Team 10 Project 7 Evaluation

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ABSTRACT

In this paper, we describe our team's evaluation plan. The evaluation plan will detail the analytics we used to identify usability concerns in our designs in the context of a first time user, and an empirical study with an experienced dog trader/owner. These evaluations are performed in order to measure the usability of our application and to identify possible changes that are needed to improve our designs.

Keywords- Usability, Evaluation, Application, Pet Owners

1. Introduction

This document will summarize our team's plan for an evaluation process for our pet adoption application. We will use our own expertise and brainstorming to assess our designs and application through an analytical evaluation, then we will perform another evaluation through at least one user's experience. We are using a heuristic approach to our analytical evaluation since we do not have a large sample size of potential users to access. A heuristic approach to evaluation gives us the opportunity to fully evaluate our prototype with an expert's point of view that is incredibly valuable. Concurrently, we will be accessing at least one user on the experience they obtain from our prototype. These two types of evaluation used in conjunction, since they are distinctly different, will give us a better insight on any changes we might be required to do before finalizing the product.

2. Overall Evaluation Goals

The purpose of the evaluation is to examine the prototype designed for a pet adoption application. The main objective of the evaluation is to gauge how usable and learnable the product is currently. Specifically, the prototype will be evaluated for:

- Design flow (how easily the application is navigated)
- Ease of use (how difficult is it to signup and setup an organization page)
- Learnability of using the current user interface without extensive training or excessive tutorials

3. Analytical Evaluation Session

3.1 Evaluation Goals

Through the course of evaluation, the prototype will go under extensive examination to test the efficiency of the current model. Usability and learnability being the two points tested, the prototype evaluation questions will delve into the current state that the prototype is in, and if the prototype is sufficient to use moving forward. .If points of weakness are found in the prototype, whether being a learnability or usability issue, changes will be implemented and evaluated again. These evaluations will be limited to an expert's point of view, as per the heuristic approach, so the user experience evaluation covered in section 4 is also required.

3.2 Tasks we intend to evaluate:

- Time taken to create a profile.
- Time taken to evaluate other's profile (if owner/organization)
- Time taken to navigate pet profiles

3.3 User being evaluated:

The user in our analytical evaluation is simply us, the designers. We will use our own expertise to evaluate each step of the process. We will put our heads together to discuss and observe all aspects of the design, including, but not limited to, usability strengths and pitfalls, design decisions as far as appearance and technique, how we anticipate users to react, etc. We are extremely useful as "users" because we know the ins-and-outs of the product better than anyone. We are familiar with each aspect of the design, as well as how the components should perform and how they should appear. We are responsible for every step in the evaluation process until an outside user is presented with the product.

3.4 Techniques we intend to use:

Due to time constraints and the necessity of having an expert's point of view, a heuristic approach will be utilized for the first portion of evaluation (covered in section 3). In combination, a user's experience evaluation will also be conducted to evaluate the usability of the application from a non expert's perspective (section 4). The heuristic evaluation will be conducted first, so as to find any bugs or lingering redundancies within in the program. After fully evaluating the weaknesses of the current prototype, a user's experience evaluation will be conducted, as to see the usability of the prototype within the hands of a non expert.

3.5 Data we will be collecting:

We intend to collect data to answer these questions:

- What is the overall usefulness of the application?
- Will users immediately know how to use app?
- What type of users will use the app?
- Is the overall design inviting?
- Is the appearance of every screen and window easy to read, follow, understand, see?
- Does each design concept have a useful layout?

- What is the learnability/memorability for users like?
- Is the swipe left/right a controversial concept?

Does the app accomplish all of the goals of our proposal?

3.6 Materials

For this particular evaluation session, we are simply using our prototypes and the idea itself. Users will be briefed on the overall concept of the app as well as the general idea on how to use the main features. We intend to use follow up questions such as those listed in the "Data we will be collecting (3.5)" section above as well as others that naturally present themselves during evaluation. We will create a survey for users to complete after use of the prototypes and design concepts to gather more information on usability. We will be iterating the evaluation process across all prototypes and design concepts.

