

**New Design
For
San Francisco Bart Kiosk**

Process Book

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Design, People, Society | 2017 Mdes IXD

Research Objectives

1. Improve the BART ticketing kiosk design to be easy to use, fast, and friendly for all users.
2. Learn users' experience of the interface and their process of buying tickets and refilling card.
3. Collect user feedback and identify usability issues.

Background

This research project is about usability testing of San Francisco's BART ticketing kiosk user interface design. This is a 4-weeks project from November 16, 2017 to December 7, 2017. We conducted both Online remote and in-person usability testings. The platform of remote testing is UserTesting.com and the in-person testing environment is in the Mdes Interaction Design studio. We had 13 participants in total, 5 in-person participants and 8 remote participants. The two test moderators were Fangjia Tian and Boyang Jiao.

Participants Requirements

For the original version testing, we recruited participants aged from 18 to 65. For the second version testing, participants were 18 to 65 years old adults in the US.

Research Plan

The research project plan is outlined in the table below.

Phases	Activities	November			December	
		16-21	22-23	29-30	6-7	13-14
Preparation	Set up prototype, tasks and questions					
	Enroll UserTesting Account					
Research	Round one remote usability testing					
	Sorting Data					
	Round two remote usability testing					
	Sorting Data					
	In-person usability testing					
	Sorting Data					
Report	Process Book					
	Poster					

Tasks

Original Version		
Number	Tasks	Key Point
1	Please buy a ticket from civic center to SFO	Testing through the destination feature to buy a ticket
2	Please refill your ticket	Testing refill ticket and card process
3	Please buy a new tickets for a specific value.	Testing through the specific value feature to buy a ticket

Second Version		
Number	Tasks	Key Point
1	Please use map to buy a ticket from civic center to SFO	Testing throughing the destination feature to buy a ticket and the map experience
2	Please refill your ticket and custom the value	Testing refill ticket and card process and custom experience
3	Please buy 2 round trip tickets for a specific value.	Testing throughing the specific value feature to buy multiple tickets

Testing materials ∴.

Questions

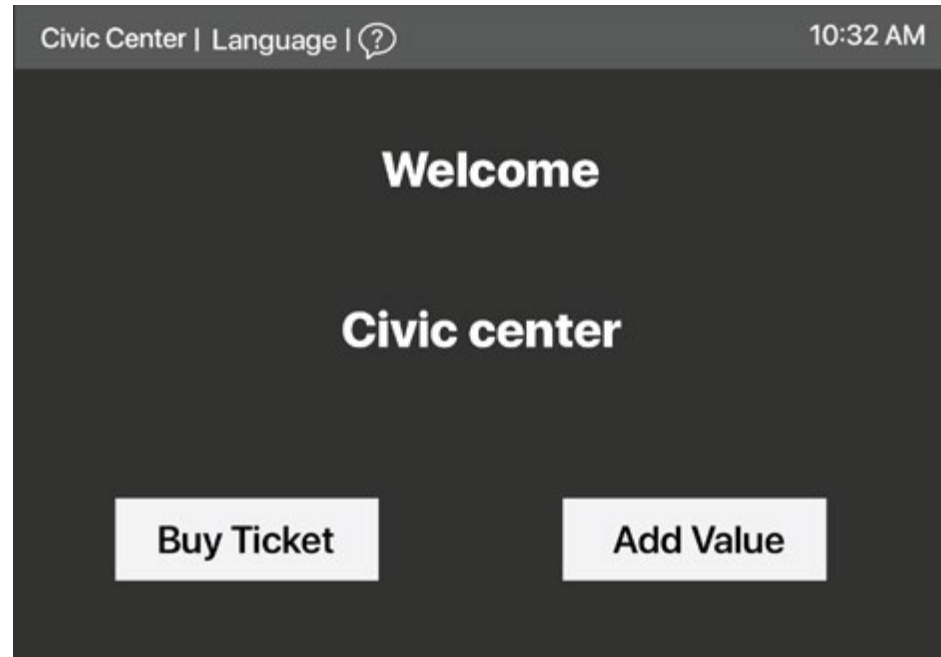
Original Version	
Number	Questions
1	Overall, how do you like about this design?
2	Which step do you think is unnecessary?
3	Where in the process do you feel confused?
4	Which one do you prefer, the map or keyword search? Why?

Second Version	
Number	Questions
1	Overall, how do you think about this design? Why do you have this kind of feeling?
2	Do you think this design missed some feature? If yes, what kind of feature do you like to add on? If no, what is your favorite feature in this design?
3	What do you dislike in this design? Why?

