The University of Winnipeg - Applied Computer Science

ACS 3916-001

Human Computer Interaction

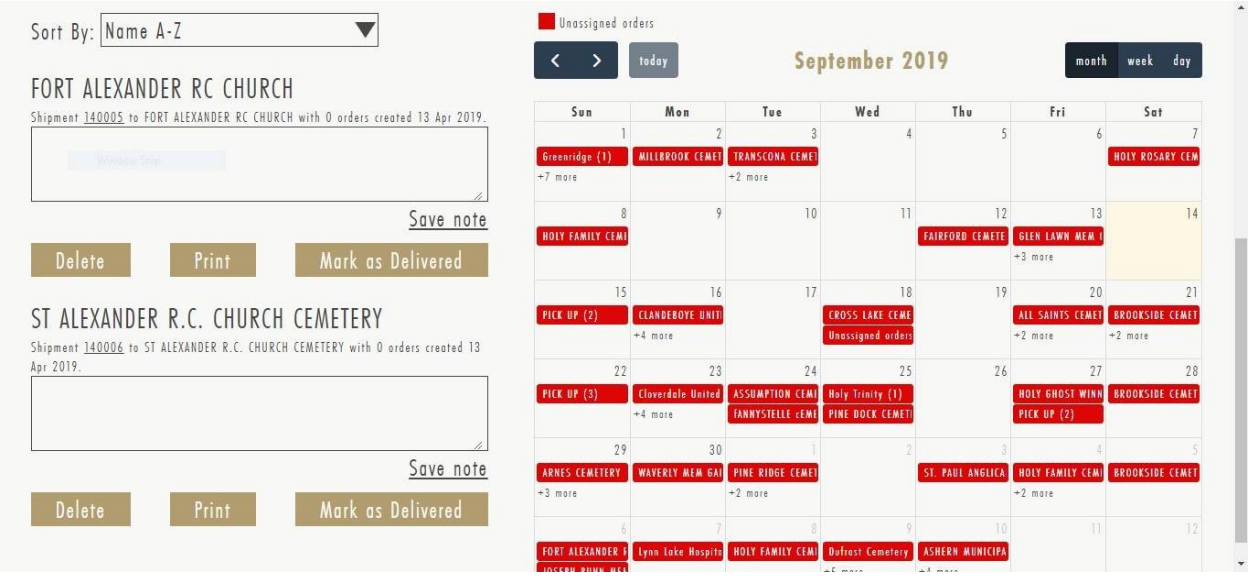
Assignment 1

Kayla Weselowski

Bad vs Good Interface Design and Usability

Evaluation of a Bad Interface

The interface I have selected is StoneSpot's shipping calendar. StoneSpot is an online point of sales application designed for memorial stone companies. The page shows a few shipping orders in list form on the left of the page and a calendar on the right. My main focus will be on the calendar object.



Analysis

The calendar shows the current date in pale yellow and the names of the cemeteries that the stones will be delivered to each day. If there are too many locations to fit within the day box, there is a link to see additional names in the format '+# more'. The schedule for a specific day can be displayed by clicking on the date number (upper right only -no where else within the day square is clickable) or using the menu to the upper right - 'day' label.

The names of the cemeteries are colour coded in red if no staff is assigned to the shipment.

These red labels within the day squares can be clicked on to open a window that shows a table with the following columns: order number (links to the original order details), decedent name, current status within the production process, the cemetery name, and an option to remove a row. None of these list options are clickable except for the order number.

Intended Users

The interface is intended to be used by a variety of staff from different disciplines within the company. The users vary in age and have different experience levels with online database/sales applications. Access to certain features is limited by the application via different login profile types. For this page specifically, everyone has the same access.

At our company the manager, delivery/installation crew, sales personnel, and designers reference this calendar to determine when and where a stone needs to be shipped to. They are people that have a limited to average understanding of online computer applications. The age range of the user varies greatly, and some users have vision issues.

Interface Requirements

An interface like this should be able to accurately display information about when and where a shipment will take place. The user should be able to easily interact with the calendar by clicking on it to view more details. More information should be readily available with the pop-up windows/new pages are open. The text should be easy to read - have high contrast, and an appropriate font style and size. The calendar should be as large as possible to show the information within it as clearly as possible. Users should be able to easily create, read, update, and delete information within the database by interacting with the calendar interface and pop up windows.

Problems with the Interface

Assessment of design principles and usability goals:

Poor visibility: the numbers on the calendar don't look clickable, and neither does the '+#more' link - used to show more delivery locations when there are too many to fit within the day square. Both the link and date numbers look like regular text because they are black and not underlined. There is no indication that these components are clickable, and this reduces the usability of the application with regards to effectiveness and efficiency. Overall the discoverability of interactive components on this page is low.

The pale-yellow background colour to indicate the current date is barely visible on most screens, and the other components on the page lack contrast (beige and white theme) or are harsh to view - ex) the red labels with white san-serif text.

Mapping: Having the list take up almost half the page creates a busy and confusing interface. More importantly it limits the available space for calendar which has most of the pertinent information.

