Cogs 187 Design Final

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User Testing Plan 1

Goal

Our goal is to evaluate how effective users are at booking a trip using [Greyhound's website](#). We will do this by first interviewing them to understand how familiar they are with the website and other travel sites in general. After interviewing them, we will ask them to complete a series of tasks. After testing, we will each separately analyze the user's responses and video in order to find where they had problems. After analyzing, we will each come up with our top three usability problems. We will then meet to discuss our findings and decide on the three top usability problems for each user.

Task Design

We designed our tasks to test the search and filter functions on Greyhound's website. Each of us first began by using Greyhound's website ourselves to become familiar with it and also to see where we think errors may occur. Based on this, we believe the search and filter functions have the most potential to have usability problems.

Target Users

Greyhound is currently one of the most affordable options for traveling both long and short distances. It much cheaper than flying or taking a train, such as Amtrak. Therefore, we believe most users will be young people or college students who do not have a lot of money to spare. Based on this, we will be testing users who are either college students or just out of college. It is important to cater a site to both novice and experienced users, therefore we will also choose users who have varying experiences with using Greyhound or travel sites. Specifically, we are looking for one user who has never used Greyhound or does not often use travel sites, one user who is familiar with either Greyhound or other travel sites, and one user who often uses Greyhound or other travel sites.

Observation & Materials

1. Two laptops, one for the user to complete the tasks defined below and one for the task to be displayed.
2. Another laptop or pen and paper in order to record what the user says during their preliminary interview and any other notes during testing.
3. A phone or camera to record audio and video. This will record the user's interactions with the website and what they are saying, which is especially important as we will ask the user to talk us through what they are doing and what they are thinking while they are completing tasks.

Steps

1. Prior to interviewing and testing the user, set-up the two laptops. Load [Greyhound's website](#) on one laptop so the user can begin their tasks right away. On the other, have the tasks loaded so users can view the tasks you are asking them to complete.
2. Once testing begins, give the introductory statement to the user.
3. Ask the user the preliminary questions below. While they are answering, write what they are saying on a laptop or on paper.
4. Once this is done, transition to asking the user to complete the tasks listed below. While the user is completing these tasks, record what they are saying and what they are doing to later analyze their actions with the website.
5. Once the user has completed all of the tasks, thank them for their time. Later, analyze the results and collectively decide on the top three usability problems.

Preliminary Questions

1. What is your name, age, and occupation?
2. Do you like to travel?
3. How often do you travel?
4. When you travel do you use travel sites to book accommodations, transportation, experience, etc? If you do, which travel sites do you typically use?
5. When you travel, how do you primarily get to your location? For example, do you drive your own car, rent a car, take a bus, fly etc?
6. Have you ever used GreyHound to travel?
7. If you have, how often do you used it? How was your experience? How easy was it to book your trip?

Tasks

1. Book a trip from San Diego to your hometown departing on December 16th and returning on January 6th.
2. Change your return date to be January 7th.
3. Only show options that allow you to travel on GreyHound buses.
4. Find an option for the latest possible time you could leave.
5. Find an option under 15 dollars.
6. Find the fastest option, then select the option. Once you have selected it, book it.
7. Go back to your trip from San Diego.
8. Once you are back on your trip from San Diego, select an option that will allow you to check two bags.
9. Once you have found an option that allows you to check two bags find the fastest and cheapest option.
10. Select the option and book it.
11. Filter for an option that has no transfers.
12. Select an option to leave at 11am.
13. Filter by Flexible options only.
14. Find the cheapest option.

User Testing Results 1

For our three users, we wanted to find people with different levels of experience with using bus or train travel service such as Greyhound.com. We sought for an inexperienced user, an average user, and an experienced user. We defined an inexperienced user as someone who has never used Greyhound or does not often use travel sites. An average user was defined as a person who may have used Greyhound before, but does use other travel sites. Lastly, an experienced user was defined as a person who uses Greyhound or travel sites often. Although all 3 of our users had some sort of experience with other travel sites, our user Aaron Spanner fit more to our user description for an inexperienced user because he has never used Greyhound. This made him an appropriate use since it would be his first time navigation through the website, making his reactions and interactions very candid. Mai Do's experience made her an appropriate user for our average user because she has only used Greyhound once. For our experienced user, we could not find a person who uses Greyhound very frequently. Jimmy Bui was the closest user we could get that would be most appropriate for this category because he has used Greyhound a couple of times (less than 5). This is enough use to be familiar with the site. Having him as a user would reveal any kind of mistakes or difficulties he would encounter regardless of having used the site a few times. He would also give us more insight that our other users could not when it comes to making the same mistake every time he has used the site.

Aaron Spanner

Pros
- The itinerary option that drops down a timeline of the trip with details is very useful and convenient for mapping out the duration of my trip.
- Greyhound times are listed in chronological order which makes it easy and intuitive to search and navigate through.
- The (?) buttons next to "Economy" and "Economy Extra" and "Flexible" are convenient and helpful.
- It's cool and convenient that user is provided with alternative dates and their prices on the "choose your outgoing trip" page.

Cons
- Selecting a "Leaving From" time, only shows you times that are greater than or equal to the specified time. Times earlier than specified time would be convenient to see. So maybe a slider that allows you to choose a time frame (e.g. leaving from 9am to 1pm).
- User could not find a way to specify that he wanted to purchase a second checked bag and get a quote for it before putting in his credit card information.
- It would be useful to user if "Fare Unavailable" had a workaround solution or explanation.
- Would have been a better experience for user if there was some sort of system status notification for whether or not a filter was successfully applied and the results successfully updated.
- When user changed the return date, user had to also set the outgoing date again. It would have been more convenient if user's other information remained saved.
- There should be more details listed in the Economy, Economy Extra and Flexible additional info popup. For example, I really wish I knew if there was a leg room difference.
- The Greyhound Student Advantage program is too much effort for user to figure out, so user skips over the discount option.
- There aren't enough small cities offered which makes it inconvenient for user to find a second mode of transportation to complete their trip.

Jimmy Bui

Pros
- It's convenient to have the prices listed for other days in order to compare which dates would be best.

Cons
- Can't change the "Economy/Economy Plus/Flexible" after doing it for your outgoing trip.
- Clicks on "edit trip" while trying to find an option with no transfers.
- "I don't think this usually happens in real life, by now I would have just booked it."
- Can't find how to check two bags. Tries to use the chat bot in order to ask. Gives up because it doesn't load. After three minutes I have to give him a hint. He still can't find it. Then he does, "wtf it's so tiny, how am I supposed to know?"
- When asking to select to check two bags-- "Usually they ask you for the amount of bags at the end, not when you are searching". Goes all the way to check out, realizes they don't and then has to restart completely.
- Can't go back to their outgoing trip after selecting it.
- Uses the wrong filter for trying to find the fastest option.
- When trying to find the latest time they can leave, uses the wrong filter. (the filter is misleading, saying "the earliest possible time" to leave)
- Can't find how to change return date. Clicks on the dates listed for outgoing trip, scrolls all the way down and to books a fare, goes to the next page and then finally can change their dates. But now they can't go back to edit their first trip, has to start all over again. Finally find it in "edit trip".
- Possibly too many options when trying to search for a bus, "Discounts" for example--tries to say they are a student and then realizes that they have to go through an entire new process for this.
- "No results found" when inputting a city that Greyhound has no stations at. "How does it not know where Garden Grove is?" Retypes their city and then finally sees that it says to input your zipcode instead. (inconvenient for users)
- Has trouble when inputting cities--it either does not immediately pop up or does not does pop up until it is clicked on again.

Mai Do

Pros
- It gets the job done.

Cons
- Can't figure out which option she is currently in--either the return trip or the outgoing trip
- Can't go back after booking outgoing trip, has to go all the way back.
- Clicks on the wrong filter when trying to find the cheapest option.
- Can't choose discount options now that you have started to book your outgoing trip.
- There is no feedback when filtering, continues to click the filter button in order to see if it actually worked.
- When searching for cities, "When in San Diego is this? I kind of want to know where, but I guess I'll book it".

