IN4MTX++

Final Deliverable
Interface: Anteater Express Website

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Deliverable 1

Introduction

Identify the interface you would like to evaluate and redesign. Why have you chosen this particular interface?

We have chosen the Anteater Express interface because it is relevant to the university and the students of UCI. It is an important part of the daily life of most students and any commuters who use the bus service to travel to UCI and the nearby campus communities. Also, it is familiar to our group not only for the reasons stated above, but because some of our members have personal experience with the interface. These experiences will help add value to our observations and analysis of the interface. In contrast, we have members who have no experience with the interface and will offer the opinion and experiences of a new user, which is also valuable when analyzing an interface. Additionally, the Anteater Express service recently received an update in the form of a new bus model that offers more energy efficient travel in the form of a hydrogen fuel-cell. We feel these updates in the service itself should be shared with an update to the interfaces offering information to the potential users of the service.

Overview

Describe, as a step-by-step walkthrough, what the group believes is the typical user experience when using the interface. Include the primary motivation, the steps, and the final result. Be clear; don't just say "Pushes the button." Indicate what the button is, does, even how it's designed if necessary.

Typical users of the Anteater Express site are hoping to find information about specific routes/bus lines and when they are scheduled to appear at a particular stop. The site offers information about each buses full schedule, route map and availability in static documentation that a user can view at any time. The site also has a table displaying a route's current operating status, whether it is currently active or not. If the route is active the user can go to a specific bus line's informational page to monitor live tracking of the bus's currently operating on the line accompanied by a timesheet schedule of the route's stops. The live tracking is displayed on an embedded google maps frame that has a highlighted section of road representing the route and bus icons on the route indicating where they are currently located. This is the primary form of gathering information about a route's status and planning when a particular bus will stop at a stop near the user. In addition to route information and live tracking the site offers information about the other services offered by Anteater Express. These services include: advertising, bus chartering, organizational information and employment. User's may also visit the site to view information and learn about these different services.

Example User Experience

1. An example user has the goal of finding a particular bus route that can take them to the campus in the evening. The route must stop near their housing and they're planning to take the bus on Friday.
2. In their browser, the user types in Anteater Express website's url: "shuttle.uci.edu" and is redirected to Anteater Express home page.
3. On the home page the user see a tabular representation of all the current operating status of the services routes. The operating statuses are indicated by colored icons, displaying green for active and red for inactive or not in operation.
4. The lines are labeled with letters correlating with the purpose of the route and which areas they operate in. For example, "N Line" for routes stopping at locations near Vista Del Campo **N**orte. The user identifies the line that is most likely to stop near them by reading the subtext near the label. This subtext provides a statement about the the specific location the route operates in.
5. However, other than identifying this information the table of line status isn't helpful at the moment because the user needs to know the operating status of their route on Friday and the specifics of its schedule
6. The user navigates their cursor to the interface's navigational bar and hovers over the heading labeled *Routes*. A drop down menu is produced containing an array of links to information about each routes scheduling information for various days of the week and route maps.
7. Each route's links are divided into its own section with the entire menu laid out in a tabular view of the each of the route's section.
8. The user clicks on the link labeled *Fri Schedule* within the section of the route their interested in.
9. The user's browser creates an additional tab that loads a PDF file of the route's scheduled timesheet of departure and drop off times on any given Friday.
10. The user can use this timesheet to determine the departure time for a bus at a stop near their housing. They will be able to make a decision on what time they must get ready to leave for the stop near their housing and when they can expect the bus reach the campus.

Observation

Name: Keyvan Fatehi
Place: Student Center on UCI Campus
Task: Charter a bus
Prior experience: None

Execution:
Keyvan enters the site with the goal of chartering a bus. He begins by mousing over the various of the home page's navigation bar. He is looking for a keyword or term that is related to his goal of seeking information about the chartering service. He finally hovers his cursor over the heading labeled *Services*, a drop down menu appears listing various menu options. He makes a comment about being confused by the duplication of the *Services* title in the actual drop down menu. He states he thought the options listed in the drop down menu were just labels describing the types of information contained on the S*ervices* page. This assumption led to the thought that the duplicated heading was the link to a page containing information. In actuality, the heading is merely a generic label to group links to different but related informational pages. He clicks the link listed as *Charters*, redirecting the home page to a new page containing a variety of information about the processes related to chartering a bus. He makes a comment about the page being overwhelming and cumbersome for the user to interpret. He states that the layout of the information on the page makes it difficult to understand the Chartering processes. There is a set of three tabs at the top of the page labeled *General Information*, *Make a Reservation* and *Frequently Asked Questions*. He clicks the tab labeled *Make a Reservation*, linking to a page with several paragraphs detailing a step by step instructional process of Chartering a bus for personal user. Keyvan appreciated that the information was available in this instructional format, but felt the same information or process could be accomplished with an electronic form. The page references several documents a customer must fill out in order to apply to charter a bus. He suggested that if this documentation was replaced by a properly sectioned electronic form the user could fill in the necessary information on the website. This would allow the user to accomplish their goal and complete the entire process without having to leaving the website or even the *Charters* page. After a user completes the documentation they could then pay for the service all within the confines of a web interface.

Additional Notes:
These are some additional notes that were made while observing the subject interact with the website outside the defined task. The subject found schedule timesheet confusing because how the information was presented. The subject was unsure of how to interpret the information because they were not accompanied by identifying labels. It wasn't until it was explained to the subject that they understood how to read to a bus route's timesheet. The subject felt the live map below is in conflict with the rigidity of the time sheet. The live map tracks an approximation of where a bus is located on a particular route, but the subject found it confusing at first to identify route direction and a buses next stop. There is a drop down window that has helpful information on how to interpret the route schedule, but it is according to the subject "hidden," within a question mark icon on the page. The subject would have preferred an inline explanation that was apparent immediately when entering the schedule page. Then, if a user wishes they could hide

the information from view once they have an understanding of the schedule. This type of helpful information should not a require a user to look for it, it should be readily available.

Success/Failure:
Keyvan failed in his task to charter a bus. He resigned to the fact that he has to contact the bus service directly. The website's interface was not a direct reason for the failure; but chartering a bus seemed to be out of scope of what the website developers wanted to cover in their features.

Evaluation

Based on the previous bullet, describe the group's initial impressions of the user experience. In general, do you find it simple or complex? Why? Identify three positive aspects of the interface, and three negative aspects of the interface, explaining why they are good or bad. Does this indicate overall good design, or poor design? Why? How did it match up with your initial thoughts of the experience from the previous bullet?

