we were to conduct another test.

We added text that explains how each activity is benefiting the pet, body, mind, social, etc. In our first prototype, the choice between two activities didn't tell the user why it was recommended – they had to go into the activity to learn. Some users wondered why they would choose one activity over another, so we wanted to promote the reasons earlier in the process.

We added instructions to the timer screen to give the user increased access to relevant instructions for the activity they were completing. Users felt that the timer screen was fairly bland and empty. One

commented that they had to go back to the previous screen to see what the instructions/suggestions were. We agreed, especially since the app is designed to recommend novel things that the user might not know exactly how to do.

After a user rated an activity, another screen would appear explaining what the rating meant for the application, with a button to finish or change the emotion. **We switched to an overlay of the original screen to allow easier access to changing the rating.** Users were confused what "Change" meant (it meant changing how your pet liked the activity). Additionally, the original design took you away from the descriptive text; this change keeps the user on the same screen so that they can still read the reasoning behind the activity.

We added a label to the dashboard charts for further clarity. Users weren't sure what the graph on the dashboard represented, so we added a title to indicate that it shows the time users have spent on activities.

Overall, users were able to complete tasks successfully without much issues, except the issues stated above. We were able to validate a few of our design decisions. Users responded well to the idea that the application is aware of weather and past ratings for the activity recommendation engine. Users also commented on the clean and uncluttered interface which helped them quickly select an activity.