

Project 9: Final Project

Group 14: TravelNow

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Abstract - This paper presents the final prototype of *TravelNow* with newly added features as well as clickable links. The paper also discusses the reasoning behind the changes.

Keywords - Usability, Mobile application, *TravelNow*, Prototype

I. INTRODUCTION

Thousands of people travel every year, whether it's to a nearby city or to another country. Some people travel for pleasure while others travel for business. Whatever the reason for traveling, the *TravelNow* app strives to make this process as simple as possible. When traveling, people have to make several decisions regarding flights, hotels, car rentals, taxis, as well as any tourist attractions and activities they may want to enjoy. Searching for the best prices for what you are looking for can be overwhelming since there is a vast number of available choices from several companies. A person can easily spend hours just searching for the rental car they want at the right price. The biggest time sink is trying to compare all the available deals from various companies to each other. To make matters worse, they have to repeat this task for every aspect of their travel plans.

TravelNow will create a place where users can schedule and purchase the best deals for flights, hotels, rental cars and vacation packages all in one place. *TravelNow* will also provide a way for users to quickly view the most popular deals for the location you specify. By providing a way for travelers to quickly access all the relevant information for their travel needs, it will save them an enormous amount of time, simplify the process, and save them money.

II. MATERIALS

A clickable PDF containing the final prototype has been attached as Appendix A. The prototype is built so there is only one screen per page which are linked. This

allows the user to click on the prototype and navigate to appropriate screens. The updated storyboard containing all of the new screens has been attached as Appendix B.

III. DESIGN DISCUSSION

Below are the design decisions for the user interface. We made these decisions based off of design principles, analytical evaluation, empirical evaluation, and feedback from the class.

A. Overall Design Justifications:

Our application succeeded in being minimalist and easy to navigate. For this reason, the main design of the application will remain unchanged. Limiting only a few options to each screen and creating a linear process for each task will continue to be the theme of our design.

Some of the changes that were made later on in the final prototype had to do with the design principles regarding constraints and error proofing. There was information that needed to be provided in order to proceed to the next screen such as dates and locations for a flight. Originally, we had the next button at the bottom of the screen. This would have been confusing for the user because they may have thought it was possible to proceed without entering that information. Our second design incorporated having the next button greyed out and unclickable until the information was required. We decided that it would be better to just not have the next button appear until the information showed up. There several good design reasons for this. It removes a distraction from the screen until it is relevant and by appearing on the screen when the required fields are filled out, it will result in an interruption. Essentially, this will grab the user's attention and they will notice the next button has appeared and they can proceed. This helps error proof the application while also maintaining the minimalist style.

While designing the prototype interface, we also kept affordance in mind. We wanted every button's purpose to

be clear while also making the fact it was a button that could be pressed clear. That's why we chose the design of slightly rounded edges for the buttons which gave it a more pop out feel. We used icons to enhance visibility of user's options which is very apparent on our plan trip screen. By using labels and icons, our goal was to make navigation simple while also achieving all the tasks our application was intended to perform.

B. Design Justifications from Analytical Evaluations

While evaluating the final prototype, we kept in mind six Jakob Nielsen's ten heuristic principles that we had originally chosen to focus on. These focused on error proofing, minimalist design, visibility of system status, consistency, recognition over recall, and user freedom and control. We wanted to give users as many options as possible while also constraining them just enough to error proof the application. This is why we decided on having a navigation bar at the top of every screen with the home button and menu options. This allowed users to quickly redirect themselves if they decided they didn't want to continue down one of the tracks chosen.

One of the most important aspects of any project is its functionality. Any deficiencies that limited functionality of the application were deemed to be the highest priority issues. The issues identified and fixed are listed as following: The user's account currently can now review or edit the user's details. Another issue was that the hotel screen did not ask the user for the dates they wished to stay at the hotel. This is fixed. Some other issues were that the user did not have enough options to appropriately filter the choices that would be shown for flights, hotels, etc. Finally, there was no way for users to review a more detailed page regarding a flight or hotel they might wish to select.