Top 3 Usability Problems

<u>Mai Do</u>
1. No feedback after filtering.
    a. Visibility of system status violation
2. Having three different filters is too confusing.
    a. Aesthetic and minimalist design violation
3. Cannot edit first part of trip after selecting it without starting all over.
    a. User control and freedom violation
    b. Help users recognize, diagnose, and recover from errors violation

<u>Jimmy Bui</u>
1. Cannot easily find out what "Economy/Economy Plus/Flexible" are and what they include.
    a. Recognition rather than recall violation
    b. Help and documentation violation
2. Cannot edit first part of trip after selecting it without starting all over.
    a. User control and freedom violation
3. Having three different filters is too confusing.
    a. Aesthetic and minimalist design violation
   b. Recognition rather than recall violation

<u>Aaron Spanner</u>
1. Can't edit the first leg of a trip without having to re-edit the second leg of the trip
    a. User control and freedom violation
2. Can't add a 2nd checked bag to get a quote on the whole trip before putting in credit card info
    a. User control and freedom violation
3. Not enough details on differences between "Economy," "Economy Extra" and "Flexible"
   a. Help and documentation violation

Weaknesses

Weakness #1: Cluttered home page search

The first issue we encountered is the cluttered search system on the home page. All three users showed frustration when trying to get a student discount through the "Student Advantage" program. This misleading title should not be on the homepage, but rather displayed later for users who are already a part of the program. The Road Rewards and Promo Code options were either completely ignored or a waste of time for our interviews which is why our redesign has them removed from the search area on the home page.
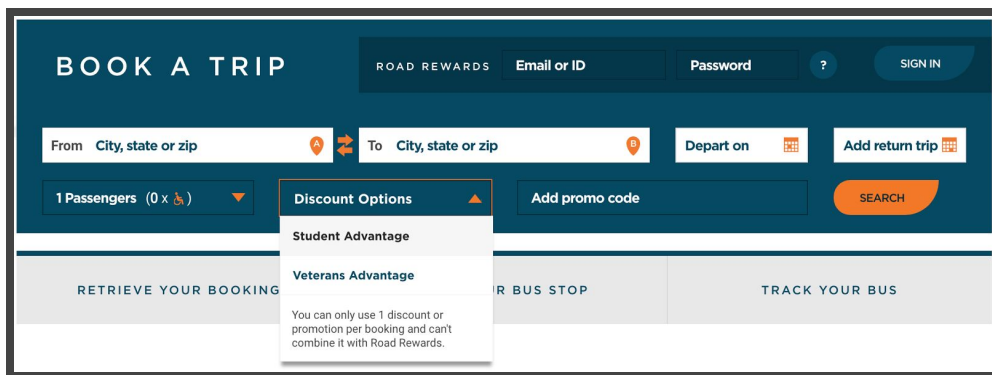

Weakness #2: Poor differentiation between "One-way" and "Round-trip"

The search options on the homepage do not give users an obvious way to choose whether their trip will be One-way or Round-trip so when they get to the second page, the filter page, their booking options are laid out as a round-trip. On the homepage there are 2 calendars laid out, one for a departure date and the other for a return date. When you drop down the return date calendar picker, small text is displayed above that reads "remove return trip." If users overlook this option at this stage, they're stuck with the round-trip process and cannot go back without losing previously entered information, as one of our interviewees discovered.
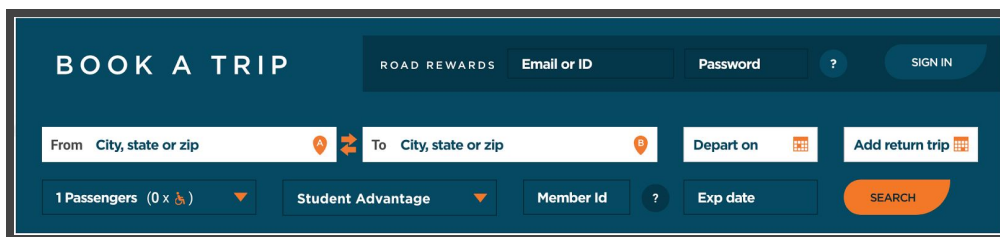
Weakness #3: Lack of breadcrumb navigation

The Greyhound website does not present users with a digital map to show users where they currently stand in their booking process. This makes the process vague and uncertain because users are unaware of what steps they have remaining. It also poses a problem for users who wish to go back a step or two and will have to resort to the browser "Back" and "Forward" options which do not save form information on the Greyhound web application. Data loss is one of the most crucial usability flaws in any website. The closest thing to a navigation system is the header that describes what you're doing but not what you did previously or will be doing next.
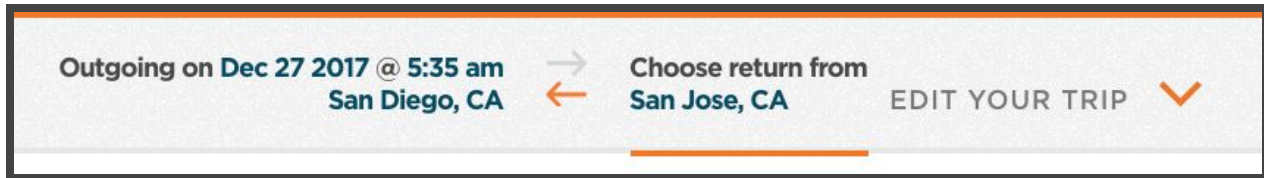

Weakness #4: Loss of progress on navigation

Currently when using GreyHound's website, if a user tries to go back to their departure trip in any way, they will be redirected by the the homepage and all of their data will be lost. During user testing, we asked all three participants to go back to their departure trip after beginning their return trip. None of them were able to do this. In fact, in order to do this all three interviewees had to begin their search again. This could be potentially a huge problem for users, especially those who may have missed an option or were trying to compare prices for between their trips. This decreases users freedom and therefore in our opinion was one of the large usability issues.
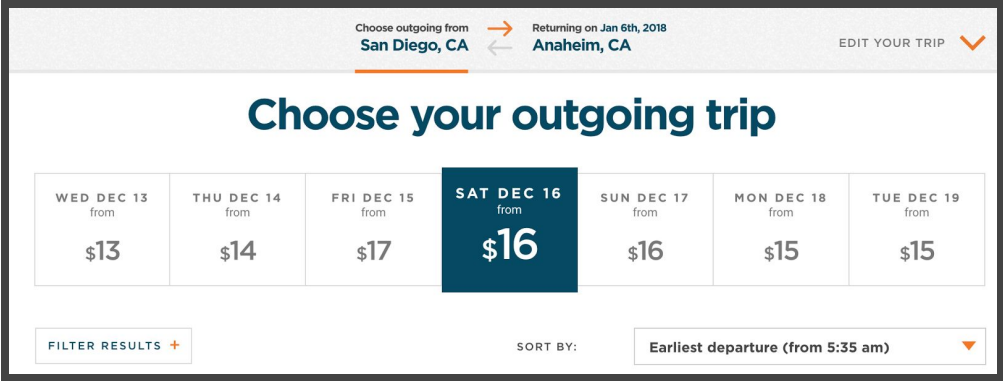
Weakness #5: Lack of consistency and standards

Tickets on the Greyhound web application can be filtered by their type: Economy, Economy Extra, and Flexible. It is very unclear from these names what each means. One interviewee mentioned in his video that "Flexible" sounded like a low level ticket that might require users to be flexible of dates and times. User Aaron Spanner cares about leg space when travels long distances. This is a common interest of users, to know how much extra space they are paying for, however Greyhound does not provide these details and not much can be deducted from their naming conventions. These 3 ticket categories could better match the travel industry standards followed for example by airlines and train lines.
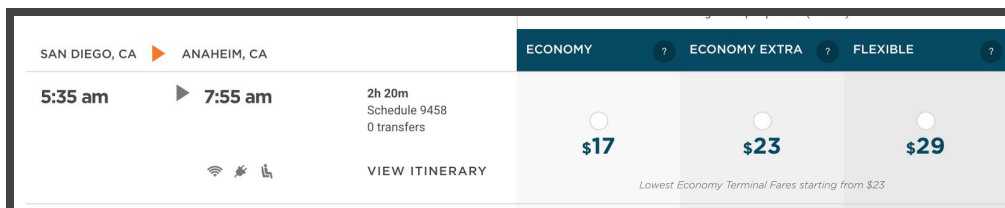
Weakness #6: Complicated 3-part filter

After user testing, we came to the conclusion that the filtering system was by far the most confusing part of the experiences for users. Each of our users made three+ mistakes or more while searching for the correct option to use. All three of them also became visibly flustered or frustrated when trying to search for the correct option. Greyhound offers users the ability to "Edit Trip" which means make changes the From/To locations, the Outgoing and Returning dates and number of passengers. In addition to "Edit Trip," Greyhound users can also "Filter Results" by time, number of transfers and bus lines and "Sort By" departure time, price and trip time. Having these options in three separate locations makes users have to recall several things rather than instantly recognize what is most useful to them.

Weakness #7: Lack of visibility of system status

GreyHound's website does not currently give user's feedback after selecting a filtering or sorting option, therefore we decided to include this into our prototype. In the videos of our our users testing out the Greyhound website, two users pointed out that after applying a filter, if that filter did not have an effect on the ticket results, there was no way to tell if the filter had been applied or not. This kept users wondering whether or not they were seeing the results they desired. Pictured below are the results for three separate filter applications. Same results so no way to tell if the filters didn't work after being applied.

Weakness #8: Violation of flexibility and efficiency of use

Users do not have the ability to see how many costs they are accruing as they add tickets and features to their cart. Additionally, users cannot add extra checked bags until they reach the last stage of the booking process. Withholding important information from users until the end of the process then not allowing the system to save their previously entered information leads to data loss and repetition of tasks. Pictured below is the very last screen of the Greyhound booking process; it is not until this stage that users see a "Ticket Summary" and it is not until payment information is entered that users can add checked bags to their order. No where in the filter section are users given payment and additional features information.