Consistency and Mapping: Clickable and non-clickable labels look too similar - both are similar in colour themes and have rounded corners (like buttons). This is an example of internal inconsistency- components that look the same don't respond in the same way within the application. Labels that have rounded corners have perceived affordances associated with them that makes the user think that they're clickable.

Transfer effects: users may assume that when they click on a day square that it will show the schedule for that day, and that events can be added within this view. This is how most scheduling apps work on other platforms; however, negative transfer will occur because a user's previous experience with electronic calendars will conflict with this application as it doesn't have any of the above-mentioned features.

Ineffectiveness and Inefficiency: As mentioned above with regards to visibility and discoverability, not being able to differentiate which components are clickable greatly reduces the effectiveness of the interface. Ex) can't click on 'today' label to see detailed schedule for the current day, within calendar squares can only click on number which doesn't look clickable. Within the calendar square many of the name labels are cut off and the number of orders being delivered is not displayed due to poor use of available display space (having the list menu take up so much room). The pop-up window that appears when a location label is clicked defaults to only one size and the text is forced together which creates readability issues. The wasted time it takes to resize the window decreases user efficiency. Since this is a delivery schedule it is important to not only have the name of the cemetery, but its location as well. Unfortunately to retrieve this information several menus need to be navigated through. The sequence to find the address of a cemetery is as follows: click name, window opens, click order number, pages redirects, scroll to find shipping section within order form, select link to show more details, scroll to find cemetery address,

use back button on browser to navigate back to shipping calendar page. There is also no easy way to add a shipment or assign it to an employee from the shipping calendar page. completing these tasks requires the above steps or additionally searching for the order via decedent name or other information in the general search bar at the top of the page (not displayed in picture). This application has poor utility as well because of the above-mentioned issues. Redundancy with regards to the functionality of this application will negatively impact the user experience.

Learnability and memorability: are hindered by many of the design and usability issues stated above. The complex navigation of pages and windows specifically may lead to memorability issues. Poor aesthetics like off-white and beige colours make the interface more difficult to navigate due to poor contrast. Specifically, this is a problem for staff members that have poor vision or that are colour-blind.

Proposed Design Solution

To rectify the problems identified above I would do the following:
- increase visibility of the calendar by having it fill the screen

- have a hidden panel containing the list of shipments, labeled with an arrow to show it can expand horizontally


side panel icon from adobe reader

- pick a colour theme that has high contrast of dark and light colours for all text, labels etc.

- use a serif font for smaller text because it is easier to read

- clickable components distinguishable from non-clickable components by having perceived affordances such as rounded corners for buttons, and underlined and different coloured text for links (not black)

- make the entire calendar square for each day clickable (including the already clickable number, but not including the labels)

-have a new view showing the time schedule for the clicked on day

- add functionality to the ‘today’ label and make it open the current day time schedule in a new view

- thicker blue outline around current date square instead of pale-yellow colour

- having the calendar take up a greater amount of space will display more of the info within the width of the day square

- have a menu above the calendar with links for increased functionality like: create new shipment, update shipment info, assign shipment to employee, and delete, but have constraints so that these are only accessible to certain users based on their login profile - increased safety to prevent errors, miscommunication, and lost data

- employees could be assigned colours to show who is delivering to which location on any given day - this may increase user experience by being able to personalize your colour

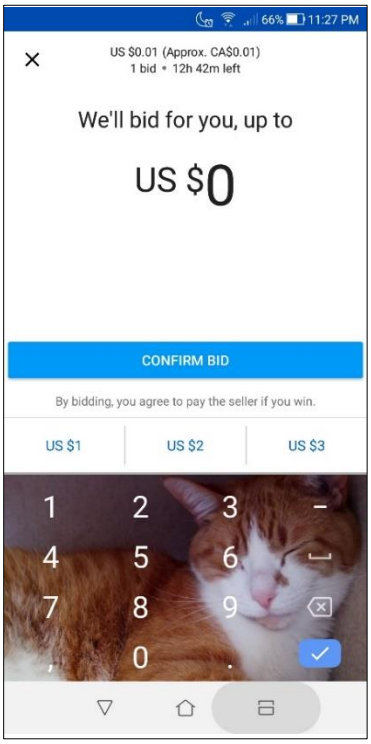
- the labels for assigned shipments may be easier to read if they were pastel colours with black text

- the pop-up window that appears after clicking on a cemetery label automatically adjust to the size of the table, and character and word spacing remains standard and consistent - improving visibility and efficiency

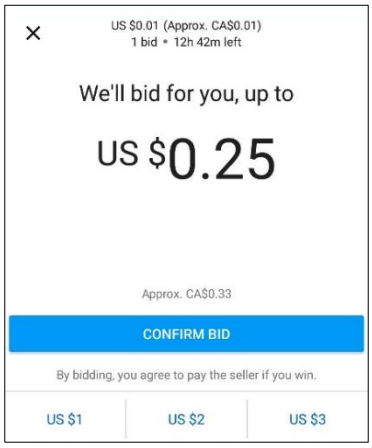
- create a link on each entry under the ‘ship to’ column (the cemetery names) that opens an additional window with information about that specific cemetery from the cemetery database -includes the cemetery address/coordinates, contact phone numbers etc.