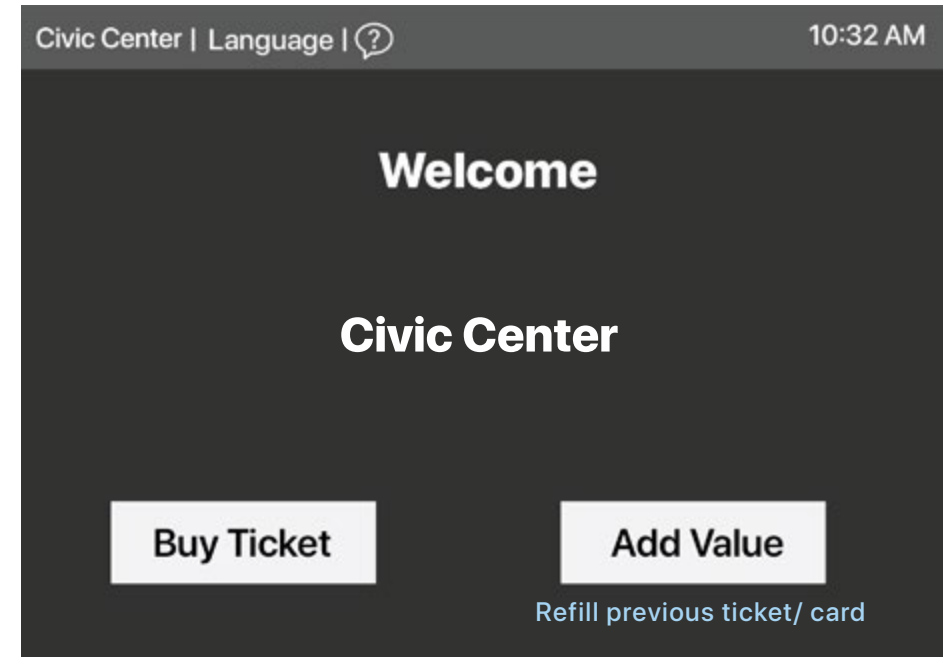
Testing materials ∴

Welcome

Version 1



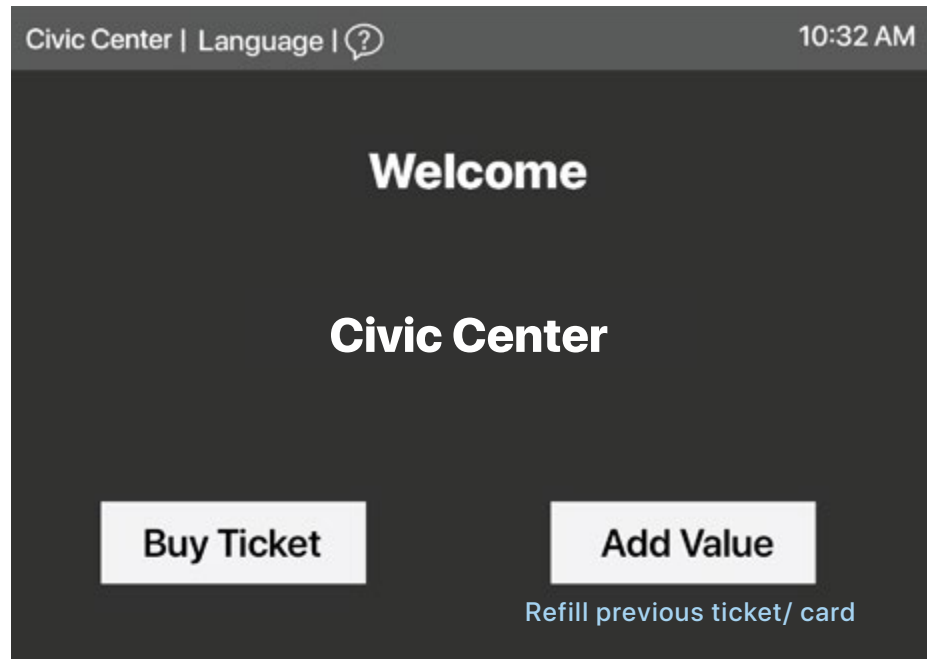
Version 2



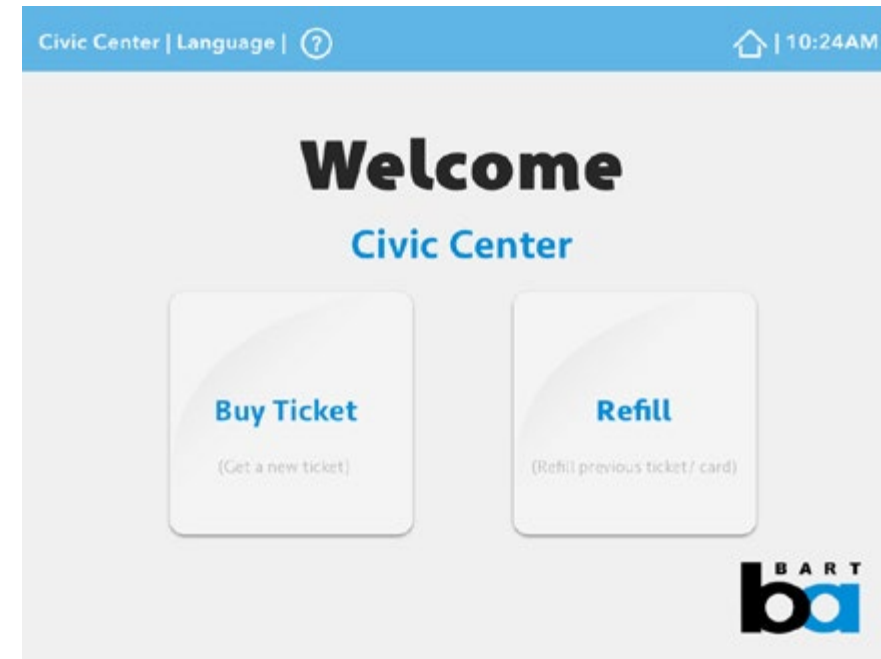
We added description of the "Add Value" button in Version 2.

Welcome

Version 2



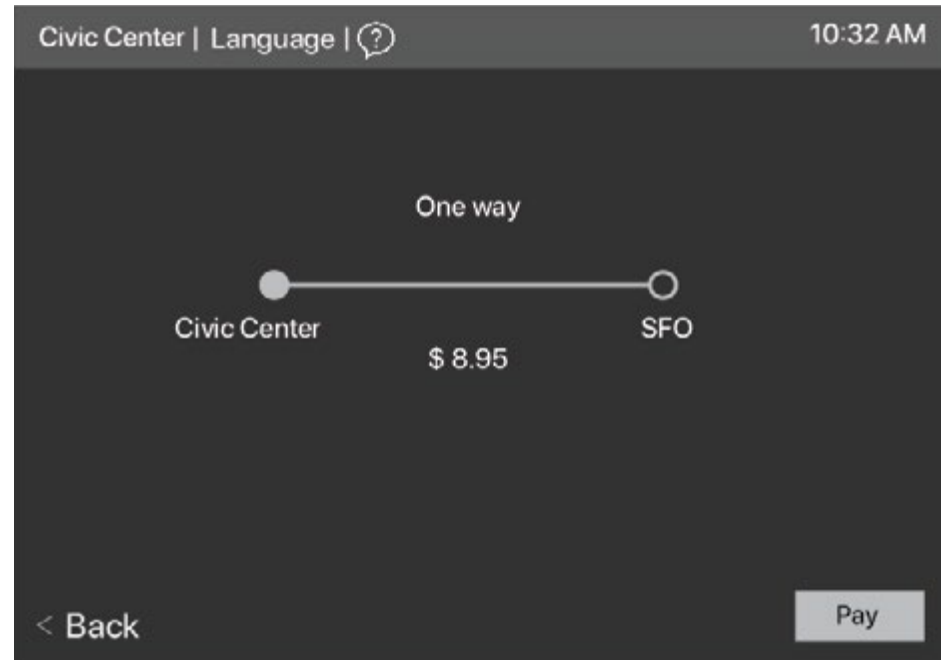
Version 3



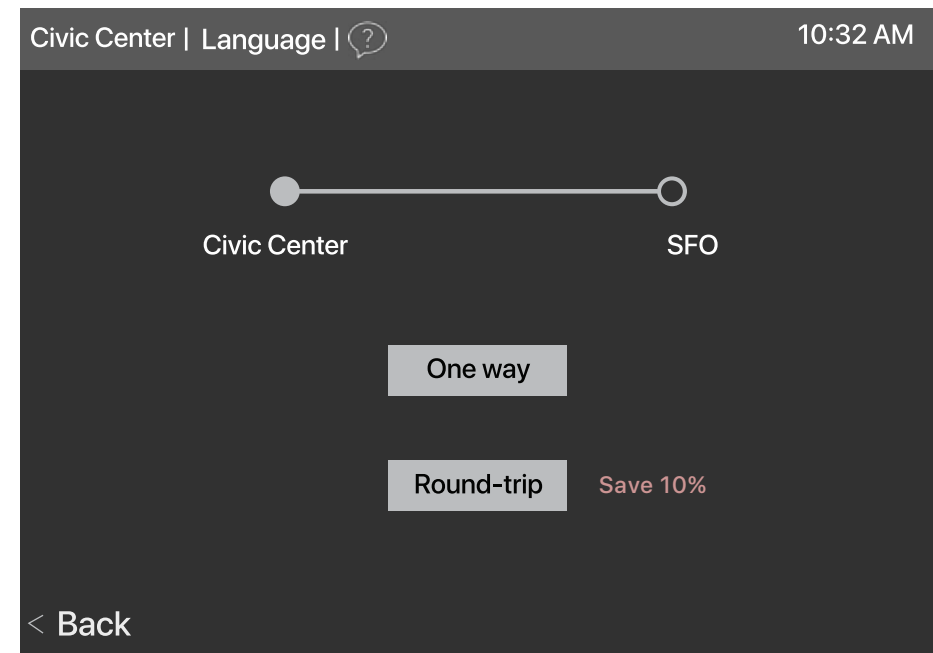
We provided descriptions for both buy ticket and refill options. We changed the “Add Value” label to a clearer “Refill” label.