Mockups of Redesigns

Redesign 1

https://invis.io/WQEZ03RS6

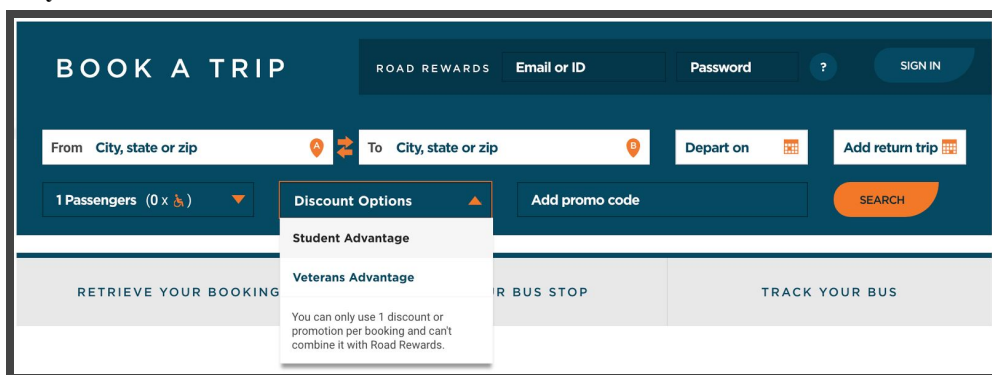Redesign 2

https://invis.io/GUEWIF2N8

Redesign Rational

The main component of Greyhound's website that we will improve through redesign is the filtering and searching system along with the subcomponents that depend on that main unit such as system notifications and flexibility of usage. Through this redesign, we hope to give users a more seamless experience, enable them to efficiently and quickly book trips, better compare options, and ultimately make a more informed final selection.
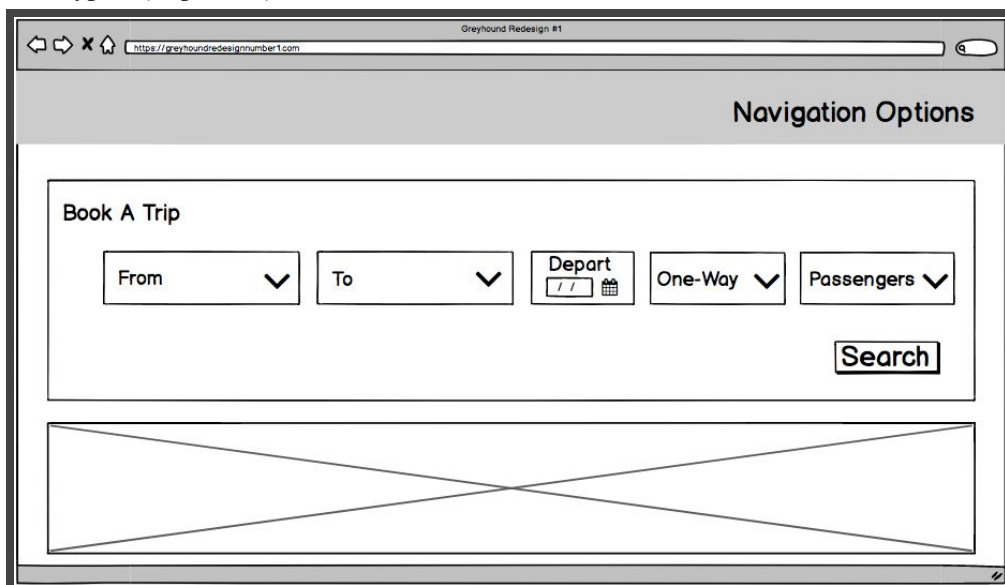
Change #1

Remove unnecessary options for when users are first beginning the process of searching and booking a trip. These include the "Road Rewards" section, the "Discount Options" section, as well as the "Add promo code" section. In addition to removing these excess options from this section, we are adding a 'Flexible' toggle option in one of the redesigns to see if users prefer to choose whether or not they want the alternative dates displayed to them on the next page. User Aaron said he liked having cheaper alternatives presented to him, but user Jimmy critiqued the amount of space the alternative dates took up on the next screen when he didn't even ask for them.

Greyhound.com:

Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: This change was mainly motivated by all three of our interviewed users trying to apply the misleading "Student Advantage" discount under the "Discount Options" selection. As each of them tried to select this option, they quickly realized that they would have to apply for a separate account and card at an external website. Furthermore, one user, Mai Do, also mentioned that the "Road Rewards" section seemed unnecessary in the home page during user testing. As we previously learned in the class, including too many options, especially ones which are not immediately important, can be a distraction to users. Therefore, based on our user testing and previous experience, we determined that removing these options would decrease user's cognitive load and therefore create a more seamless user experience.

Prototype 1: For this prototype we decided to take into consideration what our users wanted by making things much simpler. Thus, we kept things simple by keeping only the 5 main components that are necessary to book a trip: "From," "To," "Depart," "One Way," and "Passengers.".

Prototype 2: For this prototype we decided to simply make things more clear. Although this prototype has more information than the first, it's laid out in a way that is easy to use. Furthermore, we listened to our users and took out both the "Student Advantage" options as well as the "Road Rewards" option.

Additionally, there is a "Flexible" option for both the "Depart" and the "Return" date. This option allows flexibility on the date that one departs and leaves. For example, if you click the flexible option for the depart date, it will show you departures within one day before and after the date of your choosing. This allows the user to have more freedom with the date of their trips, and will allow them to filter through a larger selection of trips.

Change #2

Remove the option "Add return trip" and instead have separate options for user to to pick either "One-Way Trip" or "Round Trip". Upon clicking "One Way," the user would be restricted to only choosing a departure date. Conversely, if they choose "Round-Trip," they will have the option to select a return date.

Greyhound.com:

Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: During user testing, one user, Jimmy Bui had some difficulty understanding the differentiation between "One Way" and "Round Trip." He verbalized that he at first did not know what the option was, but upon clicking it, knew it would be to book a round-trip. This is likely due to the language used or that this option is present even when not booking a round-trip ticket. From Neilson's Heuristics, we know that including options that are not immediately necessary can either confuse users, lead them to distrust the website, or cause more errors to occur. Based on this violation, we decided to change this feature to a selection of "One-Way Trip" and "Round Trip", which would toggle off, and section to input a return date would be added if the user chose a "Round Trip". Within travel websites, this language and style of selection is commonly used, therefore, we believed this option had the least potential to confuse users who may be unfamiliar with the site.

Prototype 1: In this prototype we decided to have a drop down menu. Once the user chooses "Return Trip" another option to choose the date of that trip would appear. By doing this, we hoped to make it more clear to users unfamiliar with the language. Additionally, we wanted to minimize errors, by limiting the option of a return date if the user does not want to have a round trip.

Prototype 2: For this prototype we decided to go with buttons for the "One Way" and "Round Trip" options. This way, both options would be displayed, but it would restrict the user to only choosing one option. However, in this prototype all the information is laid out. In other words, at first glance, the user sees the return option. We decided to do this to show users all the information, so that users wanting a round trip are not confused as to where to input that information. However, if the user clicks "One Way," the return option disappears. Thus, there would be no confusion as to whether to fill out that information.

Change #3

Include a breadcrumb navigation bar at the top of the page in order to let users know exactly where they are within the process of booking a trip. Nothing similar to this can be seen on the GreyHound website, but there are some subtle cues to let users know where they are within the process. These are highlighted below.

Greyhound.com:

Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: During user testing, when asked to return to their "Outgoing Trip" after moving on to their "Return Trip" all three of our users had extreme difficulty. In fact, both Jimmy Bui and Mai Do had so much difficulty that they forgot which page they were on and missed the cues on the page highlighted above. This confusion came after clicking around the page and becoming frustrated with not being able to find an option in order to go back to their "Outgoing Trip" or after thinking they had finally found an option that would let them and being let down. As well from this course, we have learned that it is important to leave "breadcrumbs" for user in order to let them know exactly where they are located within the website. Based on both of these, we decided to include a progress bar.

Prototype 1: In this prototype we decided to have a 4 categories in a progress bar to show the users a breadcrumb of how far along they were in their trip. The boxes are very spread out, and clearly labelled inside with "Outgoing", "Return,"

"Confirm," and "Checkout". Additionally, to show how far the user has to go to finish, the boxes are filled in with blue as they complete the task. By doing this, we resolve the issue some of our users faced of forgetting which page they were on.

Prototype 2: In this prototype we decided to have a 5 categories in a progress bar to show the users a breadcrumb of how far along they were in their trip. For this prototype we decided to go with a more concise breadcrumb.. This breadcrumb is still very clear, but takes up less space than in the first prototype. Furthermore, this breadcrumb also contains the category "Trip Info," before the other 4 categories that the first prototype also has. The "Trip Info" category shows the information that is first filled out in the homepage before specific filters are added to the trips. We decided to include this change in this prototype because we wanted to see if there would be a difference in how the users interacted with the prototype. Additionally, like in the first prototype, the boxes are also filled in as the user completes each part, but it is colored green instead of blue. This decision was purely to see if there was any strong feelings towards either color. Ultimately, like the first prototype, this progress bar clearly shows the user where they are in the process and makes it s that the user would not forget which page they are on.