3.7 Detailed Analysis

Visibility of system status

Does the user know when their animal has been swiped right by a potential adoptee?

In its current stage the prototype does not have a system to alert the current pet owner, but in future iterations this will be implemented.

Does the user know when they've become a match for a potential animal?

In our description of the project, we described a feature that immediately notified the user that they were a match for an animal they swiped right on. However, this relies on the user using the app at the time of matching. We also did not, in our previous drafts, include images of the matching event occurring. We need to include this instance in future iterations. We also need to conceive of a way to notify users when they pull up the app on their device their pending messages, matches, etc., and then design those.

Match between system and the real world

Does the system display words and phrases familiar to real world conventions?

The information displayed should be natural and not use system-oriented terms. Information should be understandable and in logical form.

User control and freedom

Are users able to easily navigate through different areas if user is in an unwanted area?

The system should be easy to navigate and support cancellations,, such as appointments, rescheduling, and swipe left - swipe right.

Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing.

Users should have simple swipe left - swipe right system throughout the process of trying to choose which animal to adopt. It follows the same platform throughout the their whole usage.

Error prevention

Is the system designed so there are errors to a minimum?

At this time, the application will have little to no errors. If there were to be any errors, will the system tell them what went wrong? We are still working on how this will be done.

Recognition rather than recall

Does using the app place too much of a burden on the user to recall things?

We feel that in the current state of our designs, the user does not have to recall much in order to use the app.

What does the user have to recall in order to use the app? Is there a system in place to allow recognition to make this process easier?

They have to recall the swipe left/swipe right format and where the chat button is. One possible system to limit recall is an easily accessible instructions page. We go more into this below. Another system to limit recall is to make the buttons the user needs to use obviously in service of the exact purpose they require. We have done some of this in our current iteration, but need to beef up on this in future iterations.

Flexibility and efficiency of use

What is the set of possible behaviors that a user of this app could engage in? Is there a way to facilitate the most frequent of these actions?

A user can swipe left or swipe right, change their settings, and access the chat service. WIthin the chat service, they can read messages and respond to them and see their current animal matches. There is no way to facilitate the swipe left or swipe right format any more than it currently is. The chat service has been facilitated in our designs by there being a small button that lights up when there are notifications in the upper right corner that the user can touch to load up their chat menu.

What can a user do from the main page?

They can adjust their settings, swipe left or right, and reach the chat menu. We need to think of a way to access an instructions page, too, but we aren't sure yet if this should be accessible from the main page, which we want to be as minimalist as possible.

Can a user backtrack on animal? That is, if they swipe left but change their mind, can they go back?

This is up for discussion between group members. Adding a button to do this could add too much noise to the interface, but also is a feature that makes a lot of sense in the context of our app.

Aesthetic and minimalist design

Are the instructions clear and concise?

We need to plan out what instructions we want to include and how these instructions will be presented.

Is there anything in the registration page that could be omitted?

To consider this, we need to talk to adopting agencies to see what information is essential to choosing an adopter and what can be

left out.

Are there any unnecessary settings?

We think our settings page is as minimalist as possible. Perhaps with more user studies we could discover what settings users want and ones they think are unnecessary.

Is the main page of the app as minimalist as possible?

At its current iteration, yes. However, we may want to consider adding more features (like the backtrack button referred to above), and if we do that then we need to think of ways to keep the main page just as clean and minimalist.

Help users recognize, diagnose, and recover from errors

Are users notified when they make an error?

We have not included any designs of error messages. However, we have a difficult time conceptualizing any possible user errors within the app, aside from clerical ones (i.e. the user has not entered a password that is long enough).. We need to spend more time imagining how users could encounter errors, and devise a way to notify the user.

Can users use these error messages to bridge the gulf of evaluation?