Buy ticket

Version 1



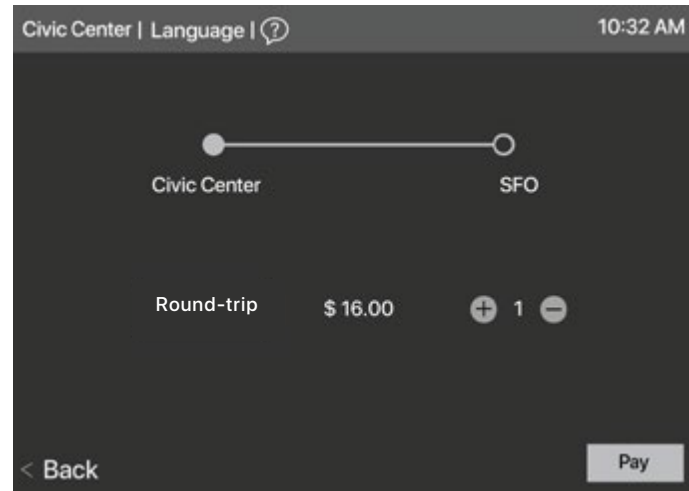
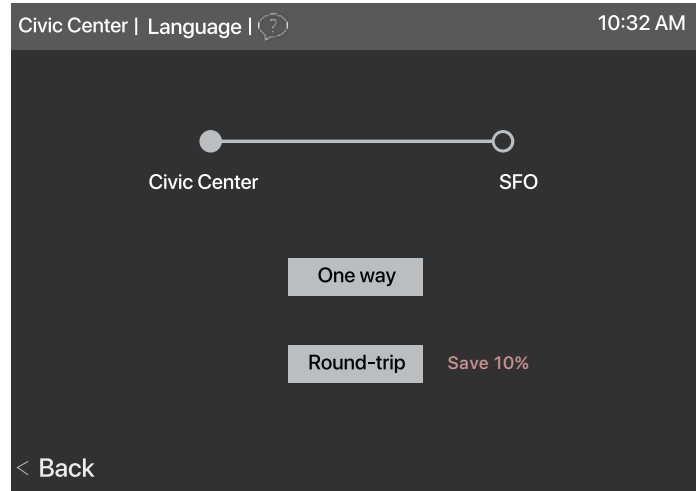
Version 2



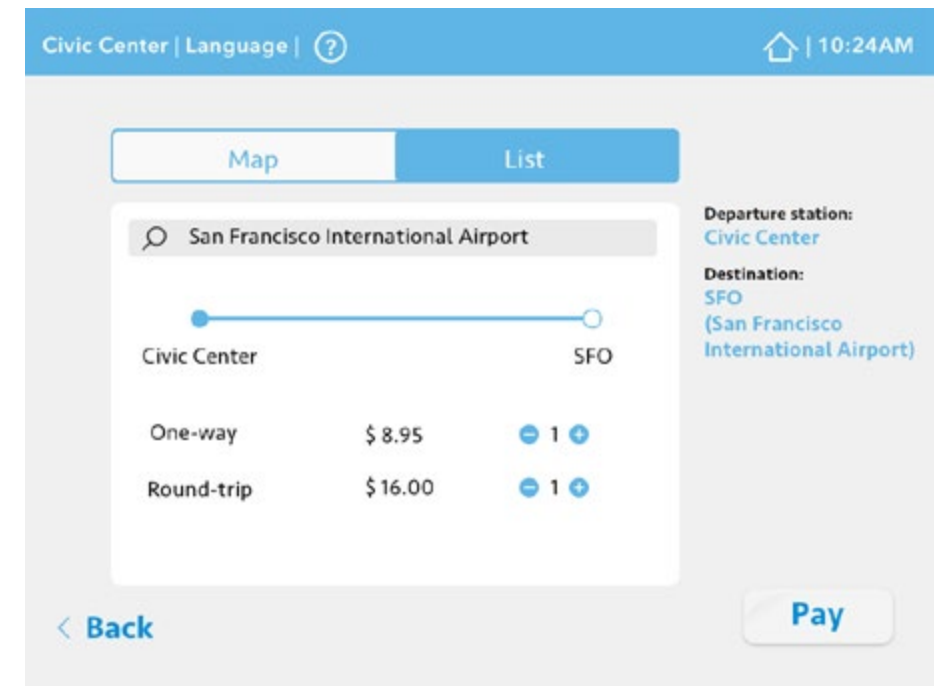
We provided one way and round-trip options in Version 2. We added 10% discount to promote the round-trip option.

Buy ticket

Version 2



Version 3



We combined the route option and price screens into a single screen.