Change #4

Provide users with a way to edit their departure trip after beginning to book their return trip, without having to start all over or lose any progress they may have previously made. Based on user testing feedback, we decided to add a way to edit the filter options found on the home page.

Greyhound.com:
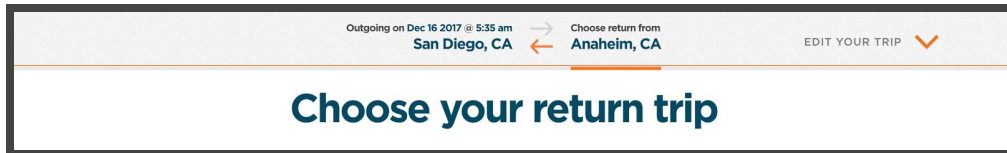
Prototype 1 (Top Filter):
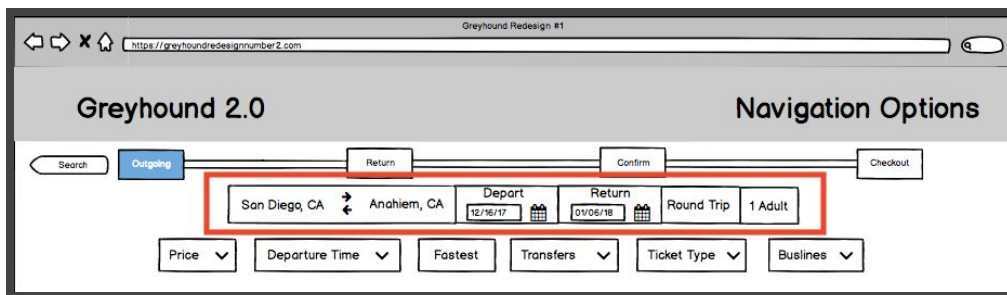
Prototype 2 (Side Filter):

Rational: During user testing, we asked all three participants to go back to their departure trip after beginning their return trip. None of them were able to do this. In fact, in order to do this all three interviewees had to begin their search again. This could be potentially a huge problem for users, especially those who may have missed an option or were trying to compare prices for between their trips. This decreases users freedom and therefore in our opinion was one of the large usability issues. Furthermore, not being able to do something as simple as editing what users had previously entered decreases users belief in the site. After this, one user even said that by now they would have either given up or just booked whatever trip was cheapest.

Prototype 1: In this prototype we decided to add the filters used at the home page to every step of the ticker booking process. This is so the user could easily modify the location, dates, etc. Because of this, the user would not run into the issue of wanting to modify the date, location etc, and having to end up completely restarting their process which happened in the original site.

Prototype 2: In this prototype we decided to have arrows at the bottom of the screen with "Trip Info" on the left and "Return Tickets" on the right. This is so users could jump between sections without having to start their booking process from the beginning. We believe intuitively it makes sense to have this these buttons labeled with the same navigation labels as the breadcrumb bar. Furthermore, like in the first prototype, this makes it so that the user doesn't have to restart their process in order to make a slight change to their original specifications. Our team has tried extensively to find if GreyHound has any such option, but we were not able to find it. Currently when using GreyHound's website, if a user tries to go back to their departure trip in any way, they will be redirected by the the homepage and all of their data will be lost.

Change #5

Change the labels for "Economy", "Economy Extra" and "Flexible" and add to their descriptions to make the language more familiar for users. Additionally, we decided to make it clear which options were available to the user so they would not go to checkout and realize they cannot buy a certain seat type.

Greyhound.com:
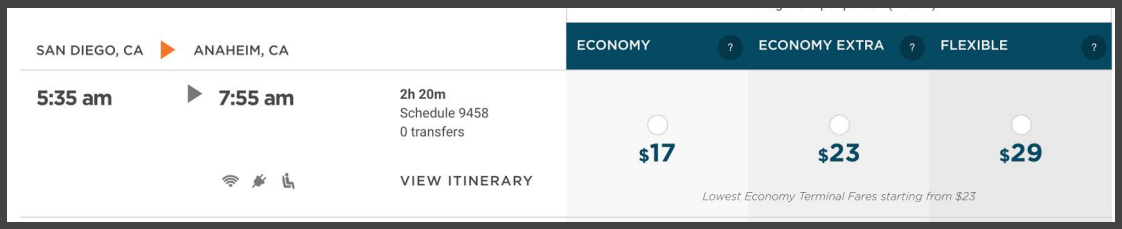
Prototype 1 (Top Filter):

Prototype 2 (Side Filter):
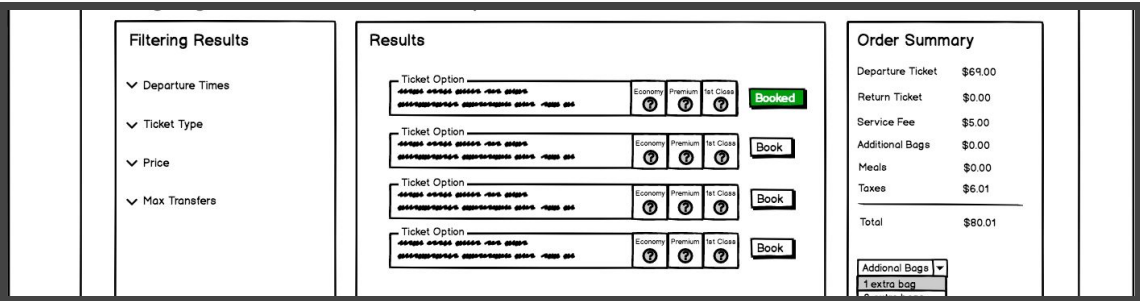
Rational: When asking all three of our users to make sure they could check two bags for free before booking their trip, they could not figure out how to. In fact, two of our users went all the way to check out, rationalizing it by saying that they usually select how many bags to check when checking out. One of our users took a full three minutes in order to find the "Flexible" option which would allow them to do this. This was only after being given a hint as he had already clicked almost every option possible, had searched the site, had asked the chatbot in the corner—which didn't load—and after clicking leaving his original search. Based on this, we believe that users are uninformed about what these options do because the language is unfamiliar. Aaron Spanner also pointed out that the naming convention of the 3 classes was not conventional so we changed it to "Economy," "Premium," and "First Class." We discovered these were the standard classes when it comes to flying and trains. We also changed their descriptions to include the information our users wanted to see.

Prototype 1: In this prototype we decided to change the names of the categories to "Economy," "Premium," and "First Class." This way, the users are more familiar with the terminology. Additionally, by removing the top bar with the name of each option, we decided to include the options name with every single selection so that users know if tickets are available for Economy and not Premium from the beginning instead of wasting their time and going through the entire process before realizing their ticket type is not available. In place of the question mark icon, we decided to have the text be a different color and underlined in order to show that it was clickable.

Prototype 2: This prototype also has the same name change as in the first prototype of "Economy," "Premium," and "First Class." Like the first prototype, we also wanted to make the distinction that a ticket was available. Thus, the ticket type and the "?" is seen in each ticket type that is available. If this is not seen, the user will know that they are not able to buy a ticket of that type. Thus, it is clear to the user what is available so that they do not have to restart their process before realizing they cannot book that ticket.

Change #6

 We entirely redesigned the filter in the Greyhound booking page. On GreyHound's website, they have three different filtering options. One is called "Edit Your Trip" where users can change the cities they are departing or arriving to. Another is called "Filter Results" where users can sort the listed options by "Leaving From", "Transfer", and "Bus Lines". The last one is called "Sort By" which has the options of "Earliest", "Cheapest", and "Fastest". We decided to combine all three of these in order to have one sorting, filtering, and options section.

Greyhound.com:

Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: After user testing, we came to the conclusion that the filtering system was by far the most confusing part of the experiences for users. Each of our users made 3+ mistakes while searching for the correct option to use. All three of them also became visibly flustered or frustrated when trying to search for the correct option. Greyhound offers users the ability to "Edit Trip" which means make changes the From/To locations, the Outgoing and Returning dates and number of passengers. In addition to "Edit Trip," Greyhound users can also "Filter Results" by time, number of transfers and bus lines and "Sort By" departure time, price and trip time. Having these options in three separate locations makes users have to recall several things rather than instantly recognize what is most useful to them.

Prototype 1: In this prototype we decided to have all the filters at the top with the categories "Price," "Departure Time," "Fastest," "Transfers," "Ticket Type," and "Buslines." This prototype is the one with more options. We included 5 different filters to give users more freedom in how they could refine their searches. Additionally, these filters are consistent with the ones on the original website.