We aren't sure where error messages would be appropriate in our app. More time needs to be spent on imagining the possible errors a user could encounter. We should research the universal errors that occur in apps, how the most usable apps help the user recover from these errors, and then think about how our app could have error messages that are unique to it.

Help and Documentation

If the user requires guidance, can they find it?

Our current design iteration does not include instructions on how to use the app. However, in our description of the project, we have claimed that the app will automatically present to the user instructions when they first use it, and then afterwards provide a way for the user to revisit these instructions. In future iterations, we need to include designs for the instructions, as well as feature a way that the user can revisit instructions when they use the app past their first time. We should also consider what instructions users may need to use the app so our instructions can be clear, concise, and enhance learnability.

Does the project require a FAQ?

We think that a FAQ page would reduce the minimalism of the app and reduce efficiency. Since our app is fairly simple, just an instructions page should suffice. A FAQ could be included on the app website, if that were to be made. Naturally, more user studies of our app could yield that there are indeed questions that are asked frequently enough to warrant a FAQ in the app, but we don't think this is necessary as of yet.

3.8 Adherence to original plan, explanation of changes

The majority of the original plan was left much intact, the overall goal to find if the current product was usable, had a good design flow, easy to use, and did not require extensive learning was still very much still there. If changes were to be made, we felt adding additional operations to make it user friendly and more operable. Creating an option to schedule an appointment with the adoption center as well as their contact information. These implementations would definitely enhance the application.

3.9 Results

Our primary goal for this evaluation was to garner usable data on the design flow of our prototype, the current state of usability of it (how easy is it to use) and to test the overall learnability of the application. Overall, it seems that our application seems to meet these standards; however, since it is still an early prototype, there are still some design flaws that we have recognized and will flesh out moving forward.

First, we are concerned with the welcomeness of the application, specifically does the user interface grab the user's attention and does it keep their attention to want to keep using it. Our initial prototype keeps the interface clean, as to not clutter it with unneeded graphics or unwarranted user prompts; however, a more modern graphical interface might appeal to the standard target audience we are appealing to. Further user evaluation of the prototype will give us insight into whether or not a more modern or a cleaner look is appealing.

Second, we would like to know if the flow from the user sign up page to actual application is smooth enough. Currently we have the user thrusted into a user settings page once the sign up is finished, and they are greeted with filters for their preferred animal types and distance from them that they would like to travel. It seems imperative to provide a more intuitive filter list for the animal types. Possible implementations is a user provided tag implementation, such as "dog, cat, rabbit" and this would provide them with only these types of animals. A more cluttered but complete list could be provided with a completed drop down list, that would show them all possible animals that they could adopt. Both solutions have their own pros and cons, the personal tagging system is purely up to the user base. If a user tags an animal incorrectly, then this would prevent them from advertising their animal to the correct owners and lower their chances of being adopted. For the drop down list, the flaw there is as stated previously, the interface can become cluttered quickly, this would create a not so enjoyable experience for the user. Another con to a drop down list, is that if the list is not complete, users would be unable to select that particular animal that was left off.

Learnability of the product in its current stage is strictly limited to the user's past experience with application. With those that have never used the swipe based design, the current prototype does not allow much room for error. With enough experimentation a new user could be lost with the interface. In a future revision we may want to include a light user interface tutorial that overlays the actual interface, and guides new users.

A large change that we realized we required after a lot of deliberation, was the ability to allow users to be prompted with a notification when users have become interested with your pet. The next revision of the prototype will have a text based notification that will prompt the user that their animal has been swiped right by a user, and provide a text based messaging service so that the two users can contact one another. The interface may also have the ability to click on a compass or other graphical interface for the GPS location for a meetup.We also realized that if this kind of scheduling interface were to be created, and that if users were saving these meeting times, it should be used in tandem with calendar events. As so current events would not conflict with meetup dates with the animal owners, and that future

scheduling conflicts would not arise.

Finally, we realize that revision zero of our prototype is not complete. We still have inconsistencies and other problems that we have mentioned previously. Moving onto to the next revision we will try to implement these changes, but keep the overall design consistent with our original design mentality. The design will stay efficient in its usage, but user friendly in its overall approach.