Overall:
For a new user, such as our first user's experience, the site is complex with a lot of information. There is a lot of information in the form of text, both on the main page and on the additional page of the site. For a returning user who knows the site well, it is simple to them and they can easily navigate it. The returning user knows the symbols of the site so they can digest information quickly and know where to look in each page of the site.

Positive aspects:

1. Main screen has list and description of each of the bus lines, and a green or red indicator next to the name to signify that it is running. This is a helpful tool because if someone is in a rush they can see what lines are running and click the routes label to immediately go to the routes tracking page for further information.
2. After clicking on a bus line, it is helpful that the next bus time arrival is highlighted yellow. This way someone can quickly glance at the bus time sheet and know what is coming next.
3. The site does load fast with live bus times. These are crucial for making a time critical app like a bus tracker, because people are busy or running late and need to know when the next bus is coming as soon as possible.

Negative aspects:

1. The text is small on the main site and on the bus times. It becomes hard to read on a smaller screen and people with poor eyesight might have a hard time using the site.

2. The map starts small and it is hard to zoom in and manipulate it. A live map is helpful but if someone can't read or manipulate it easily then it can become uninformative.
3. The banner on the main page is really distracting. It keeps changing so it draws your attention but the information it shows you are not helpful in using the site and checking bus times.

Overall Conclusion:

According to our group, we find the Anteater Express website to be overall a good design. While there's a lot of information, once the user understands the symbols and is familiar with the site it becomes quick and easy to use. For a site such as this, efficiency is key and this site fulfills that. Initially we had mixed feelings about the site because one of our users was relatively new. But as he maneuvers around the site and familiarizes himself with it, it becomes easier.

Users / Usability

List three potential users of your chosen interface, and explain why you chose them as a potential user. In what type of setting or environment would they use the interface, and how is one user distinct from the other?

1. UCI Students who ride the buses:

They are the main potential users of the system because they use the site to check the bus time schedules and/or for help on figuring out what buses they should take to get to certain places on campus. These users would most likely use the interface when they are use the bus for transport and need to check particular bus route schedules. The setting or environment could be anywhere with Internet access such as home on their desktop or on campus on their phone.

2. Bus Drivers:

They are potential users of the interface because the main site has a link to get to the internal site which is most likely for staff of the Anteater Express to check when their shifts are for driving the buses that week. Again the type of setting or environment could be anywhere with Internet access so that they can gain access into the system. These users would use the interface mainly for information with their shifts and staff communication.

3. Funding Partners:

These users are people or organizations that are interested in supporting and/or funding the Anteater Express. On the site, they have information about the busses being currently used as well as charts describing the data in relation to budgets and ridership. The setting or environment for these users would most likely be in an office space with access to the Internet. These users

are less likely to use the site that often, however they would most likely look at the site as a whole to make an informed decision on whether or not they want to support or continuing to support the Anteater Express organization.

Would someone with a particular disability be able to use this device? In other words, is it built to accommodate those who may need additional channels of interaction or feedback?

The most glaring issue for any type of disability would be for those who are Red/Green colorblind. On the main page of the website, the status of the bus line (whether it is running or not) is identified by a red or green icon next to the name of the line. The site offers this indicator as a method of allowing users to quickly identify which bus routes are currently in operation. Colorblind users would be unable to make effective use of this tool, making the site disadvantageous for them to use. However, while it is an oversight in design, the Anteater Express site also offers a text system status under the name of the line to indicate whether or not it is in service. For users who may be blind and want to use the built in OS X VoiceOver screen reader functionality, the sheer number of links and text on the page may be overwhelming to take it all in audibly. While it could be accomplished, the using VoiceOver would take a significantly longer time to achieve the same goals as outlined earlier on the document.

In terms of the Usability Goals discussed in class, provide a precursory evaluation of your interface. Does it meet each of the goals? If so, why, and if not, why not? It is possible to meet some while not meeting others.

Usability goals

1. **Effectiveness -** The interface does what it is supposed to do in giving bus times and routes to potential bus riders. It also provides an interactive map that gives you locations of the busses that are currently running that day.
2. **Efficiency -** Most users of the site visit in order to view bus scheduling and route information. The site offers an efficient method of identifying a route's status by displaying them in a table directly on the home page. The table contains color indicators of a route's operating status. A user can visit the site glance at a particular routes status and quickly identify that a route is available for use or is not.
3. **Safety -** Since the site is informational, there is not much threat of unsafe activity. There are no popups to distract the user, and there is no action that can not be undone with the back button.
4. **Utility -** The site displays all the bus lines on the main page for easy access. That said, once a bus line is selected, two components are shown. The first component is a timetable which is difficult to understand, has bad help, and is non-interactive, thus lowering its

utility. The difficulties of the first component was commented on by one of our group member during observation. They did not think the layout of time schedule was intuitive and was lacking of helpful informational labels. The schedule is laid out with the route's stops in a left hand column and for each row a listing of times for the stop. The subject did not understand what each of the times correlated to and what their intervals meant initially. They suggested the timesheet should have some type of legend to indicate what each time correlated to since they were coordinated alternating blue and black for each time. The second component is the live tracking map which is quite intuitive due to its familiarity. The map is an embedded Google map frame that includes the same functionality as the actual Google Maps system. This provides a high point of recognition for the user since most users would be familiar with a Google Map interface and could understand its operation. The displays the route outlined on the roads, the buses themselves that are apart of the route, approximations of the buses capacities, and attempts to update a bus's location in real-time. These features maximize the utility of the map for determining a bus's location and arrival/departure times.

5. **Learnability -** The site is difficult to learn by yourself. On a route's informational page there is a help button that produces a drop down window of how to read a bus's schedule/timesheet. However, this window is not initially upon visiting the informational page. It is identified by a question mark icon, and is not obvious if a user is not necessarily looking for it. One of our subjects who had difficulty with the timesheet did not notice the help button, until it was mentioned after another group member noticed it. So, the interface could do a better job of offering help to a user by making help more obvious or displaying it upon entry to that page. This lack of effective aid reduced the sites learnability at first. That said, a positive of the same page is a route's interactive map which can be learned by spending a few minutes in order to see how the buses move in addition to the information shown on the buses.
6. **Memorability -** The links and symbols are constant throughout the site. All bus routes have a standard format such that if the user can open and view one, they know how to view the rest of the routes. Once, a user is comfortable with a route's scheduling table and information page they can quickly identify the information they need from a page consistently without having to relearn any complex functionality.