Refill

Version 1

Civic Center | Language | ? 10:32 AM

Current value: \$ 1.60

Value to add \$

1 2 3
4 5 6
7 8 9
0 Clear

< Back Pay



Version 2

Civic Center | Language | ? 10:32 AM

Current value \$ 1.60

Value to add \$

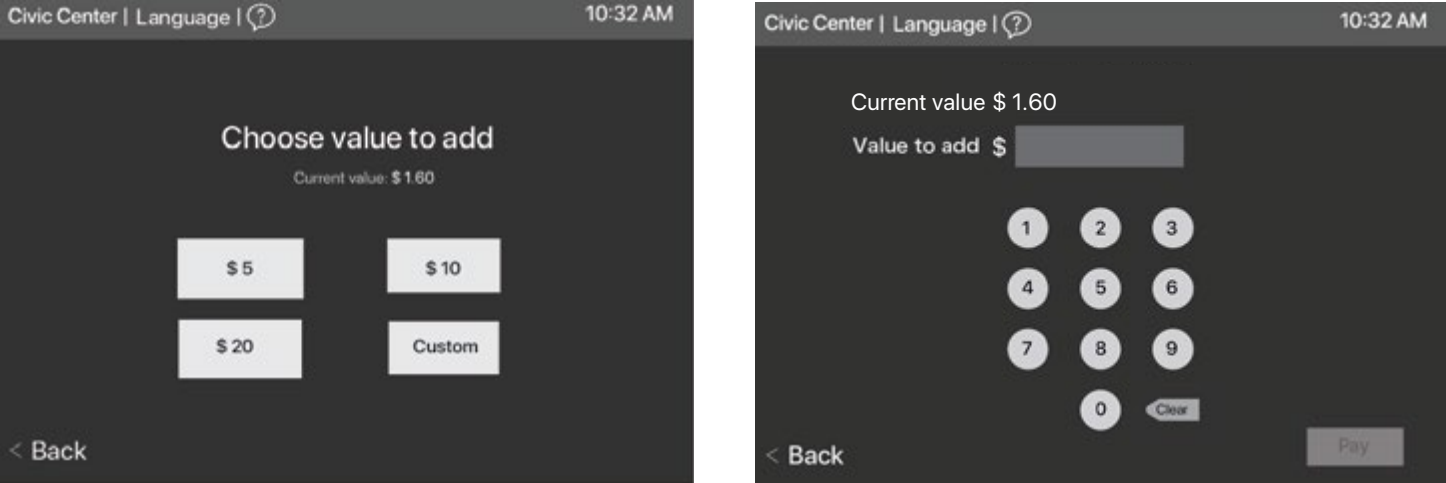
1 2 3
4 5 6
7 8 9
0 Clear

< Back Pay

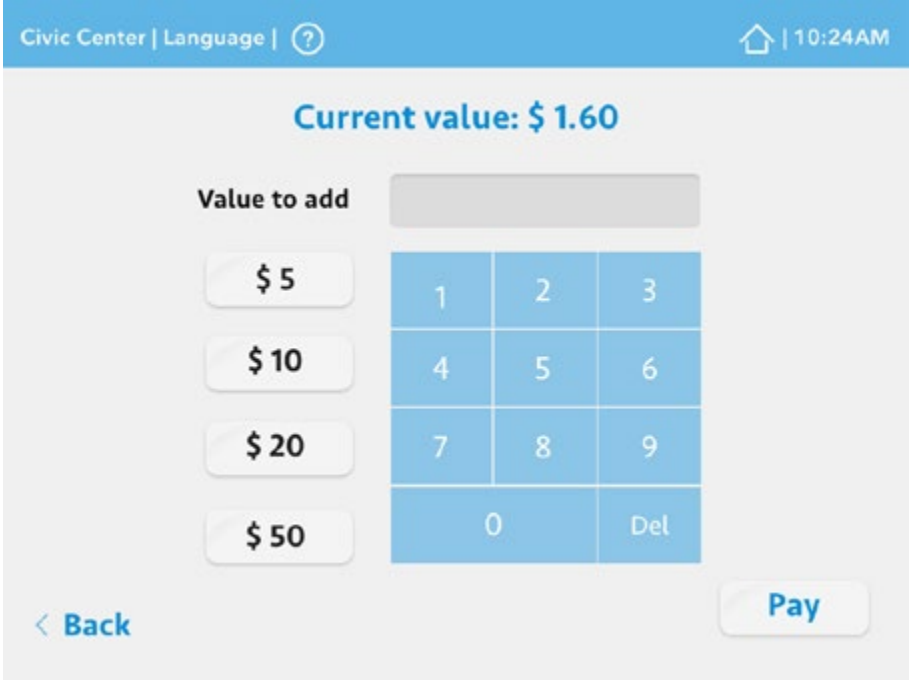
We adjusted the position and size of current value for easy discovery.

Refill

Version 2



Version 3



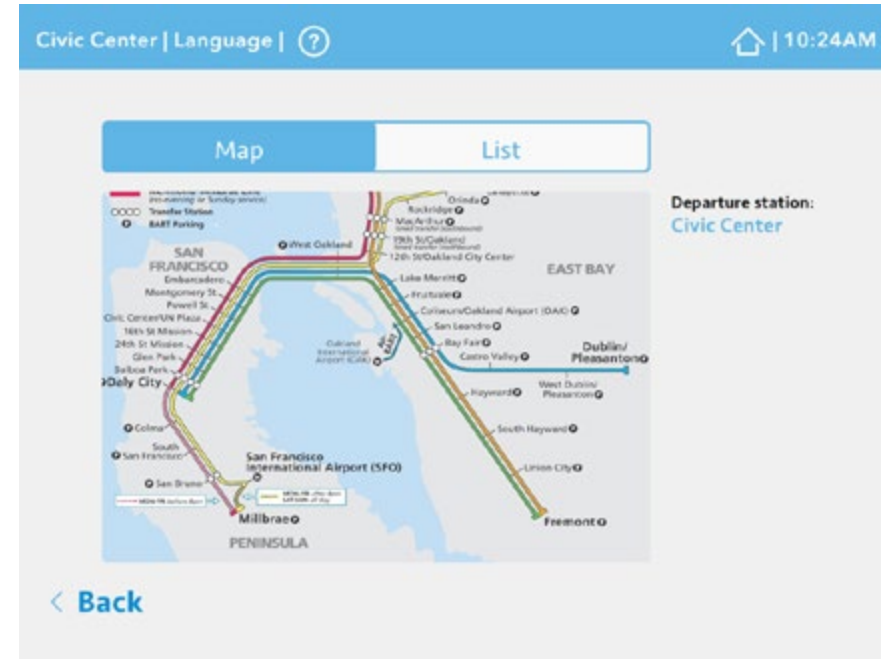
We combined the two add value screens in Version 2 to the single screen in Version 3.