4. Empirical Evaluation Session

4.1 What we are trying to find out:

We are trying to find out if our application is useful to certain audiences. We are hoping to decide which prototypes and design concepts are usable to the types of users who will be utilizing the app. We wish to collect data on the appearance and layout of the screens and windows as well as the techniques needed to navigate the app itself, such as the swipe left/right format we've employed.

4.2 Tasks we intend to evaluate:

We intend to evaluate the product in the hands of the users. We will want to collect data on and make observations on actual users utilizing and navigating the application. We want to watch for strengths and weaknesses when it comes to how inviting the layout and design will be for a user as well as the learnability and memorability of the app. We will want to evaluate a user interacting with each prototype and design concept.

4.3 User being evaluated:

User being evaluated for the user's experience empirical study is a 34-year-old, male engineering specialist that specializes in breeding and adopting dogs. The user is being selected for this study as he is one of the target audience's for the application and represents both an adoptee and owner of pets. In prior preliminary interviews, the user seemed interested in our application and showed enthusiasm to test out a prototype.

4.4 Techniques we intend to use:

Due to time constraints and the necessity of having an expert's point of view, a heuristic approach will be itilized for the first portion of evaluation (covered in section 3). In combination, a user's experience evaluation will also be conducted to evaluate the usability of the application from a non expert's perspective (section 4). The heuristic evaluation will be conducted first, so as to find any bugs or lingering redundancies within in the program. After fully evaluating the weaknesses of the current prototype, a user's experience evaluation will be conducted, as to see the usability of the prototype within the hands of a non expert. This evaluation will consist of observations during use, interviews after usage and feedback received from users.

4.5 Data we will be collecting:

We intend to collect data to answer these questions:

- What is the overall usefulness of the application?
- Will users immediately know how to use app?
- What type of users will use the app?
- Is the overall design inviting?
- Is the appearance of every screen and window easy to read, follow, understand, see?
- Does each design concept have a useful layout?
- What is the learnability/memorability for users like?
- Is the swipe left/right a controversial concept?
- Does the app accomplish all of the goals of our proposal?

4.6 Materials

Users will be briefed on the overall concept of the app as well as the general idea on how to use the main features. We intend to use follow up questions such as those listed in the "Data we will be collecting (3.5)" section above as well as others that naturally present themselves during evaluation. We will create a survey for users to complete after use of the prototypes and design concepts to gather more information on usability.

4.7 Data Collected

Overview of Types

Data collected was through purely observation and the data retrieved was raw. An accompanying informal interview was conducted after the user was done with the prototype, and further raw data was gathered. A short survey was conducted after completing usage of the current prototype (seen in Appendix A).

Appendix of raw data

- User found that the familiar interface was extremely useful, and intuitive
- User voiced concern on whether the interface immediately switching to a GPS screen when swiping right is justified; would like if a right swipe simply saved that preferred pet for another time and allowing user to continue searching for other potential pets.
- The prototype at the time of showing also seemed to be missing an option to interact with the other user, so as to arrange a meeting date/time.
- A possible solution that the user wanted to add, was when swiping right (and if the GPS screen immediately popped up) that there would be a chatting interface that would greet the current user.
- Another possible solution to arranging a meeting would be to immediately send an email or notification to the app to the other user, stating that there has been an interested party that would like to meet.
- The user evaluated the registration page as an "okay" experience, it was familiar and did not require any further learning on the user's part, but it felt very "samey" to them.
- The settings for animal interest was praised for, due to the various amount of pets a person could own, the user thought it was a great addition to the prototype.
- A preference that arose was a possible drop down solution for the "Animal Interest" portion, since rightfully pointed out, if all possible animals were to be listed, the list would run down the page and clog up the interface.
- The maximum distance from user to user was also a feature that received optimistic remarks.
- The biography of the animal was slated as being pretty well done; however, an insert on compatibility of owner

to animal would have been a great addition as well to the same page.If possible owner does not indicate current living situation, at least obtain data on possible suitable environments for the pet.