Evaluation of a Good Interface

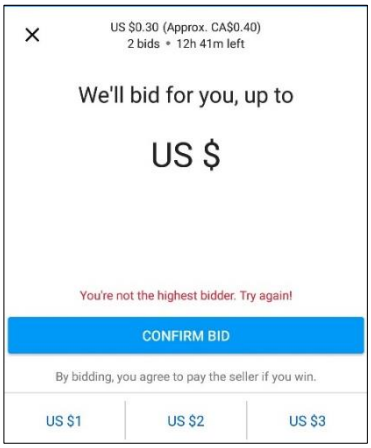
I have selected the bidding window interface in the eBay app for android as an example of a good design. This interface includes: a bidding screen that shows current bid, starting bid, time remaining for the auction, currency conversion based on daily rates, and suggested bid quick links.



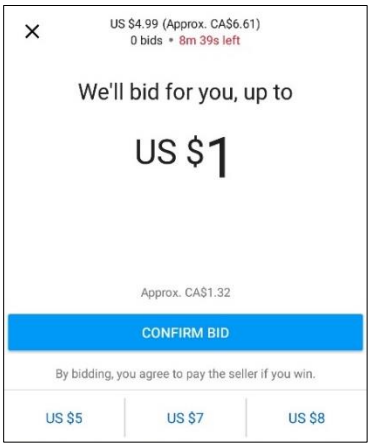
1



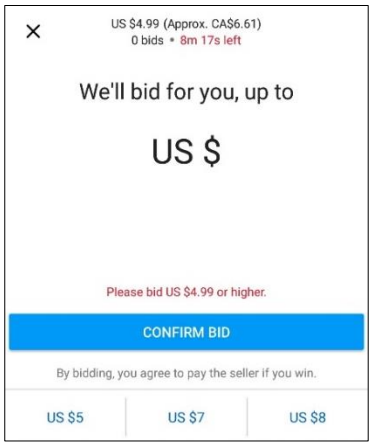
2



3



4



5

Primary Interface Functions

Description of functionality of each image state:

1. Shows the default window interface for bidding when it is first open. Available info includes current bid or minimum starting bid with conversion if necessary, number of previous bids, time left for the auction, automatic bidding that will bid for you up to the value you enter, and there are quick links at the bottom of the screen for whole increment bid values. The number pad keyboard automatically opens when the bidding window opens.

2. Shows the bid value I entered.

3. Shows updated values for current bid, number of bids, and displays a message 'You're not the highest bidder. Try again!' in red so that it's clearly visible.

4. Shows an auction with a minimum bid value of $4.99 USD, and my entered value that is below this requirement.

5. Shows message requesting bidding minimum 'Please bid US $4.99 or higher.' This message will also display if the value entered is less than the current bid.

The 'x' button on the upper left of the screen can be pressed to exit the bidding window.

The down arrow on the bottom row hides the number pad.

Intended Users

This interface is intended for a variety of users that have a wide range of ages and technological skills. It is a very simple interface so that even beginner level users can easily navigate it. Only the very basic touch-screen skills are needed for this interface.

How the Interface Supports the Users

This interface has very good visibility and discoverability for its functional components. The button to bid is clearly visible and has good contrast between the blue background and white text. The quick bid values are shown in blue text to indicate that they are links, and the dividing lines between them make them look almost like buttons which have the perceived affordance of being clickable. The value entered appears in a large readable font with good contrast between the white background and black text. The 'x' icon has the affordance that it can be clicked to exit the window. This is an example of positive transfer of knowledge and external consistency with other digital applications. The other text is not as large, but still legible with good contrast. Feedback is provided after the button is clicked via the messages that appear in red. Also, when you bid a value that is the highest a banner appears saying you're the highest bidder, or your bid is winning. It also prompts you to increase your max bid to ensure that you win the item. The live count down of time for the auction appears in red if the time left is in minutes, and in black if there is an hour or more. This interface is efficient, effective, and has good utility because it allows the user to bid

quickly and provides immediate feedback which is essential in an auction-type setting. The automatic bidding system also increases the user's efficiency by allowing them to bid on multiple items at one time and informs the user when they have been outbid no matter what screen they are viewing within the application. The interface for bidding provides helpful features like converting the currency of the seller to your set location currency based on the daily rate. Safety measures are in place that require you to confirm your bid before it is placed. A disclaimer also appears under the 'confirm bid' button that states 'By bidding, you agree to pay the seller if you win.' This interface is easy to learn and memorable with large visible text and buttons that function like those in other applications. The mapping of this interface is logical and similar to others that use an 'x' icon in the upper corner of the screen to trigger the close function, and the main function button ('confirm bid') is placed in the center lower third of the screen where it can easily be clicked by a user's thumb.