Address how Schneiderman's Eight Golden rules apply to, and manifest in, your interface.

1. **Strive for consistency -** The site has a navigational bar that has a listing of inline headings indicating various information or services available of the site. When hovering over each of these headings they all produce the same format of a drop down flat menu listing a set of options. There are various forms on the page that user may be required to fill out. For example, when they wish to contact the Anteater Express organization, make

a comment or submit an application for employment. Each of these forms share a similar format and labeling style for a user to enter information. The site contains information about complex bus routes, they are referred to by colored label containing their identifying letter. These routes are referenced on different pages of the site and these colored labels are consistent across the entire site. Each of the routes have their own personal informational page the information is specific to them in a particular layout. The layout contains a timesheet for the route and an interactive map tracking the route's buses. This layout of information is consistent across each of the different route's individual pages. So, if a user was viewing one route's page they could easily view another route and identify scheduling and bus information.

2. **Enable frequent users to use shortcuts -** No keyboard shortcuts are used in the site, so returning users can't utilize the site quicker. The only shortcut that our group could identify is located on the homepage of the site. The homepage page displays a tabular representation of each routes operating status using a colored indicator and an accompanying label. The label is actually a direct link to the routes information page containing its timesheet and live tracking map. This single click is a minor shortcut of method over the alternative method of reaching this page for each route. The alternative is hovering over the *Routes* heading on the navigational bar to produce a drop down menu of all the services routes. Then a user would have to click on the route's tab in the menu to reach the same page. So, the shortcut isn't very significant, but does provide a quicker method for reaching a route's personal page.
3. **Offer informative feedback -** Every link on the site works, no dead links. Each route's has an information page with a timesheet of its stops and arrival/departure times. Above the timesheet there is a set of tabs that can be selected to choose which schedule is displayed on the sheet: *Monday-Thursday, Friday or Saturday*. When a user selects one of the tabs user their cursor the system responds by loading the new schedule and indicates the current schedule displayed by highlighting the selected button blue. The other inactive or not currently displayed schedules have their button highlighted white to indicate inactivity. On the same page, their is a live tracking map of the route and the active bus's locations. The map has an accompanying drop down menu which contains a list of options for modifying the maps properties. For example, when a user wishes to display the current traffic on a particular route they click on the menu heading *Menu* and then click on the menu option *Show Traffic*. Upon selection the maps will now display the traffic intensity, and on the menu with change the previous menu option *Show Traffic* to *Hide Traffic* to indicate the map is currently showing traffic status of nearby roads along the route.
4. **Design dialog to yield closure -** There are limited forms of dialog on the site typically only related to the various forms on the site. There are few forms for users to interact with on the site related to contacting the Anteater Express organization, submitting

comments, requests for disability support and application for employment. Each of these form have associated dialogs with them for evaluating the status of each form entry. If a user incorrectly enters information into an entry or leaves it blank the page with yield a response dialog indicating the user's mistake. When a user completes a form correctly the interface produces a dialog confirming the form submission informing the user they successfully completed the operation.

5. **Offer simple error handling -** We were unable to cause any errors in the web application. On the disabilities form page, the interface is unable to discern whether the entered email is valid beyond the scope of the typical email format (wordchar@wordchar.domain).
6. **Permit easy reversal of actions -** There are not many sources of errors on the site, other than maybe accidental navigation to the wrong page. If so, a user can easily return to a previous page without any consequences. Otherwise, there is no changes or operations a user can make that would change the interface into an undesirable state that the user would wish to revert.
7. **Support internal locus of control -** The user is in full control of the Anteater Express site, the interface waits for user command without acting unless invoked by the user. Users can use the site consistently, being able to look up bus times the same way every time. The map is a Google map so a lot of time has been spent in giving the user fine control over it. E.g. the map can be zoomed, panned, and does not lag or jitter during these actions.
8. **Reduce short-term memory load -** For an inexperienced user the bus lines names and where they travel are not clear on first visiting the site. A user must click on each one to know where they go, so prior knowledge of routes is required to effectively use the site. Once a foundation of recognition is created by the user the site is fairly effective in how it provides information to the user. The user simply needs to be aware of the particular route's label and then navigate to the route's information page. Once there all the information related to the route can be found on that one page not requiring the user navigate through multiple pages for information.

Appendix

Name: Luke Raus
Place: Student Center on UC Irvine Campus
Task: Is attempting to check the schedule for the M line stop closest to the Student Center.
Prior Experience: Subject has minimal experience with the interface. Utilized the site a few times, but not recently.

Execution:
Luke enters the site with intent to check the M line schedule, specifically the stop closest to the Student Center. On the homepage, Luke move his cursor to the tabular view of all the routes and clicks on the label containing the text “M line (formerly Main Campus)”. The link redirects him to the M line’s information page. Upon entering the page he comments that he is overwhelmed with the amount of information. Viewing the route’s timesheet located at the top of the page, he realizes the yellow highlighted times along the rows of the sheet are the current timings for the bus at all the stops on campus. The stops are located in a left hand column of the sheet with their related times in a row. He looks at the embedded map in the center of the page below the timesheet and observes the route’s buses moving in real time. He drags the map to a location near the UCI Student Center and zooms in on the location. He moves his cursor to hover over an icon representing a stop on the route. Upon hovering a dialog box containing the stop’s name and information is produced at his cursor. He now references the name of the stop on the timesheet to view the stop’s arrival and departure times.

Success/Failure:
Yes he was successful in finding the nearest stop’s schedule. The only difficulty Luke had was in figuring out what stop was the closest to the Student Center. Using the map and knowledge of the Student Center location he was able to determine the appropriate stop.