- If a saved “interested” animal category is created, the user would like to also have a “not interested” saved category as well. As to possibly undoing an accidental swipe left.
- A data bank for “swiped right” animals would help the user then narrow down a large list of all the animals that the user has swiped right, and find the perfect animal they would prefer.
- If the animal they prefer has been adopted from the saved bank of swiped right animals, the user is notified via a text notification and will be given a possible suggestion for similar animals (currently not in prototype but user would like to see this implemented).
- User voiced the worry that if a scheduling implementation were to be included within the application, would there be a way to prevent schedule conflictions.
- Currently unable to save any of the contacts of the current animal owners, possible solution would be to save to actual phone’s contacts.
- Overall experience was welcoming, easy to use, did not require extensive learning and fulfilled the overall goal that the application was trying to accomplish.

4.8 Adherence to original plan, explanation of changes

The majority of the original plan was left much intact, the overall goal to find if the current product was usable, had a good design flow, easy to use, and did not require extensive learning was still very much still there. The only changes arose when the user provided feedback that strayed away from just the current design, but to include additional design aspects that the user felt would help with the user experience. The changes the user wanted was mainly an implementation to contact and schedule a meeting with the user that currently had the animal up for the adoption.

4.9 Results

The initial impression that we had expected was for the application to seem unpolished but still quite usable. We discovered from the user feedback that the interface was indeed quite usable, but this could have been mainly due to the familiarity the user had with such an interface. If the user that was evaluating our prototype had not been familiar with such an interface, maybe we would have received different data regarding this.

The user did see that the prototype was very much unpolished though. The user remarked that there were key elements missing from the interface that would make the user experience much more enjoyable. This has been taken into consideration as we move forward with our development. The user being evaluated voiced how important a “scheduling” feature would be for application, since the current prototype seemed to lack a feature other than locating the current animal owner. We will be implementing an interface where each user may get into contact with each other when both parties have been informed about the interest of the animal currently up for adoption.

Another feature that the user wanted us to implement, was a drop down interface for the “Animal Interest” portion in our filter settings. We were initially aware of the vast amount of animals that could be adopted but did not have the foresight to implement a neater feature to the user interface. If a drop down were not to be used, the vast amount of adoptable animals would fill up the full user interface and constant scrolling would have to be done to get through them all.

These were the two major points that the user wanted to point out to us, and rightfully so. It seems when a fresh set of eyes are looking at a product, even small implementations such as the drop down menu would seem so obvious, but as a developer currently looking at the product, it may seem to slip on by. This example shows the overall importance to have constant user input as a product is being developed.

Appendix A

Q: What was your initial reaction when filling out the user application?

A: It is tedious but a necessary portion of an application such as this, but could there be better pictures or animal related things around the signup page?

Q: How would you rate the ease of use of the application in its current state? Why?

A: It is okay, not too bad, but not that great either. Might only be using it for a short period of time if it stays in its current from. Why? Because it seems pretty impossible to contact the owner of the pet that I am interested in, not only that, as a dog breeder myself, how will I know when another person would want to adopt my dog? It all doesn’t seem that intuitive, there is a lot of potential but it still seems to be at too early of a prototype to really evaluate it.

Q: Did you ever feel that you needed to learn the interface? Maybe some instructions may be needed?

A: No, the interface is familiar to me. No, do not include instructions, that would take away from the apps user experience.

Q: Did the design seem to flow well together for you?

A: Yes, if it was just about how each step proceeded or preceded one another, it was intuitive, but I would still like a better implementation of some kind of scheduler and notifier.

Q: Any closing remarks/suggestions?

A: Add a scheduler, add a way to be notified about interested owners, add a way to go back to swipe left animals, add a way to save swipe right animals. Other than those additions, I thought the prototype was pretty good, I would like to see how the next prototype will look.