Search Destination

Version 1



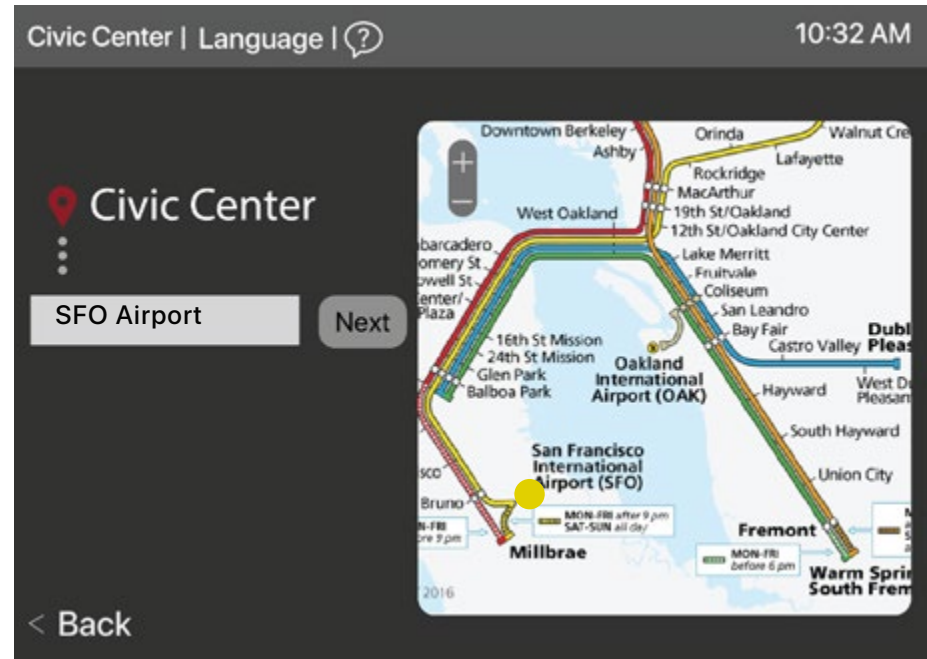
Version 2



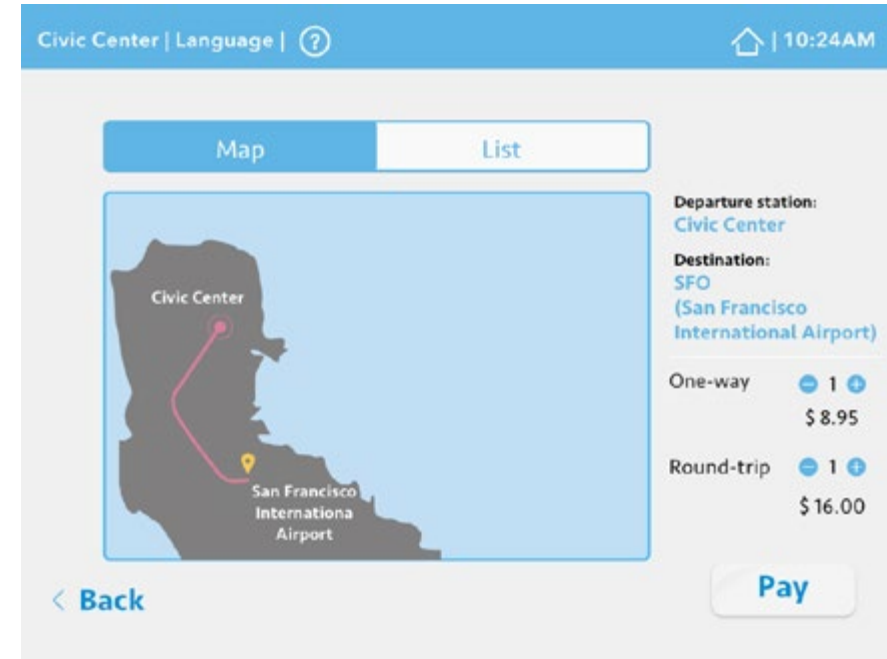
We added the list view of stations in addition to the map view.

Search Destination

Version 1



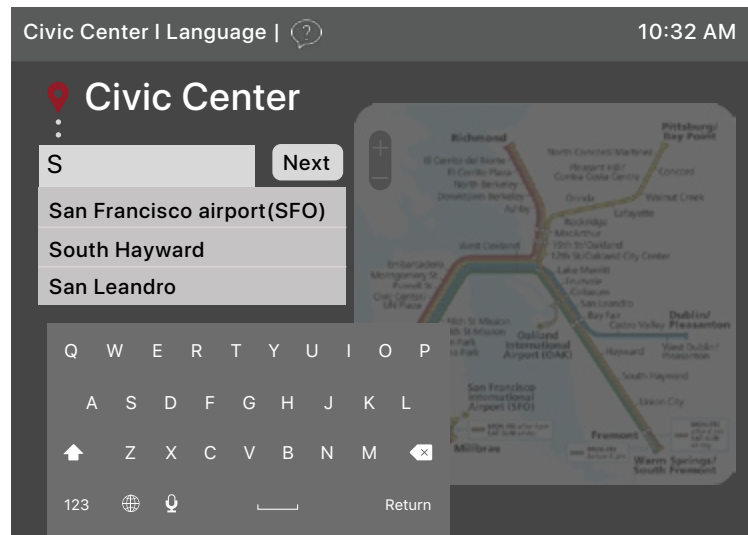
Version 2



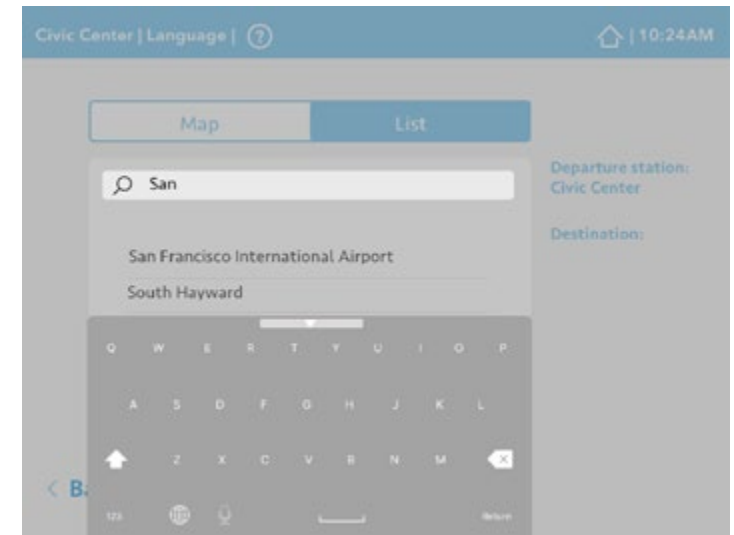
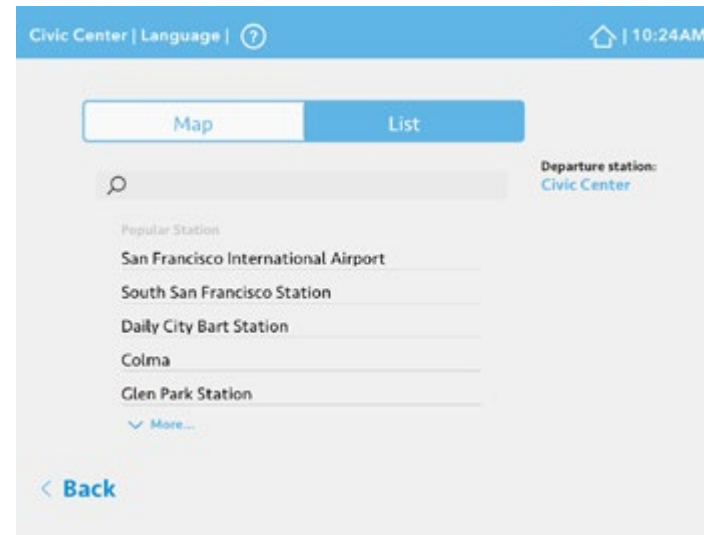
We adjusted the map view to only show the applicable route.