Deliverable 2

Metaphoric Design

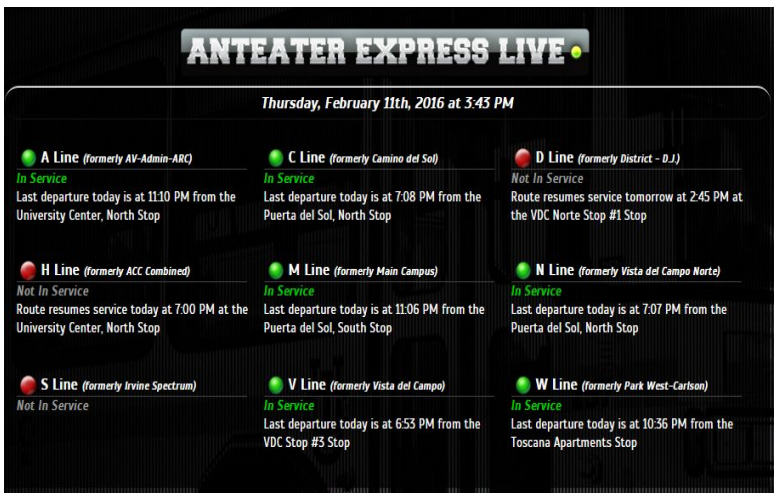
Home Page - Section Headings

The navigation bar of the website’s homepage is located at the top of the page and has a listing of inline section headings that are paired with a down arrow. The down arrow is a visual metaphor for something “dropping” or being located down from the origin of the arrow. When the user hovers over the heading, a drop-down flat menu containing a list of items appear.The heading is still connected to the menu displayed acting as the menu’s root. In this case the heading is similar to the real world situation of opening a folder tab or file to see the

information located within it. As a result, the headings can be considered a metaphor for indexes, consistent with real life dividers of information in a file or tabs on a folder.

Home Page - Carousel

The home page has a carousel element that shows informational pictures about the site and the service. The slider's rotating pattern is inherited from an actual carousel, a large rotating machine whose purpose is to amuse children. The sliders use the behavioral characteristics of this real world machine to display information in an pleasing and streamlined way. The slider has two arrows layered on top of the slider opposite each other that represent a type of navigation available to the user. They are representative of being able to navigate something, going forward and backward or being directional in some sense. For the purpose of the carousel, the arrows give the use control of the current element being displayed in the slider, allowing the user to cycle through different elements at their whim. Also, an icon in the bottom right of the carousel displaying a play/pause symbol is representative of something starting or stopping, and even resuming. The icon provides the functionality of stopping or resuming the current cycle of the slider, allowing the use to focus on a single element of the slide for as long as they want.



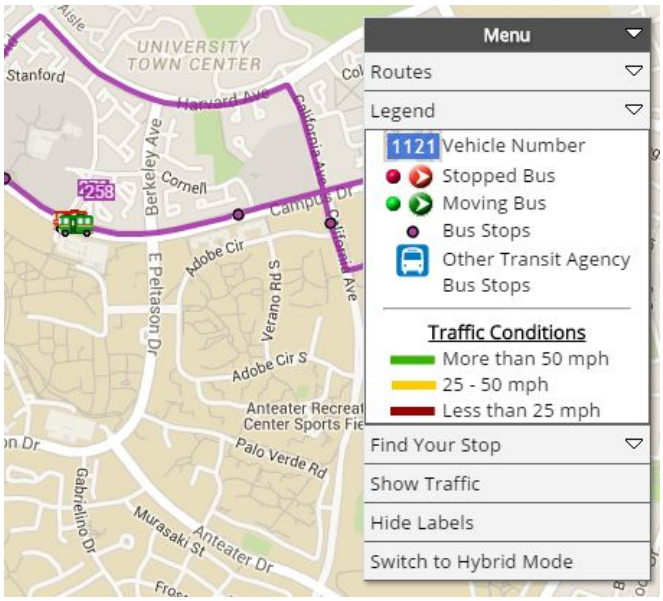
Home Page - Service and Route Status

The home page has a listing of the current bus routes, that are paired with a status indicator, representing the current operation status of the route in question. These status indicators can be represented as a shallow metaphor to a traffic light or similar signal; using the colors red and green to indicate different statuses of a function or service. The perception of these status may not be completely accurate conceptually, but the button shapes and the usage of those color

evoke some sort of signal or similar function to a traffic light. The metaphor uses the color green to indicate the route service as “In service” (live, working, active), and the color red to indicate the opposite, “Not in Service” (stopped, inactive).

Route Information Pages - Live Tracking

The site contains live tracking information pages for each route/line available in the shuttle service. Each page has an embedded interactive map that tracks a bus’s location along the route at any point and time. The embedded interactive map is a metaphor for a physical map one would use to navigate. It has a similar topographical feature to a physical road map a person would use for navigation. The map contains icons on the map and legends that allow users to easily interpret the function and information of the map by relating these icons to familiar real world models and objects. The map utilizes images of a bus on the map as a label of the current location of the bus at any point on the route. This is easily recognizable by users to track and monitor individual or multiple buses at any point by using the immediate familiarity of the icon. Alternatively, the interface could have used generic, non-descript icons for each label, and this would lead to either confusion or unnecessary strain on the user. The map includes a legend system of icons that utilize a color scheme to characterize different statuses of the map and route currently being track. Utilizing the colors red and green to be representative of the bus currently being “stopped” or “en route” respectively. On of the more common and familiar metaphors used in the legends is the scaling color of severity of a situation or process. Using once again the subtle traffic light metaphor; the colors green, yellow and red are used to indicate the current traffic conditions affecting the route. Green representing low severity(going, starting, active), yellow representing medium or increasing severity(slowed, delayed, warning) and then red to indicate the most severe(stopped, inactive and dysfunctional).



Site Information Pages

Each page of the site includes an information header informing the user of type of information they can expect on the page, and accompanying each header is a representative icon linking the information to a symbolic

representation. Using these icons offers more accessibility and understanding to each page, reinforcing page introductions and headings. For example, the “Contact” page is represented by an icon containing picture of a telephone and email message to signify communication and contacting. Also, the “Services” page includes an icon displaying a pair of shaking hands or hands clasped. This signifies assistance or providing help to someone, a real life association that is recognized by the user, and creates an internal understanding of the purpose of the page and information within the interface.

Interaction Styles

Windows: This interface has many different screens, with the homepage being the central screen. From the homepage the user can click on the other tabs to go to different screens such as the “Routes” tab which takes the user to a table containing specific routes and a map. On the routes page individual windows for the route’s timesheet and interactive map tracking the route’s active buses. These windows are fixed on the page but are interactive within their own frame allowing the user to independently navigate within them without affecting the outer page layout. The route’s timesheet is a window containing a row/column grid of a route’s schedule based on the arrival/departure times of its stops. Due to the lengthy operation time of a route during the day the schedule is extensive and not all information is available in the window. The window provides a horizontal scroll bar that the user can use to navigate to the different sections of the schedule. The interactive map is contained within a frame in the center of the page. The map is an embedded interactive google map interface with all the functionality that comes with its implementation. A user navigate the map in any direction and zoom in and out of the map all within the window frame.