We decided to include "Departure Time" as a filter instead of "Earliest" as seen in the original website. This is so users can filter by time, instead of only the earliest possible bus time. Additionally, we decided to omit "Cheapest," and include "Price." This was so users could filter by a range of prices instead of just the cheapest option. By doing this, they have the ability to filter solely by the price range they wish to stay within, or the cheapest price. By doing this, the user has more control in what they want to filter their ticket by.

Furthermore, instead of displaying all tickets of all 3 types, with our filtering system, users choose which of the three types of tickets they wish to have displayed. To change trip options such as dates, on our redesigns users can navigate back to "Trip Info" and keep their filters saved instead of having them automatically reset. This puts users in control of their trip planning.

Prototype 2: This prototype has 4 filter options allow users to apply multiple filters at once to narrow down results quickly. The four options are "Departure Time," "Ticket Type," "Price," and "Max Transfers." We wanted to omit the "Buslines" option as this was not an option that the users had used in the first prototype. Thus, we wanted to keep this prototype simple. Furthermore, we decided to use the phrasing "Max Transfers" instead of "Transfers" to clarify the meaning of the filter. We thought "Max Transfers" had less ambiguity in meaning, but we wanted to have one version have the original "Transfers" to see if this was true Additionally, like the first prototype, we also made changes in the titles of the filters to "Price," and "Departure Time," as opposed to "Earliest" and "Cheapest" in this prototype as well.

Change #7

GreyHound's website does not currently give user's feedback after selecting a filtering or sorting option, therefore we decided to include this into our prototype.

Greyhound.com:
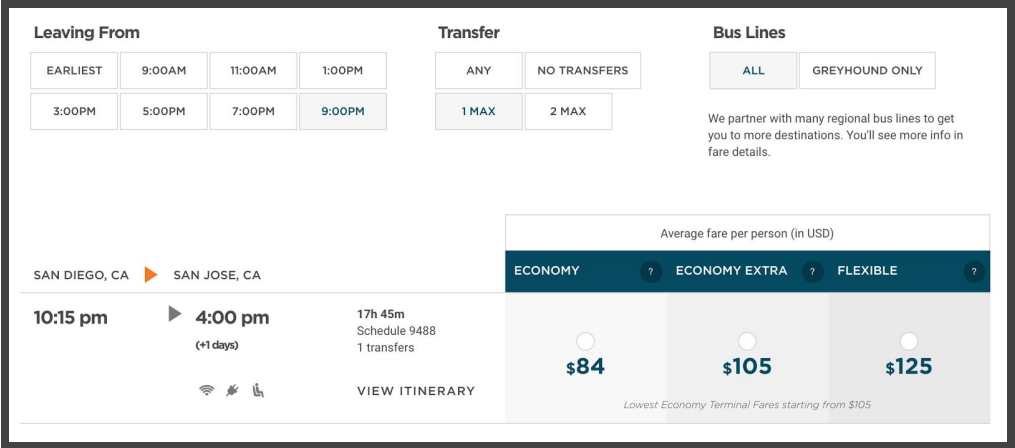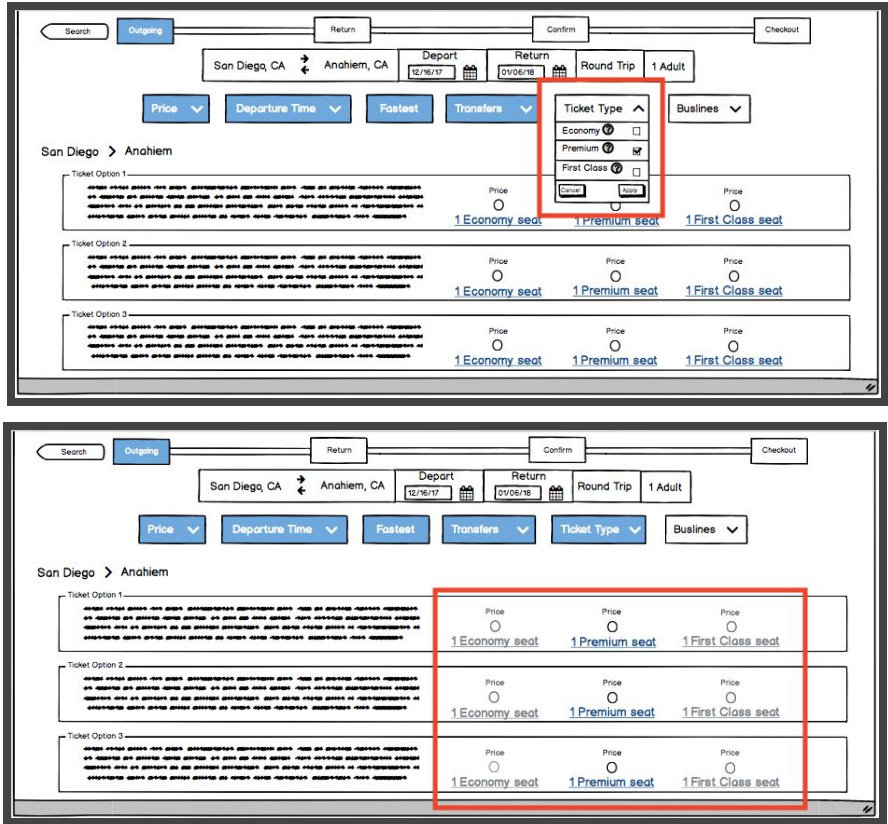
Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: In the videos of our users testing out the Greyhound website, two users pointed out that after applying a filter, there was no way to tell if the filter had been applied or not if that filter did not have an effect on the ticket results. This kept users wondering whether or not they were seeing the results they desired. In the picture below, the same results appear for all the "Transfer" filter options, but there is no way for the user to tell if the filter is not working. And, as we have previously learned within this course, providing users appropriate and timely feedback is essential for them to fully understand where exactly they stand in their process. Therefore, we decided to give user's feedback after applying a filter by presenting users with a system status notification. This is something GreyHound does not do that makes users sense a lack of control.

Prototype 1: In this prototype we decided to make this change through slight changes to the results. For example, if the users filters the ticket type to include only "Premium" seats, then these seats are colored in blue while the rest are greyed out (as seen above). This gives a clear signifier that the filter has been applied to the results.

Prototype 2: This prototype we decided to make it clear that a filter had been applied through an alert. Every time a new filter is applied the is a red box at the top of the filter with the words, "Results updated." Like the first prototype, this gives a clear indication that a filter has been applied.

Change #8

Provide users with price and item updates in the filter pages so they know what how much they're racking up as they add extra features. Greyhound has it set up so that users have no idea how much they're paying and can't add certain items to their cart until they get to the very end of the booking process.

Greyhound.com:

Prototype 1 (Top Filter):

Prototype 2 (Side Filter):

Rational: If users want to make a change once they get to the checkout page, they have to navigate back to the filter pages, but Greyhound does not save forms so users have to re enter all trip information instead of just one piece of information. As you can see below, a "Ticket Summary" is not displayed until the very last stage of the booking process. As part of our testing, we had users book an Economy trip on Greyhound, but checking on two bags. Economy only allows for one free bag, so users have to purchase an additional bag. Greyhound specifies how much extra bags cost, but there is no way for users to add that bag to their order list and see what that puts their total bill at. This is a major control constraint on users that take luggage and want updates during their booking process, not after. In addition to seeing updates to their bill, users can add additional bags and meals to their bill while they're still in the filter pages. One of our interviewees, Aaron Spanner stated that having to enter his credit card information before seeing his total was not something he was willing to do for a booking website.

Prototype 1: In this prototype the user's total incurred costs can be seen when clicking on the "Cart" icon at the top of the page. After going to the cart, the "Order Summary" is found on the right, there is the "Departure Total," "Return Ticket," "Service Fee," "Additional Bags," "Meals," and "Taxes." The categories are titled in the way they appear in the process so there is less confusion. It was decided that the "Order Summary" section would be on a separate page, the cart, in order to keep a minimalistic design and to have less information on the page, reducing user's cognitive load.

Prototype 2: This prototype also has costs of the order clearly laid out in every step of the process. Like the first prototype, it has the "Departure Total," "Return Ticket," "Service Fee," "Additional Bags," "Meals," and "Taxes." However this option has the ability to add both "extra bags," and "Meals" on the Order Summary, instead of only bags. This way, it is clear to the users what they are and are not able to add.

User Testing Plan 2

Goal

Our goal is to test our two redesigns of greyhound.com to compare which design best addresses the concerns and confusions that users had in the original Greyhound testing. In our mockups, we resolved user pain points through different styles and layout. By testing the two prototypes on users, we will be able to evaluate which design was the easiest to use. Similar to our first user tests, we will first begin by interviewing them to understand how familiar they are with booking bus/train trips through travel services such as Greyhound. We will record their interaction and comments they make as they navigate through the prototypes. From there, we can analyze the results and evaluate which design was the better one.

Task Design

We designed our tasks to test the usability of two prototypes of the Greyhound website. After using the site, it was apparent that there were errors with the site. As a result, the tasks were chosen to test the overall clarity and usability of the site. We want to see if the layout is easy to use, if the users can find what they want fairly quickly, and if they make any errors. We did this by listing small tasks in the order they appear in the InVision prototype.