Search Destination

Version 1



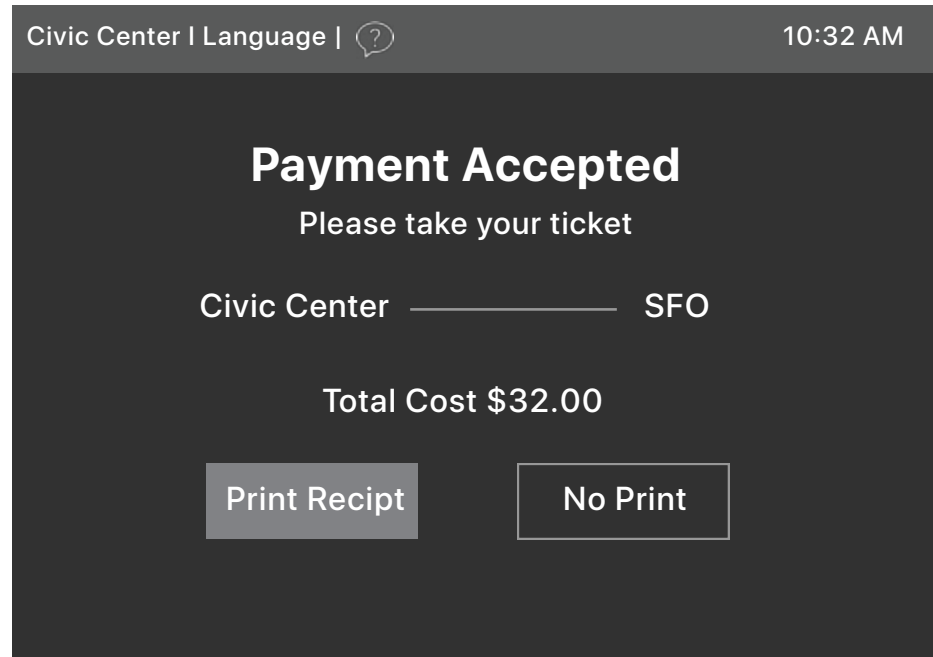
Version 2



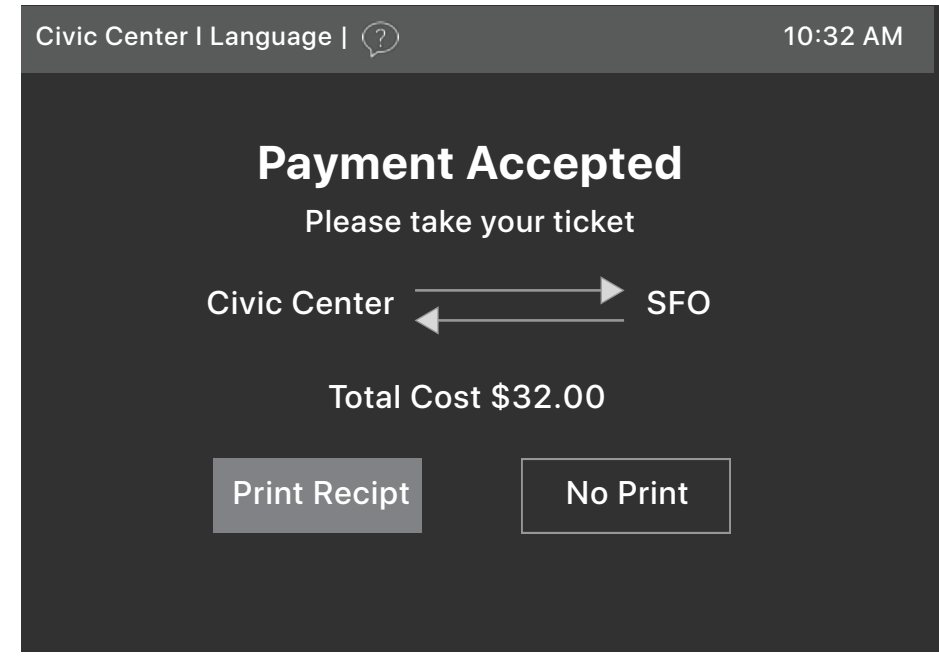
We added the destination search in the list view of stations.

Payment Accepted

Version 1



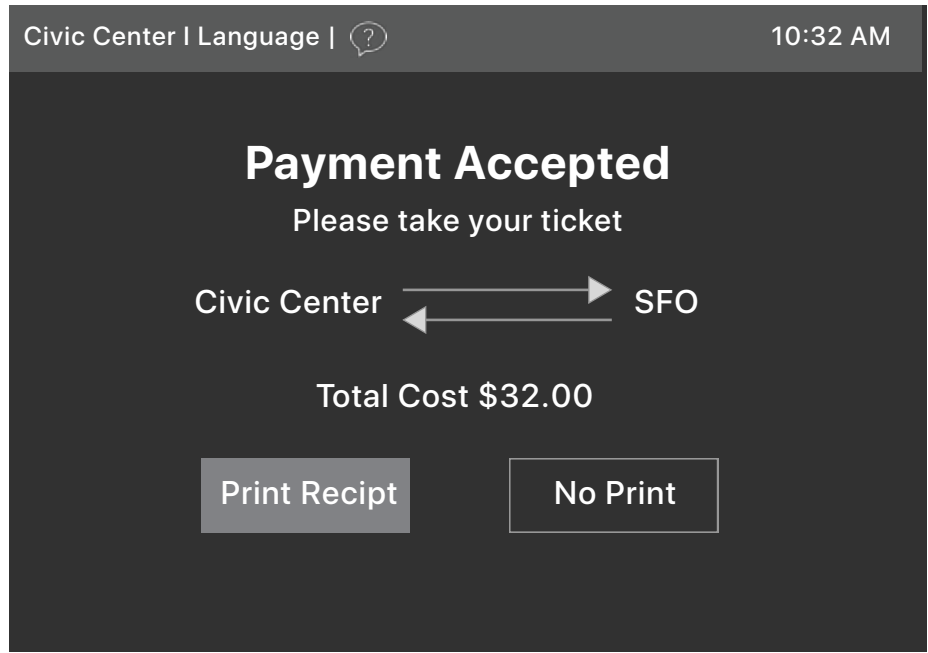
Version 2



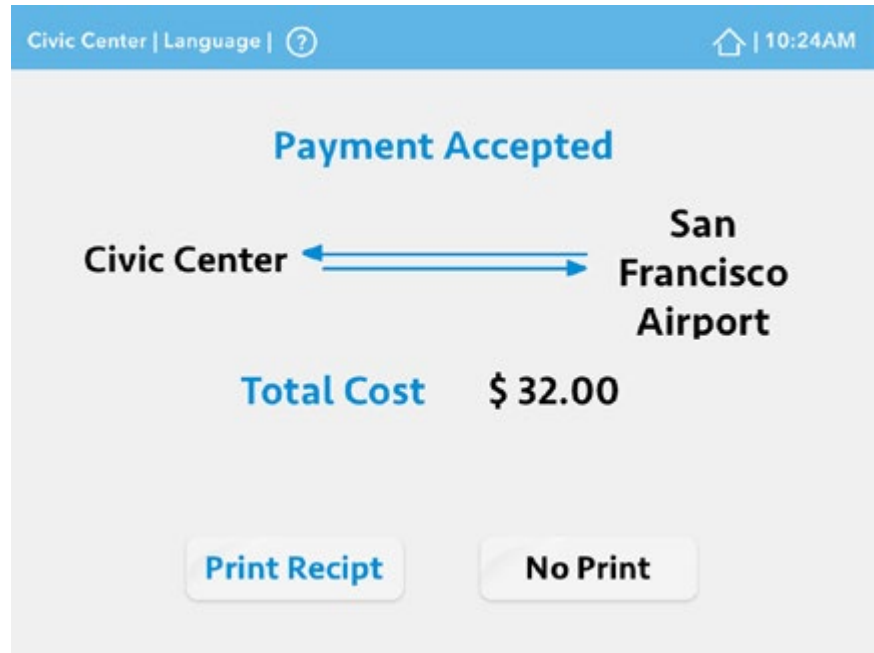
We added indication of round trip on the payment screen.