Menu: On the site homepage there are multiple heading tabs that are representative of the different sections of the site. The total listing of the headings can be viewed as a menu of possible selection. Each of the headings are the root of a sub-menu represented as a drop-down list of selections related to the domain described by the heading. One commonly used is the one titled “Routes”, this heading includes a drop-menu listing groups of shuttle routes and each grouping contains links to information about the specified route. The user can also view other menu options such as “Services”, “About” and “Contact” that contain similar lists with links to related information. If the user scrolls down on the homepage they can also see a grid view of routes that are menu selection of shortcuts linking directly to the route they would like to view.

Icon: When the user clicks on the routes tab, and picks a specific bus line it takes them to a page with a map. Each map has a specific bus icon for the user to always be able to determine where the bus currently is located. The map also has small purple circles to represent the different bus stops. The homepage of the website also has a either a green circle or a red circle next to each bus line. Green means that the bus route is still in service while red means it is not in service anymore.

Pointer: Pointers are what are used to interact with the interface. When using the site online, it can be a mouse or your keypad. On your iphone, it would be your finger since it is typically touch screen.

User Interviews

Questions

Q1: How do you typically use the Anteater Express web interface?
Q2: What do you like about the Anteater Express web interface?
Q3: What do you dislike about the Anteater Express web interface?
Q4: Have you ever used the Anteater Express web interface for anything other than looking up bus schedules?
Q5: What would you improve about the Anteater Express web interface?

Interview 1: Luke Raus

A1: I usually use it just to check up on the main line (the M line) because that's the one I use the most. I'll see where it is, and go to the nearest stop that I can catch it.
A2: I like the live map feature, it's the feature I use most to determine which stop I need to go to next.
A3: I don't like the timetables. I feel like there is lot of information but it's not really helpful. The map is more context-sensitive than the timetable. What I mean by that is that I haven't found the time-tables accurate enough to use it. Using the map to guesstimate the arrival time is a better solution than what should be more accurate timetables.
A4: No. I don't think there is any other reason for me to come to the site. Even if I wanted to, I can't think of one.
A5: I still really don't like the banner on the home screen. It's big and non-functional. I would like the bus routes to take center of attention. I would also like to view all bus routes at the same time -- or at least be able to filter them on or off. [We discovered that you can, if you navigate into the map menu.

Analysis: Luke likes being able to look up a route quickly to guess where he needs to be when. He finds little to no use for the timetables, especially considering that the real time map allows him to see and use the bus information in a more interactive way. Finally, he prefers some general design improvements to the website such as the large banner and more prominent placement of hidden features such as route filtering.

Interview 2: Bryan Linebaugh

A1: Most likely I use the website to learn the routes at first. I go to individual route pages and look at the map and see what's available for the stop, and what times they operate, especially on weekends. This helped determine how to get to the store on the weekends. I also used their

website to apply for a job, which was convenient. The Employment page was functional and served its purpose.
A2: I did like that on the main page it has color indication of which routes are currently operating. This helped when I was first learning the routes because I could determine which ones were operating at which times. The live map was useful because it gave an indication as to the relative time of when the buses were arriving -- but it was not completely clear when the bus would arrive.
A3: I don't like that when you go to the routes page from the heading, it goes to PDF spreadsheets of the schedule instead of the real time map. There are two different parts of the website that are labelled the same, although they lead to completely different resources.
A4: Yes, I used it for finding a job. I applied on the website using the application form.
A5: The inconsistent labels -- the links in the headers should redirect to the live tracking page instead of the spreadsheet. In order to keep the spreadsheet option, the menu should have a link to the real time map as well as the spreadsheet.

Analysis: Bryan really liked the main page and the live information the site provided. He thought the red/green lights next to the route names to indicate which routes were active; he found it really useful when learning the bus routes freshmen year. He disliked the inconsistency of the site navigation. For example, the header of the site, which had a drop down menu listing the routes, only direct him to a PDF of the route time and information not the live map he was looking for.

User Personas

Primary User

Name: Jason Harrison
Quote: "I need to stay productive and organized so I have more time for games and friends, I can't waste any time figuring out the fastest way to get to campus."
Info: 20 years old, Male, lives in the Camino Del Sol housing community, avid user of the Anteater Express, and addicted to using his phone whenever possible.

Background: Jason, an undergraduate student at UC Irvine, moved from San Francisco to Irvine for school. Jason like many of his friends away from home don't have access to a car. Living in a housing community associated with the school, Jason is able to use the Anteater Express as a way of getting to the campus everyday. Jason enjoys listening to music and checking his social media accounts while riding the busses. He also likes meeting his friends for lunch or boba at the University Town Center right next to UCI's campus. Jason loves playing online multiplayer games such as League of Legends or World of Warcraft.

Secondary User

Name: Brianna Jones
Quote: "I really need a job… is there any way I can give back to UCI through my driving skills?"
Info: 18 years old, Female, Lives in the Mesa Court dorms at UCI.
Background: Brianna just started school at UCI and is looking for a job. She does not have any previous work experience, but she grew up on a farm and has driven vehicles most of her life. While riding the buses, she discovers the bus drivers are students. Brianna is a good driver and has had no accidents or traffic tickets on her record. She is told by a current driver that she would be a good candidate for the job. Now Brianna wants to apply to be a bus driver for the Anteater express. She plans to apply the next time applications for drivers are out. Brianna is also a big country music fan and loves listening to people like Carrie Underwood, Blake Shelton, Tim McGraw and Taylor Swift.

User Scenarios

Scenario 1

"As a second year student living at Vista del Campo, I'm still getting used to getting to campus by bus. I've gone with my roommate a few times, and she knows the routes really well so she was able to help me out. Today I'm going by myself and need to figure out which route to take. Before leaving, I google anteater bus route and find the Anteater Express site as the first link. Once it opens up, I see A, C, and D lines but I'm really unsure which one I want to take. It sort of makes sense to me that V line might represent Vista del Campo, and when I take a closer look I

see that it says "formerly Vista del Campo." I decide to click on that line of text and I don't really understand what those buses on the map are showing me. Since my roommate is still in the apartment, I ask her what I should do next and she points me towards the Monday-Thursday Schedule link. She reminds me that we left from VDC Stop #3 last time, and directs my attention to the column of stop times for that stop. Since I need to leave in half an hour, I find the next departing time, gather my backpack and laptop, and head off for the stop."