Another issue that was identified was the lack of error proofing. The application needed to offer more options or instructions regarding input before the user can proceed through screens. Determining which fields should be required to be filled out and which should be optional were important for properly error proofing the app, while also giving the user freedom.

C. Design Justifications from Empirical Evaluations

Our user evaluations gave our team of developers insight on user responsiveness to the application. After reviewing feedback the overall user experience was

positive. The key component of our application that appealed to the test users was the overall simplicity of the application. Majority of the users brought four main issues with our application which we focused on updating on further prototypes.

- Visibility of the status was ambiguous since there was no title on top of each screen. The purpose of each page is now more understandable
- Presentable data was lacking in the flight, hotel, and car rental options. When the user wanted to select from options they should have the freedom to organize these options by a filter. A filter was added that gives the user a better visual representation of their options, making it easier for their decision on picking the best flight, hotel, or car rental.
- Consistency was a main theme on most of the application according to the evaluations. However on a few pages there needs to be a back, cancel, or clear button to prevent the user from being forced into a decision. These were created on most pages
- Some social media buttons were removed and others change with their functionality made more clear as they were deemed ambiguous or hard to understand from our first prototype
- Constraints were implemented in the final designs to minimize confusion. This involved limiting the user's ability to proceed to further screens until the required fields were filled out.

D. Changes since Design Gallery 2

Several changes were made to the final prototype. Most of the changes involved making the prototype more aesthetically pleasing. The goal was also to make the prototype seem more like a real application so users would find it familiar and have the flow feel more natural. One functionality change was removing the home button from the home page. It didn't make sense to have a home navigation when you were already on the home page. This issue was brought to our attention via feedback in Design Gallery 2.

Another change was to remove the back and next buttons from the plan trip screen. Users mentioned they found this confusing. This was also another issue that was brought to our attention by feedback in Design Gallery 2. They weren't really necessary since the menu navigation and home button provided any additional navigation needed.

E. Reducing Options Shown

A third change was to the activities screen, hotel screen, car screen, and dining screen used to present the user with 5 options. This was changed to only show 3 options while introducing a scroll bar that allowed user to view the other 2 options. This prevented the screen from being cluttered and also allowed for more information about each option to be displayed with bigger fonts. Also scroll bars were added to the details pages of various screens to allow more information to be provided if necessary. This created more visibility while also allowing images making the screens more aesthetically appealing.

F. Scrolls Bars Added to Reviews

Scroll bars were also added to the reviews for Dining and Activities. Upon review of the old prototype, we realized we had allowed for reviews to be shown on screens for dining and activities but we had not implemented any features that would allow a user to add a review. By making the scroll bar design change, we were able to remove the “See More” button since it would no longer have a useful purpose. This gave us room to replace it with “Add Review”. The intention of this button would be to allow the user to add their own review for the specified restaurant or activity. In addition to reviews, a feature that was added in the Design 2 were coupons. Someone had brought up in Design Gallery 1 that there are already a lot of travel applications out there. He went on to ask what would make this one stand out from all the others. Adding a feature for coupon for dining and different activities we felt would create more reward for the user’s risk. While it was a small feature, we thought it still might help ours stand out from the others.

G. Color Scheme

Based off feedback from the class we decided to change the color scheme. The original prototype had basic blue for the header box and filled with white for the remaining body of the screen. The majority of the class feedback displayed a dislike for that color scheme; saying it was too bland, boring, and needs to look more sleek. The final prototype consists of dark greyish aqua for the header and an off aqua blue for the body of the screen. These colors combined are aesthetically pleasing while giving the application a sophisticated look.

H. Round Trip Flight Button

In the first prototype we determined if the flight was a round trip by using a “Going Home” button. From the empirical evaluation we concluded that this button was confused the user. We decided to make the button simple and decided to change that button to “Round Trip Flight?”

I. Advanced Search Options

In the hotel section of the app we originally didn’t have an advanced setting options. Using the feedback from the class we realized that many people are selective and particular when it comes to their hotel. So we added an advanced settings option for all the extra amenities.