Payment Accepted

Version 2

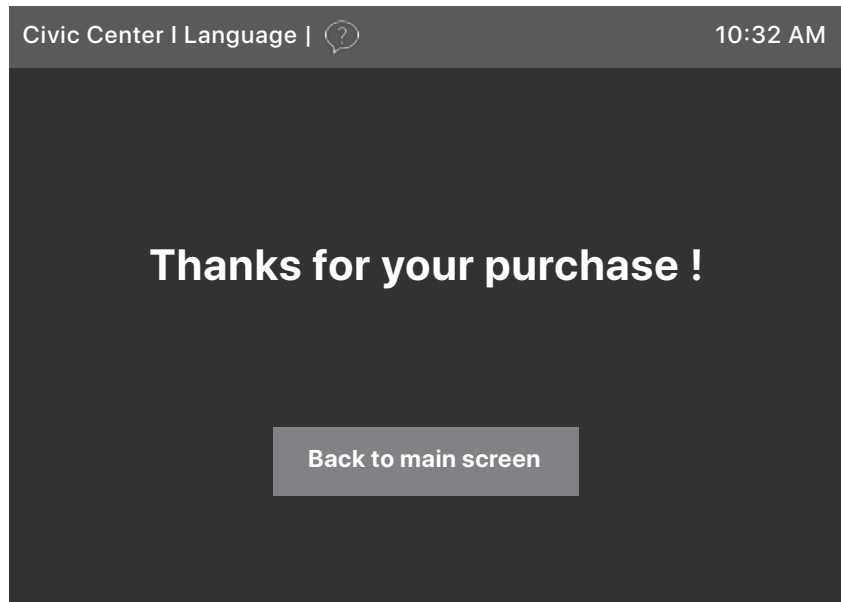


Version 3

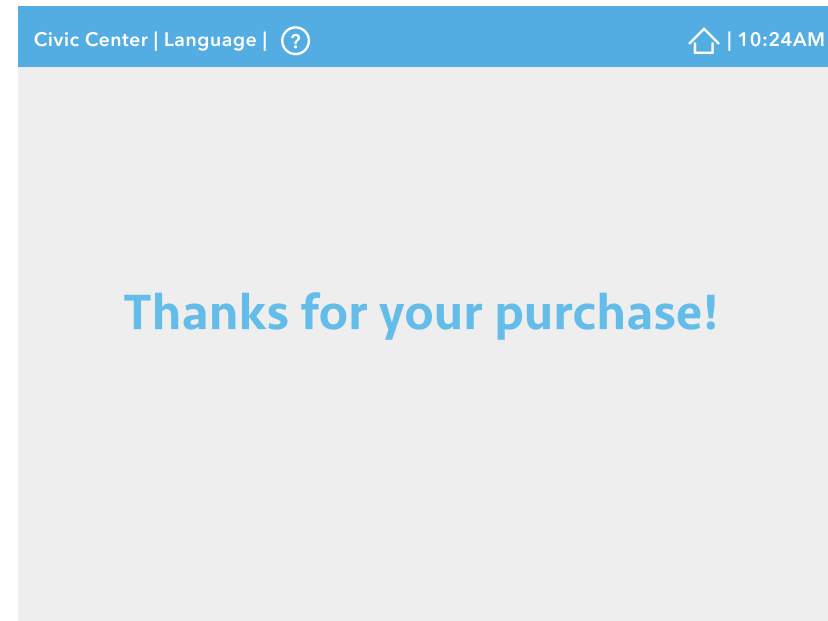


Confirmation

Version 1



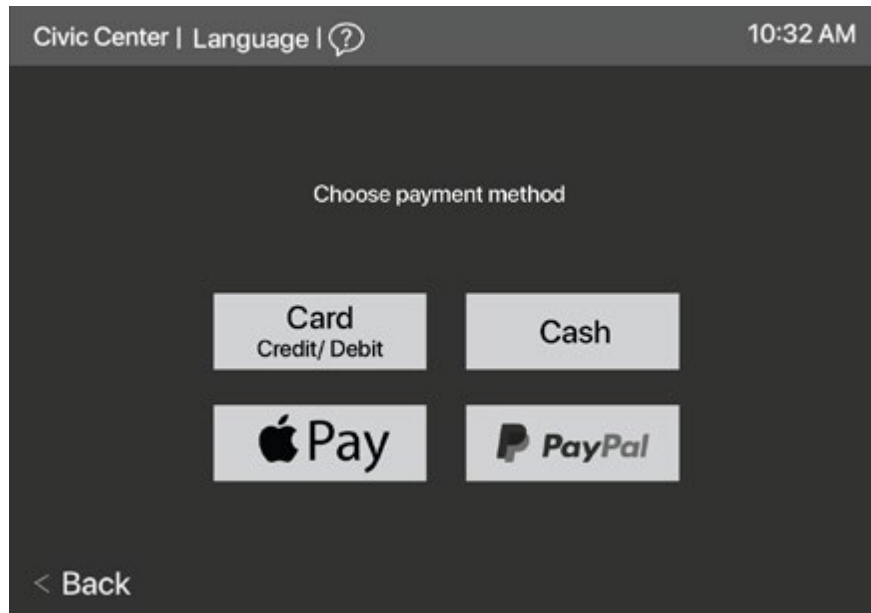
Version 2



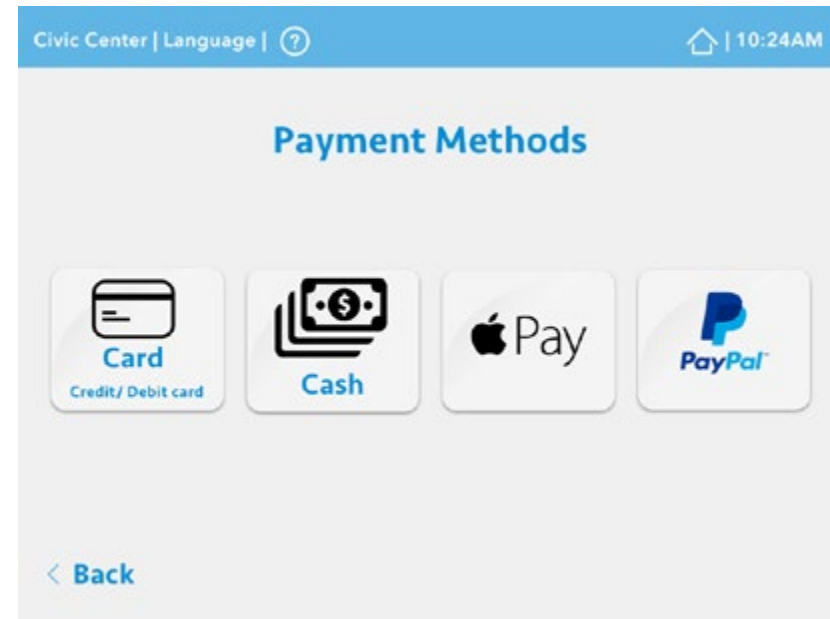
We added the final confirmation screen responding to feedback that we should provide a clear message that the purchase is complete.

Payment

Version 1



Version 2



Performance Metrics

Performance Metrics		
Tasks	Task Success Rate	Average Time-on-Task
Task 1	100%	61s
Task 2	87.50%	52s
Task 3	100%	47s

Issued Based Metrics

What created confusion for participants?

The description and color caused some confusion for participants. Particularly, one participant had difficulty understanding what the “Add Value” means, and she eventually gave up the task of adding value for BART card/ ticket. We changed our prototype design by adding a description of the “Add Value” button, although another participant felt the description looks like a link because of its blue color.