Scenario 2

"I'm really in a rush to get to my Computer Science final, but I don't know which bus route I should take to get to campus fastest. While I live at Camino del Sol, I know that the Vista del Campo Norte bus' last stop is right across from my apartment. Since I don't have to have to deal with a bunch of people getting on and off the bus I decide to take that bus instead of Camino del Sol. My things are all packed up for my final, so I pull out my phone and go to the Anteater Express bookmark I have saved. Since the text is so small it would be hard for me to read the text, but I already know where the N line is located on the page since I've used this route so many times. I have to carefully tap the link since it's pretty hard to get right, but once the N line page loads up, I'm quickly able to see the next time the bus leaves from Stop #3. Luckily, I have just enough time to grab a banana before heading out the door. Wish me luck!"

Use Cases

Use Case 1

1. Student lives in UCI's off campus apartment (Camino Del Sol)
2. Student needs to get to class in the morning but does not have a car
3. Student goes to Anteater Express website and looks at all the routes active
4. Student finds the C line (Camino Del Sol) and thanks to the live updates finds the next bus arrives in 5 minutes outside his/her appartment. If the student were to miss the bus at the C line, the could also possibly try to get onto the A line (Arc/Arroyo Vista) or the N line (Vista Del Campo Norte).
5. Student walks to bus stop
6. Bus arrives and student takes bus to UCI campus

Use Case 2

1. Student wants to become a bus driver for Anteater Express
2. Student navigates to the Anteater Express website
3. Student clicks on contact heading and clicks the link for employment
4. Student reads the relevant information on the employment page
5. Student then clicks on the apply link to fill out an application
6. Student waits for email response of interview/acceptance

Deliverable 3

Existing Interfaces

Menu Interface

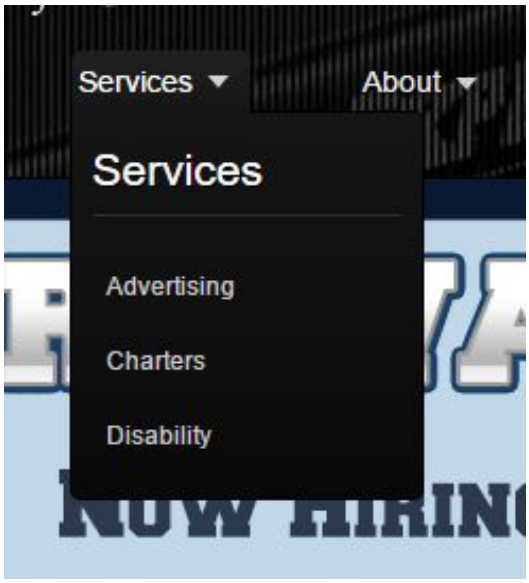


Figure 1

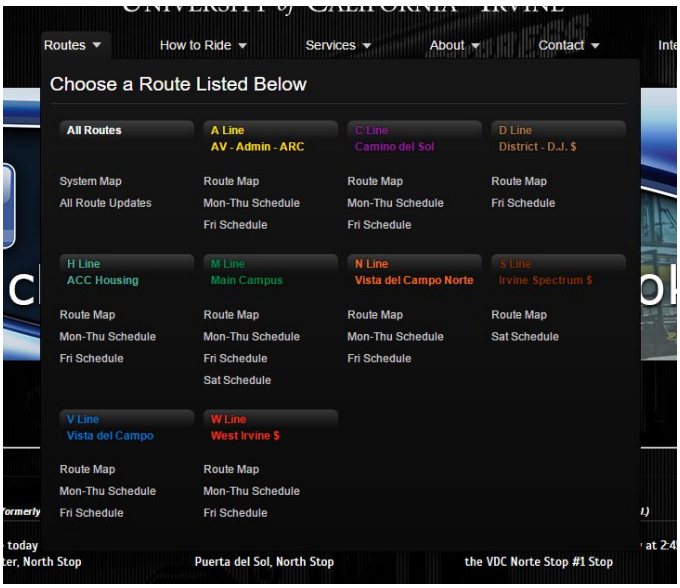


Figure 2

The Anteater Express website makes heavy use of menus to help users navigate to different sections of the website. The most commonly used menus on the site are located on a navigational bar that remains consistently at the top of the site as seen in Figure 1. The menus are produced as a drop down upon the user hovering over the correlating heading. The menus indicate they are interactive by having a drop down arrow next to the heading symbolizing the direction of the reaction. The drop down menus are flat menu types and are static in the information they display once produced. Most of these menus are proficient in showing a small listing of options without taking up a significant amount of space on the site. The site has multiple pages of contextual information for different users of the site, and using this type of menu to list related items under an appropriate heading is helpful. Also, when using the site the navigational bar containing the headings with these nested dropdown menus is consistent throughout each page of the site. This consistency eliminates the tedium of having to move through previous screens to interact with the same menus. One of the limitations of using a single flat menu type of functionality is as the number of options listed in menu increases so does the menu's window size. This is contrary to the intention of a flat type style of menu which focuses on displaying a smaller listing of options in a compact menu frame. In Figure 2, when a user wishes to view the available routes of the Anteater Express service the menu that is produced is significantly larger than the other flat drop down menus produced by the other headings. The information listed in the routes menu is repetitive and categorized in a way that could be more compactly listed in a different type of menu that isn't so burdened with

information in one frame. Using an expanding type of menu might be more appropriate for listing more options than within a single window frame. The cascading menu, a type of expanding menu could be used to more properly list the information in a related section heading titled perhaps “Route Schedules”. The menu would be redesigned into the similar drop down menu with a new option as the root of a cascading menu of further options. The new cascading menu would contain a listing of the routes as links the redirect to the page of the website related to that routes schedule, live tracking and any other information.

As mentioned previously the menus of the site are the primary form of navigation around the site for the user. When a user wishes to visit a page of the site they have to do so through a menu. As an example of this process when a user visits the anteater express website with the intention of chartering on the services buses they must do so by selecting the appropriate menu option. A user visits the site and must identify the appropriate navigational heading that relates to the reason for visiting. Once the appropriate heading is identified the user must hover the heading itself with their cursor so it produces a drop down menu with the listing of options. The user selects the appropriate option from the menu by clicking the option with their cursor and they are redirected to the page with the information they are looking for.