Target Users

Like we stated in the first user tests, Greyhound's main appeal is its price point. Due to this, it is likely that a good user group is frugal college students. Thus, the users of our test will be either in college or recently graduated. Additionally, we want to ensure the site is easy to use for all levels of expertise. Thus, we want one user unfamiliar with Greyhound or other travel sites, one with medium competency, and one who uses them frequently.

Evaluation

We will evaluate whether one design is better than the other based on the amount of errors a user makes on one design versus the other. Furthermore, we will also consider the amount of hesitation if doing a step is taking a significant amount of time. Additionally, we'll consider any questions they ask and comments they make when they are navigating through the task they're given. If the questions and comments make it apparent that they're having trouble, then it will be noted that the design wasn't intuitive. Lastly, we want to see the amount of visual appeal each prototype has. If one has a significant amount of visual appeal to all three users, this will be taken into consideration.

Observation & Materials

1. Two laptops, one for the user to complete the tasks defined below and one for the task to be displayed.
2. Another laptop or pen and paper in order to record what the user says during their preliminary interview and any other notes during testing.
3. A phone or camera to record audio and video. This will record the user's interactions with the website and what they are saying, which is especially important as we will ask the user to talk us through what they are doing and what they are thinking while they are completing tasks.

Steps

1. Prior to interviewing and testing the user, set-up the two laptops. Have one with the first prototype of Greyhound's website loaded on one laptop so the user can begin their tasks right away. Additionally, load the second prototype on the same laptop, but in a separate tab. This is so transitioning from the first to the second is more seamless. On the other laptop, have the tasks loaded so users can view the tasks you are asking them to complete.
2. Once testing begins, give the introductory statement to the user.
3. Ask the user the preliminary questions below. While they are answering, write what they are saying on a laptop or on paper.
4. Once this is done, transition to asking the user to complete the tasks listed below for the first prototype. While the user is completing these tasks, record what they are saying and what they are doing to later analyze their actions with the website.
5. Then, we will transition into testing the second prototype. We will do this by exiting the first prototype and opening the second one which will be located in a separate tab for easy use.
6. Like with the first prototype, we will ask the user to complete the tasks listed specifically for this prototype. While the user is completing these tasks, record what they are saying and what they are doing to later analyze their actions with the website.
7. Once the user has completed all of the tasks, thank them for their time. Later, analyze the results and collectively decide on the top three usability problems.

Post-Testing Questions

1. After 1st prototype:
   a. On a 1-10 scale, how would you rate your experience?
   b. What did you like?
   c. What did you dislike?
   d. How do you feel this compares to your experience with Greyhound's actual website?
2. After 2nd prototype:
   a. On a 1-10 scale, how would you rate your experience?
   b. What did you like?
   c. What did you dislike?
   d. How do you feel this compares to your experience with Greyhound's actual website?
3. Which prototype do you like better in general? Why?
4. Which prototype do you like better for searching?
5. Which prototype do you like better for filtering?
6. Which prototype do you feel was easier for you to use?
7. Do you have any other suggestions or feedback?

Tasks

Redesign 1 (Top Filter)

1. Book a trip for yourself from San Diego to Anaheim departing on December 16th and returning on January 6th.
2. For your outgoing ticket, filter your results by the cheapest prices.
3. Filter your departure time for 9am only
4. Filter your results for fastest trips
5. Filter your results for "no transfers"
6. Filter your ticket type for "premium" seating
7. Filter your bus line options to show all options
8. Select Ticket Option 1 with premium seating
9. Complete by booking your outgoing ticket

Redesign 2 (Side Filter)

1. Book a roundtrip from San Diego, CA to Portland, OR departing on Dec. 10 and returning on Dec. 31 for 2 adults and 1 child. Select the flexible option for your departing and return dates.
2. Filter your results by selecting 9am, 10 am, and 11am for your departing times
3. Filter your ticket type for economy only
4. Filter your ticket price for $25-$100 range
5. Filter your ticket for 3+ transfers
6. Find more information about what the premium ticket entails
7. Book the first ticket option on the list
8. Include 1 extra bag into your purchase
9. Book your return trip and filter the result for departure time at 9am only
10. Book the first ticket option
11. Confirm your trip tickets and checkout

User Testing Results 2

Aaron Spanner

First Prototype

Analysis: Upon enter the filter page, Aaron spent a few moments mapping out the contents of the page. He didn't jump right in to using the filters because of the amount of content presented to him. Minimalism seemed to matter a lot in particular to this user, but our other users were more focused on other functional components of the page. The biggest confusion Aaron seems to have had was hovering over each question mark on the tickets, hoping an informational pop up would display. This showed us that users heavily rely on Help and Documentation sections of a page to make decisions.

Post-Questions:
1. **On a 1-10 scale, how would you rate your experience?**
   7.5

2. **What did you like?**
   I liked how the progress bar highlighted the section I'm in. It was clear to see that I completed my outgoing trip and had moved onto the return trip process. I also liked how the filters turned blue after updating my results. It was clear feedback for me to know that the the changes I made had been applied. It's also convenient for me to see my destination, depart & return dates, trip type (i.e. roundtrip), and passenger number displayed at the top. Even though this feature wasn't clickable, I liked how there were question marks next to the ticket types that would allow me to easily get more information if I needed it.

3. **What did you dislike?**
   I don't like how there's no running tally of the prices from previous screens' bookings. In the return page I don't know how much money I owe from the outgoing page. I also don't like how there's no option to add bags from the filter page. I was scanning the page for a while before i figured out how to filter. It was hard to parse everything because the top bar of trip information is really close and combined with the filter options bar. It wasn't hard to use once i figured it out but it wasn't intuitive at first.

4. **How do you feel this compares to your experience with Greyhound's actual website?**
   Better because being able to navigate between departing and returning trips. Unlike Greyhound, there were notifications to let me know when filters were applied.

Second Prototype

Analysis: Aaron was able to recognize all of the filter and search components that we changed. His favorite redesigns were the Order Summary that allows users to see a running tally of their accrued costs and being able to navigate between sections without losing form progress. This leads us to think that System Status Notifications and Preventing User Errors are the two biggest things that make or break the user experience for

our users. The mistakes Aaron made were not indicative of a poor redesign, but rather the limitations of Invision and the level of depth of our low fidelity mockups. For example Aaron made a mistake on the homepage during the task of selecting depart and return date. After selecting his depart date on the calendar, he clicked on the return date calendar without hitting the "ok" button on the depart calendar first. He thought the calendar would automatically close without hitting "ok" if he clicked somewhere else on the screen. This was not a part of the search/filter component redesign, just the most efficient way to implement progression between screens.

Post-Questions:
1. **On a 1-10 scale, how would you rate your experience?**
   9
2. **What did you like?**
   I liked how I'm able to see an overview summary of the cost of my trip while I'm navigating through the site. The notification displayed on the screen saying "! Results updated" after I update my filter selection is really nice. The progress bar shows me where I am in the process of booking my trips and I like how I can see what steps I can expect to encounter. The wording of the ticket types (economy, premium, first class) feel more standard to what I see with airlines. I also really like how the "book" button turns green and says "booked" after clicking it. It's immediate feedback for me to see that I've selected it. This also immediately updates the order summary to show my ticket price, updated fees and grand total. Same with the price of an additional bag when I add that into my order. I can see the price instantly which I like.

3. **What did you dislike?**
   I disliked how the homepage didn't initially set the number of passengers as 0. After clicking the "+" buttons, the numbers suddenly appeared underneath which surprised me because I didn't know where the numbers were going to populate. It's confusing to assume that the blank space underneath the passenger options mean 0.

4. **How do you feel this compares to your experience with Greyhound's actual website?**
   It was better. The main feature i liked from this prototype was a running cost total from the selections I'd previously made and also the ability to add features from any page, like additional checked bags.

Comparison
1. **Which prototype do you like better in general? Why?**
   Redesign #2 because the filter is more minimalist and looks better and it lets you pick flexible dates and updates you on prices and features added while you're still on the filter page. But I like the "sort by"options available on Redesign #1.

2. **Which prototype do you like better for searching?**
   They were both about the same. I like having the option to select if I wanted flexible dates displayed.

3. **Which prototype do you like better for filtering?**
   I like Redesign #1 because I have the option to display tickets by cheapest and fastest. But I like the layout and minimalism of the other prototype. Since I can go back to the first page with the new navigation buttons, I don't need to have the search bar at the top crowding the filter options.

4. **Which prototype do you feel was easier for you to use?**
   The one I like better in general, with the sidebar.

5. **Do you have any other suggestions or feedback?**
   I like how redesign #2 and redesign #1 allow me to now track my progress and navigate back and forth between departing and returning tickets without losing all of my information and forcing me to restart from scratch. I like how redesign #1 starts with adult set to 0 when adding number of passengers. The location and design of the side filter in Redesign #2 looks better and less crowded, but I wish it still had the 2 sort by options (fastest and buslines). I also liked how Redesign #2 kept me updated on features added and accrued costs on the filter page. When I applied a filter on both of them, I liked receiving some sort of notification to let me know my filter had been applied.