WIMP Interfaces

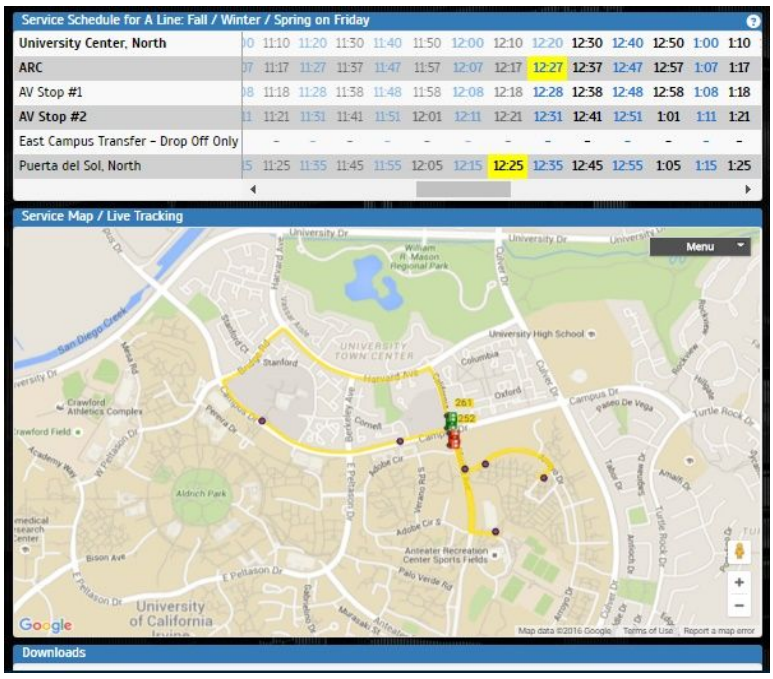


Figure 3

Windows:

The site use many “windows” components throughout the site (Figure 3). Mainly the route map page uses windowed components to display information. The time schedule above can

be closed and opened and can be scrolled through using a scroll bar. The map window can be zoomed in and out to see a larger or more specific view in the map.

The window components themselves can not be resized, it would be convenient if the time schedule component could be made bigger in order to view more information at once. An option to pop out the map into its our browser window would be useful so students can keep that element open while using the rest of the site.

Pointers:

While using the website on a browser the user will use a mouse cursor to maneuver through the site and pick what route they wish to use. However while using the app on a phone the user can use their finger to move across the site. A possible pointer improvement can be on the homepage when the user goes down to look at the all routes. Whenever the user hovers over a certain line, a hover text would appear with all the recent stops and times. This way the user would not have to go through to multiple pages.

Icons:

Regarding icons, whenever the user goes on a certain route, the map visible has a bus icon to identify the current position of the bus. Also on the homepage, if the user scrolls down to where all the routes are listed. The ones that have a red dot icon next to it signifies the route not being in service any longer while those with a green dot icon signify the bus is still in service. The bus icons on the map screens should be bigger for easy viewing.

Incorporating New Interfaces

Natural Language Interface: A way to incorporate a natural language interface into the Anteater Express website would be to create and add some sort of smart input box. This input box would allow users to ask the site for help in finding the information they are looking for, such as route information or employment opportunities. Users would articulate their query using natural language, and the site would be expected to parse this and produce a relevant view. The input box itself would need to be easily seen and available to users on all of the pages of the website, or at least be clearly visible on the home page. Inside the box would need a statement such as “Ask Anteater Express” to give users a clue into what the box can be used for. There would also need to be a button next to the box that submits the query when clicked. Users will be able to use this input box as a way to look up any and all available information on the site that is related to their query. Implementing this interface would make the site’s information more readily available and easy to access by the site’s users. An example of a natural language query would be to ask the website the following: “What’s the best way to get to UTC from DBH?” The site should then produce an answer, along with a map showing the route it thinks is the best way as well as the relevant timetable for that route. That said, it could be cumbersome to articulate a

natural language query in order to find certain types of information. For example, it may be easier for some users to find the timetable for a route by looking through a list of routes than to articulate that in a sentence.

Question and Answer: Incorporating a question and answer interface into the Anteater Express website would allow users to utilize a specific aspect of the site, for example finding the information for a specific bus route, by asking for it through a series of guided questions and pre-supplied answers. To help users find the information they are looking for, the interface would first prompt the user with a question such as "How can we help you" and a few answers like "Looking for a job," "Searching for a bus route," and "How to charter a bus." When a user clicks on one of the specific answers it will then lead them either straight to the information or to more questions and answers until the system has enough knowledge to provide the user with the information they need. For example, if a user were to click on "Searching for a bus route", they would be given another question about which route are they looking for and answers that correlate to all of the possible bus routes that Anteater Express has. If a user were to click on "How to charter a bus", they would be lead directly to the webpage that has all the information on the process of chartering a bus with Anteater Express. Implementing the question and answer interface will, in theory, make information easier to find for users. However, the interface itself could be limiting in the information it makes available. Returning users could find it annoying to navigate through a set of questions and answers in order to locate information that could otherwise have been accessed more directly through different interaction design than the question and answer method.

Integrating a Voice Interface

The system could benefit from the integration of voice commands. Voice commands would cut down on site navigation time and is intuitive especially to new users. Some example commands are: "View M line map". This command will bring the user directly to the map and schedule page for the M line (which is the main campus bus route). This "View (route) map" command will work for any of the routes on the site. This command would not likely be misheard or misinterpreted because view (route) map are are simple keywords that are easy for a voice interface to parse.

A second voice command that would be useful is "How do I ride the bus" or "Help." Both these commands should open the Anteater Express brochure page which holds useful information and gives an overview the the bus system. These commands could be misinterpreted because "Help" is vague and the brochure may not hold the information the user is looking for but is a good place to start for a new user. Other commands could be added that bring you to the same page such as "I need help" or "Bus info."

Interface Storyboard

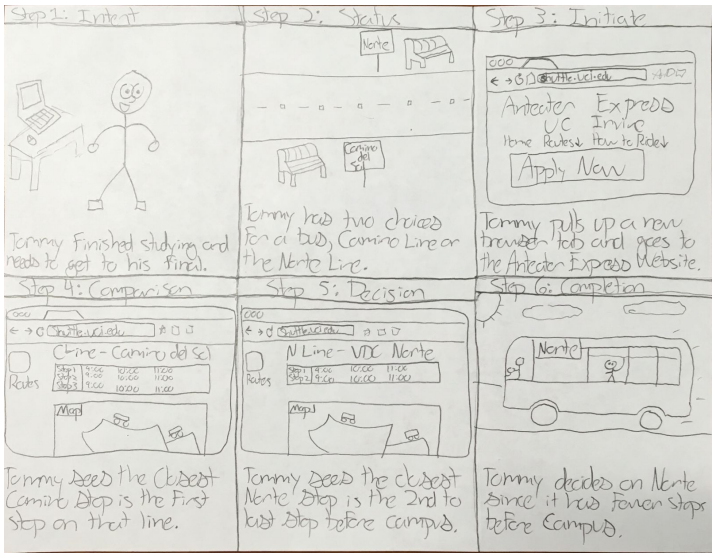


Figure 4

Interface Redesign

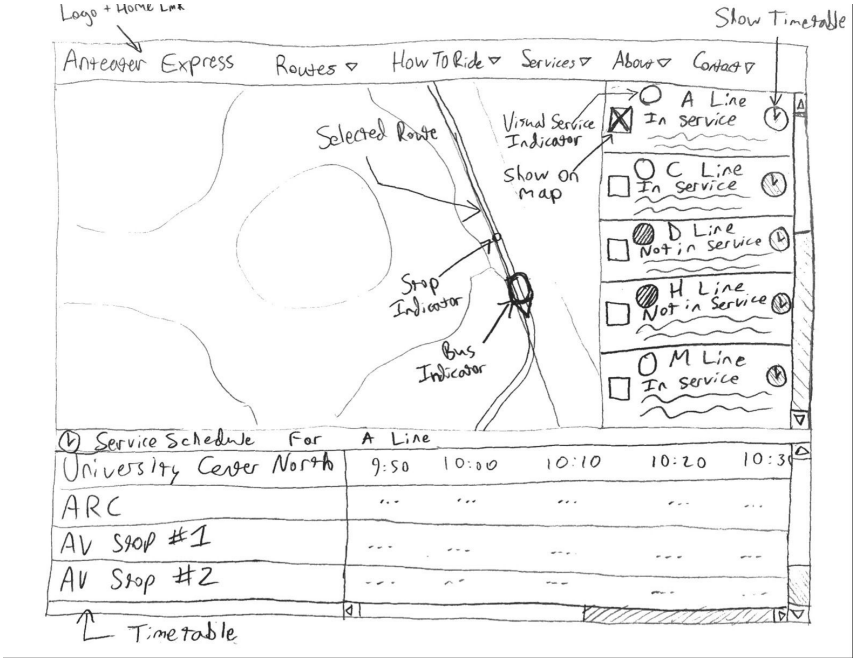


Figure 5

After evaluating the Anteater Express website throughout the course, we determined several changes that would increase usability. Much of these improvements stemmed from removing extraneous elements like banners and bringing the useful aspects of the website such as the maps, routes, and data to the front page of the site. We made the menu for the different routes always visible and moved the schedule times table below the map. Now the site can direct any route selection (from the home page or menu bar) to the same site and will just change what is

selected. The sketch (Figure 5) shows the initial improvements on the previous page. The Balsamiq (Figure 6) mockup of this new design are visible on the following page.

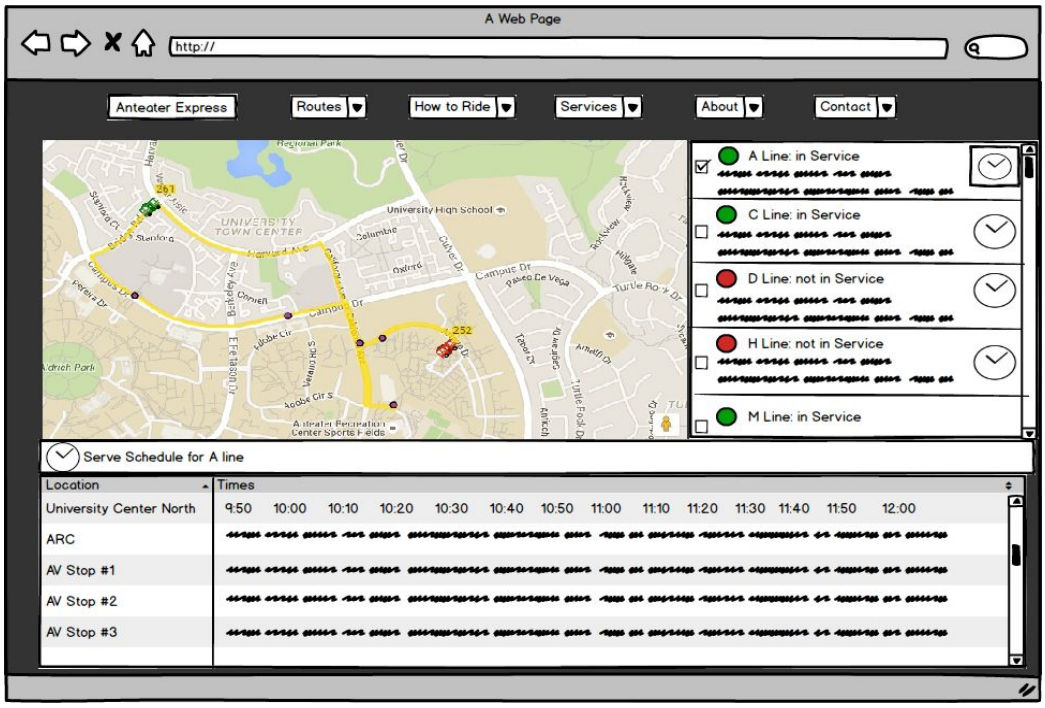


Figure 6

Emotional Connection

It seems unlikely that a user of the Anteater Express website would develop an emotional connection over time. The website lacks any kind of personalization or individualized recognition, meaning the user has limited opportunities to customize to their user experience. When a user is able to customize their experience with an application or interface it becomes something that belongs to them and they become accustomed to it. For the Anteater Express website its only use is as an informational reference of its services and available routes. During typical use of such an application a user wouldn't naturally gain any connection to it besides a familiarity with what is available on the site. So, it is possible that a user could come to rely on the Anteater Express website, but it would take some sort of extreme situation for the user to develop any sort of connection to the site. For example, if the user was running late for an interview and had no other way to find out information about the route they needed to take (which is unlikely since there are maps at each bus stop, in addition to a mobile app that provides additional functionality), there's a possibility that the user would form a positive connection between their experience and the site itself. Otherwise, the site is simply used as an informational tool for users to reference when seeking information on a certain topic.