Jimmy Bui

First Prototype

Analysis: Jimmy has a two second delay when the screen changes after selecting "Round-trip" and moves cursor over to "Passengers", but then realizes that the "Return Trip" input is on the other side. Based on this, we believe that the placement of "Return-Trip" may not be intuitive to him. When filtering for the fastest trips he says, "That was easy." Therefore, we believe that the filtering for the option is intuitive for him.

Post-Questions:

1. **On a 1-10 scale, how would you rate your experience?** 8/10.
2. **What did you like?** It was minimalistic, and easy on the brain. I didn't have to think too much about what I was doing and it has all the basic things you need. Oh also, the filters made me feel instant gratification, so that was nice. [Can you explain that?] Like on Greyhound's website I remember I keep getting confused because I didn't notice the filters changing, and this has the color change, so I know that it's filtering. I feel like I finally accomplished something lol.
3. **What did you dislike?** Having to check so many things.
4. **How do you feel this compares to your experience with Greyhound's actual website?** I remember it took me a while to find the ticket type and the checked bags part, here I feel like the ticket type is more apparent.

Second Prototype

Analysis: Jimmy asks three times what "Flexible" means within the search page. For this selection, there should be some kind of description for those who may not know what the selection means. It seems that the feedback given to users after filter had the opposite effect on Jimmy. After filtering the first time he says, "Gasp, there's nothing?" Then he pauses for a few seconds and finally understand what it is for. The second time he filters he says, "Why is it red with an exclamation point? It makes me feel like something is wrong."

Post Questions:

1. **On a 1-10 scale, how would you rate your experience?** 6/10
2. **What did you like?** More cities were available. I like the bar for the passengers section. I liked how the order summary updated after each step.
3. **What did you dislike?** The red results bar with the exclamation mark makes me feel like there is something wrong—I feel like it should be a checkmark and green. I also feel like there's a lot of

information on the page which is kind of distracting—but it's expected I guess. Like when you click to search obviously there should be a lot of options.

4. **How do you feel this compares to your experience with Greyhound's actual website?** It worked a lot better and it was easier to find options. I liked the checked bag part because that was a huge part of the Greyhound's website I disliked. I feel like it's almost thinking for me.

Comparison

1. **Which prototype do you like better? Why?**
   I liked the searching page for the first one, but I liked the order summary for the second one.
2. **Which prototype do you like better for searching?** I liked the searching page for the first one.
3. **Which prototype do you like better for filtering?** The first one. It has a cheapest option, which is the main thing I would use when filtering on an actual travel website.
4. **Which prototype do you feel was easier for you to use?** The first one, it was simple and minimal.
5. **Do you have any other suggestions or feedback?** In the second prototype, it would be cool if a map popped up since there are suggestions for cities already.

Mai Do

First Prototype

Analysis: During user testing, Mai has about a five second delay when looking for the return trip after selecting "round-trip". This could be due to the placement of the input box or that she didn't see it appear.
Post-Questions:

1. **On a 1-10 scale, how would you rate your experience?** It was great, I give it an 8. That's how great it was.
2. **What did you like?** I like that it is convenient.
3. **What did you dislike?** Couldn't read the font. Some of the things that I clicked on didn't work.
4. **How do you feel this compares to your experience with Greyhound's actual website?** The same. The main problem I had with Greyhound's website was that when I clicked on the top bar, I thought I would be able to go back to my Departure trip, but I wasn't. To go back I had to hit the back button. So I guess for me, the back button really makes the experience.

Second Prototype

Analysis: When asked to book a return trip, she cannot find how to. She pauses for a couple of seconds and moves her cursor back and forth over the page twice, and then asks, "Return tickets, is it this one?" From this, we believe that the placement of the "Return Tickets" option may be difficult for users to see or it may not be an intuitive title.
Post-Questions:

1. **On a 1-10 scale, how would you rate your experience?** 8 again.
2. **What did you like?** I like how it has the question mark up front to show how many checked bags I had.
3. **What did you dislike?** Nothing.
4. **How do you feel this compares to your experience with Greyhound's actual website?** I would the clear information about what first class/economy/premium was nice. But it was pretty much the same process. Oh, I also liked the price ranges—on Greyhound's websites it didn't have that.

Comparison

1. **Which prototype do you like better? Why?** I like the second one. I feel like it asked me for more things—like advanced search.
2. **Which prototype do you like better for searching?** I think they are pretty similar to be honest, but I guess if I had to choose it would be the first one, it looks simpler.
3. **Which prototype do you like better for filtering?** I liked both of them equally. I felt like the second one had more options for me, but I also liked some of the options for the first one, like the cheapest option. I feel like they are both so similar though, it's basically the same process.
4. **Which prototype do you feel was easier for you to use? Why?** The first one. It was more simple, if I was more of a veteran user, I would have liked the second one better. I guess what mainly comes to mind is the prices feature. It was nice to be able to have the option to choose the cheapest, I didn't have to think about it that much.
5. **Do you have any other suggestions or feedback?** Nope.

Redesign 1 (Top Filter) Analysis

Based on our user testing, all three users like the different options available within this prototypes sorting and filtering. All three of them cited that the options given for filtering by "Price" was either helpful or a feature that they would use often. This filter had both sort by "Cheapest" and various price ranges, which users also found helpful. We added this feature in order to give users more freedom in how they could refine their searches. As well, these are common filtering options on most travel sites, so we believe users would be familiar with them. Our predictions were correct and users did find this feature helpful. In fact, two users cited this as their favorite option while filtering.

Another strength to this prototype was its minimalist design. Two of our users stated that this prototype was easier to use due to the design of the search and filter bar, while one user said the second prototype was easier to use due to its filter panel. Since the amount of users we tested was small, we can not say that this is absolutely the case, but on average our users believed that this design was simplistic and minimalistic. This prototype was designed to have a single line of input and options as a search bar and a single line of input as a filter bar. This was designed in this way in order to decrease user's cognitive load while still having all options clearly available to them. Our prediction for this was true and this design was found to be minimalistic during user testing and therefore easy to use.

One weakness of this prototype caused an issue for two users. When searching for a trip, users either did not notice that the "Return Trip" section popped up or were not expecting to pop-up where it did. This lead to some confusion and difficulty in searching for a trip. This feature was originally added in order to highlight only information immediate important to the user, effectively to decrease the user's cognitive load. Based on our user testing for this prototype this feature had the opposite effect on users. Within our second prototype, this feature cased no errors. Therefore, we believe that this weakness has more to do with the design of the feature for this prototype, rather than the feature itself.

Redesign 2 (Side Filter) Analysis

Based on our results, a major strength in our second (and first) redesign was the progress bar displayed at the top of the page. Our rationale for this change was that we wanted to allow our users to know exactly which step they were on during the process of booking their trip so they could more easily map out their experience. The progress bar also displays future steps that they can expect to encounter. Greyhound didn't have

this feature, which was an inconvenience for the users we interviewed. We predicted a positive reaction to the progress bar since users during our first round of interviews expressed that they were confused as to which step they were on when using Greyhound.com. Our predictions were correct as our users commented on the progress bar as being useful and a feature that they like. Furthermore, none of our users become confused as to where they were in the process, therefore we believe that the progress bar was a truly effective solution.

Another strength of this prototype was the order section summary on each page of the process. This was initially implemented because one user said they would not use Greyhound to book a trip as the full price is not given to them until after they input their credit card information. Additionally, this was implemented to allow users to have more control over the process and be more informed of their decisions. Our prediction for this was correct and we did receive positive feedback. Two of our users actually cited it as one of their favorite additions to our redesigns.

None of our users had issues using the prototype in the same place or had similar things they didn't like about the prototype. Therefore, it is difficult to definitively say what the weaknesses of this prototype are. When using the filtering system for the first time one of our users was confused, thinking that there were no results found. Later he said, "Why is it red with an exclamation point? It makes me feel like something is wrong." But another user really liked this feature. Therefore, we believe that the design of the feature is a weakness, but not the feature itself. As well, when one user was asked to book a return trip, she couldn't find how to. Therefore, we believe that one possible weakness of this prototype is either the placement of the "Return Tickets" option or title is not intuitive.

Redesign Graphical Results

Error Analysis:
Ultimately, there were 3 errors for design 1 and 4 for design 2. This along with the preference data we received from our users ultimately led us to picking Prototype 1 as our better Redesign.

Better design #1

One way and round trip option. Only showing the return date option once roundtrip is selected.
- Rationale: We wanted to design our homepage to have a clear distinction for users to choose a one way or a round trip. This design idea stemmed from Greyhound's site that shows both the depart and return options. It is unclear that leaving the return section empty would automatically mean one-way and would lead to a valid search. Our design is better because all fields would be filled out, making it clear that the search is ready. By having the trip type drop down, it's easy to see what kind of trip you're selecting and the field that you need to edit. For example, if a user selects round trip, only then would the return calendar appear.
- Testing: However, in its actual usage, some of our users had some confusion with this function. As they couldn't see the "Round Trip" option when it wasn't toggled, some users had some trouble finding this option. One thing to note is that this was not an issue for Prototype 2 in which both options were displayed. Thus, in future iterations, it should be made more clear that this option has a drop down in which they can choose between "One-Way," and "Round Trip."

Prototype 1:

Greyhound:

Better design #2

Progress bar/breadcrumb navigation bar
- Rationale: We included a progress bar into our redesign so that users would have a visual idea of where they are in their booking process. There was nothing similar on Greyhound's site, which made it confusing for the user's we interviewed. Our design is better because it allows user clearly see where they are in the process and they also see what to expect in future steps. The highlighted section makes it very visible and intuitive.
- Testing: We had very positive feedback about this addition. For example, Aaron claimed, "I liked how the progress bar highlighted the section I'm in. It was clear to see that I completed my outgoing trip and had moved onto the return trip process." It was also clear the other users appreciated this feature as well. The bottom line here is that user's should be kept informed of what they're doing so that they don't lose track of their goal, which was seen in our earlier interviews using Greyhound.
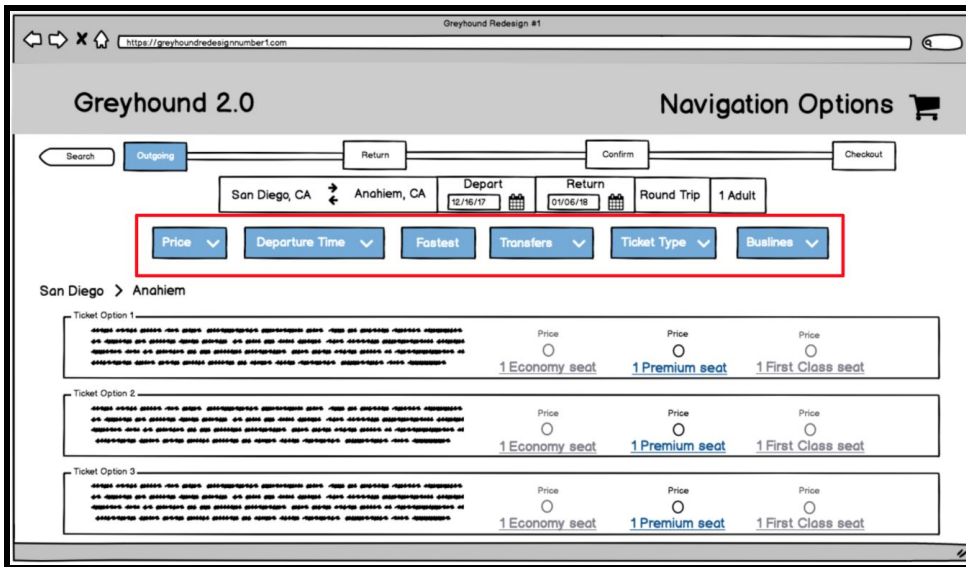
Prototype 1:

Greyhound:

Better design #3

Highlighted filters after updated selections to indicate that changes have been applied
- ● Rationale: Our design highlights the filters after they've been updated, which gives users instant feedback that their selections have been applied. Our rationale for this design was because our users expressed that when using Greyhound, they didn't know if their filter selections had been applied or not.
- ● Testing: After using our design, our users felt immediate relief and knew that they were on the right track with what they were doing, making our rationale correct. This method of highlighting the filters was a better design than prototype 2 because one user, Jimmy, had a strong, negative reaction to the notification method shown in prototype 2. He thought he had done something wrong based on the notification in prototype 2 which showed "! Results updated" in red text.

Prototype 1:

Prototype 2:
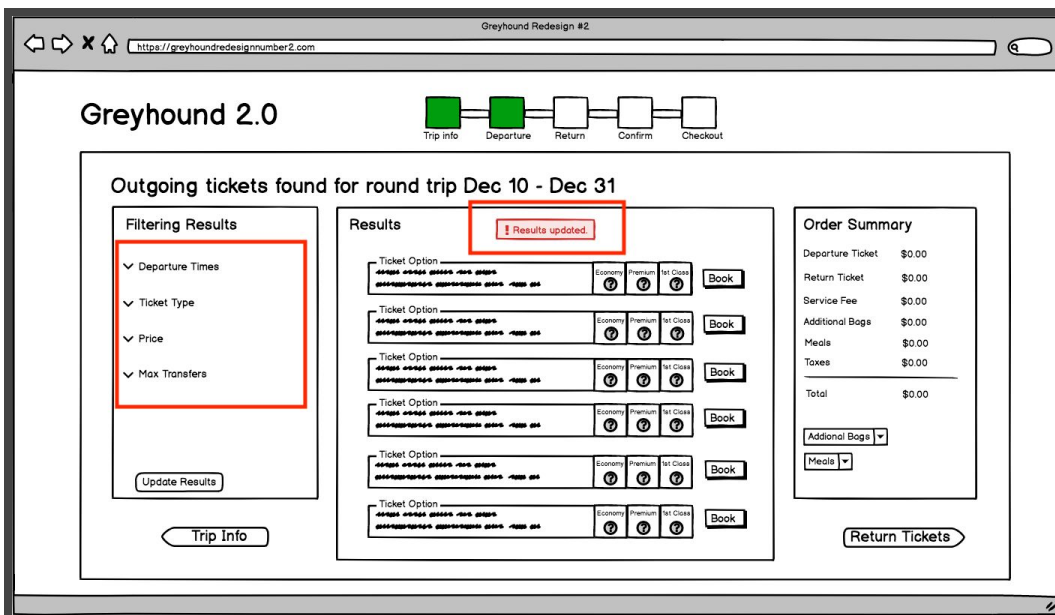
Better design #4

Clearer wording of ticket type (Economy, Premium, First Class)
- ● Rationale: Changing the wording of the ticket types to be more standard with other travel services made it more clear for users to understand what the options were. By changing it to "Economy," "Premium," and "First Class," we use more familiar wording as these are terms often used in flights and trains. By doing this, we make it easier for users to understand the differences between the options at first glance. Additionally, this terminology may be more familiar with international users, and thus, clears up some ambiguity.
- ● Testing: Two of our three users mentioned this change as positive, explicitly during our interviews. One user, Aaron, stated, "The wording of the ticket types (economy, premium, flexible) feels more standard to what I see with airlines." Due to this, our rationale was correct.

Prototype 1:

Better Design #5

Giving users the ability to easily move back and forth in the process without deleting all of their previous information.
- ● Rationale: Not having this option decreases the freedom of users. Additionally, having previous information erased each time the user wants to move back and forth, it creates frustration within the user. By having the ability to move skip through the process, you are allowing the user to make more changes.
- ● Testing: This change required the least amount of prompting from interviewers. Every user to test our redesigns immediately took notice and pointed out the huge improvement of the Error Prevention flaws on the Greyhound web application. With our redesign users can quickly and easily recognize, diagnose, and recover from errors such as purchasing the incorrect ticket.

Better Design #6

Having one filter with all options listed.
- ● Rationale: By having all filters located in one area, users can make all the changes that they want in one place, rather than jumping to multiple areas on the web page like Greyhound. Our earlier interviews revealed that this was a burden and was confusing to find the filters that they wanted since they were scattered on the page.
- ● Testing: By having all the filters located on the top of the webpage, our users were able to make all their filtering changes quickly and without much thought. The process was seamless, allowing users better able to make informed decisions, which is ultimately the purpose of a filtering system.

Prototype 1:

Better Design #7

Allowing users to view their order summary before having to check out.
- ● Rationale: User testing revealed that withholding accrued costs and additional features until the very end of the booking was a major violation of Visibility of System Status as well as Flexibility and Efficiency of use. As users apply filters and narrow down their search, they'd like to see price estimates so they can immediately decide on which filter results to purchase.
- ● Testing: During the first round of testing, all three of our users experienced frustration when unable to see any change immediately reflected on the same page after booking tickets. In addition, none of our users were willing to put in payment information without first knowing their tallied total costs and what additional features might still be available to them. In the second iteration of testing, this change proved to be the most popular among users.

Bottom Line

From our user test on this redesign, our bottom line recommendation is to allow users the control and freedom of seeing the prices of what they are buying, or in this case, booking and also to provide users with a navigation tool so that progress and location can be tracked . Users want to see fees and the total of their current order before they have to put in their purchasing information. Our suggestion is to have an order summary similar to the one in our prototypes to give users immediate feedback. Users also need to know where they are within a website and the entire process, which can be shown through a progress bar and back/forward navigation buttons. Confirmation when completing actions is another important feature for good usability, therefore we suggest highlighting parts of the filter, as displayed in our redesign. Finally, as this is a travel site, one of the most important things is that filtering is made intuitive and aesthetic for users. Therefore, we suggest creating a single filtering system with all options clearly listed.