What caused something not to be noticed by participants?

We observed that if the font size is an important factor for something to be noticed by participants. For example, a few participants did not notice the current value displayed on the screen as its font size was small.

Why would participants assume a task is not complete when it was done?

We did not have a after-purchase confirmation screen to assure participants that they had completed the ticket purchase and the task was complete.

Why did participants misinterpret content?

The text under the buttons are intended to be descriptions of the actions, but some participants thought they could click on those texts due to their blue color.

What caused something not to be noticed by participants?

We used "Add Value" as the action for refilling ticket or card. Some Participants thought the word "Value" was ambiguous.

All Feedbacks

Gilli | United States | Male

1. Overall, how do you like about this design?

I liked its simplicity, clean cut and straight forward. In the lighting I was in, the color scheme was easy to discern. For a touch screen (I assume its going to be used for) it might be too dark in the daylight, my uneducated opinion. From point A to point B it was extremely easy, simple and fast. Perfect for cutting down purchase time to minimize lines.

2. Which step do you think is unnecessary? Why?

Every step was necessary in my opinion.

So few steps and an ease of use. If i had to choose I guess I would say the back button at the end of purchase might need to be automated to bring the screen to the opening page.

3. Where in the process do you feel confused? Why?

The instructions stated to buy a new card but the page said ticket, a bit of confusion there. The QR codes didn't work properly, the apple pay switched pages with mouse movement and the paypal QR code didn't show up in every instance.

4. Which one do you prefer, the map or keyword search? Why?

I noted the map but I didn't delve into its details. I knew where I was supposed to go and I added into the search and viola. I liked the addition of both though, I don't think one or the other needs to go but maybe some fine tuning for both of them to work in tandem. The map might be hard to view if its on a small screen and the zoom in and out buttons where also a bit small. Perhaps adding a keyword to the search bar could illuminate the line you are supposed to take would be a nice visual feature.

Balder | United states | Male

1. Overall, how do you like about this design?

The design of this screen/system is extremely easy to use. I love its simplicity.

2. Which step do you think is unnecessary? Why?

I did not encounter any redundant or superfluous steps in this process.

3. Where in the process do you feel confused? Why?

I did not feel confused at any point during the process.

4. Which one do you prefer, the map or keyword search? Why?

I did not come across any such search, neither map nor keyword.

Nina | South Africa | Female

1. What frustrated you most about this design? Why?

The website page did not fully display on the screen as it only appears as a medium sized pop-up box.

2. Overall, what did you like about this design?

The design is very user-friendly as the different pricing options are easily displayed to customers. The map displaying the different locations to travel to is also very useful to users of the webpage.

3. Which step do you think is unnecessary? Why?

I do not believe that any steps were unnecessary as users are guided step-by-step through the process, thus removing any confusion or doubt from the customer and providing thus a sense of comfort in following of the correct procedure.

4. Which one do you prefer, the map or keyword search? Why?

The map as the location a user wants to travel to are easily found and you can view your location as well as the route.

Juney | United Kingdom | Female

1. What frustrated you most about this design? Why?

I expected there to be an option to email myself the ticket. I also would have liked the search capability to include the option to write San Francisco and for the computer to know it was SFO.

2. Overall, what did you like about this design?

It was simple.

3. Which step do you think is unnecessary? Why?

I think it is not necessary to have a clickable picture. It wasn't obvious that you could click on it.

4. Which one do you prefer, the map or keyword search? Why?

Keyword search. I'm used to it.

Anna | United states | Female

1. Overall, how do you like about this design?

The design is very simple. There are some technical spelling errors that should be looked at and corrected. The buttons are large and would be great for touch screen. The little dot you select on the map is rather small if this were used for touch screen so I'd suggest making a list in alphabetical order for senior citizens to be able to select from.

2. Do you think this design missed some feature? If yes, what kind of feature do you like to add on? If no, what is your favorite feature in this design?

Like I had mentioned in the previous comment, adding a drop down list or a scrolling list of the common travel locations would be really great.

3. What do you dislike in this design? Why?

I do like how simple it is, however as a graphic designer, I am wondering if those colors are just chosen for ease or if they are actually the brand colors of the business/organization. It would be nice to see a logo and brand colors incorporated into the design. The map also looked a little pixelate to me.

Kool | United states | Male

1. Overall, how do you like about this design?

The design is a bit bland, due to the simplicity of the website. It is a straight forward site, you know exactly what your coming to do when accessing the site; so I understand that part. But the colors black and white doesn't add personality to the site. Feels very basic, rather dark and systematic, kind of like the DMV.

2. Do you think this design missed some feature? If yes, what kind of feature do you like to add on? If no, what is your favorite feature in this design?

Its missing excitement, something that pops out at you. The site itself is self explanatory, but it doesn't jump out at you with some kind of life to it.

3. What do you dislike in this design? Why?

It was just very bland and generic. There's was no explanation of what it was, why its here and whats the objective for the service offered to you as the consumer. How is it conducive to my life, why was it created, what's the story behind it. The site doesn't have life yet.

Chyna | United states | Female

1. Overall, how do you like about this design?

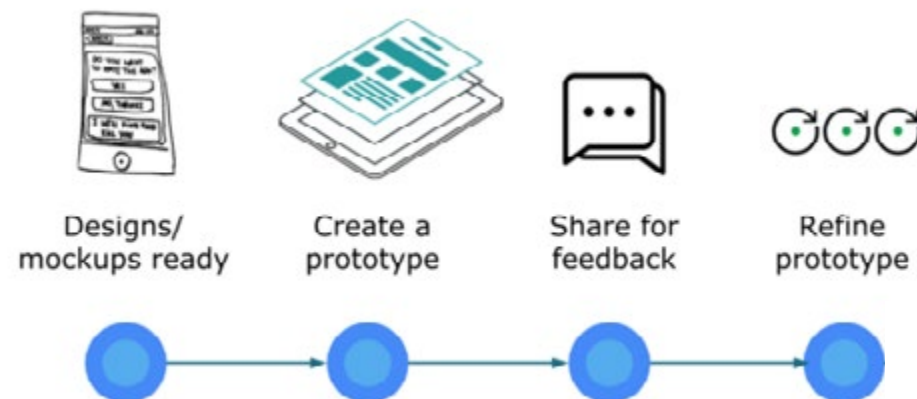
Overall I liked this design but a few bugs need to be fixed, for example don't make it quick to the point. Have the users understand what they are doing more than simply clicking a button.

2. Do you think this design missed some feature? If yes, what kind of feature do you like to add on? If no, what is your favorite feature in this design?

I think this design after you chose the price for your trip should review what the user is buying.

3. What do you dislike in this design? Why?

I dislike the color and how the words didn't contrast with the color. Lastly I would like the design to give us locations we could go to with a certain price.



Key product implications discovered about the original concept

1. Use short and highly informed process to make the task flow fast and smooth.
2. Use concise and simple descriptions and tips to make the interface easier to understand.
3. Keep the interface simple, clean and straightforward.
4. Design the multi-ticket purchasing experience to help users with different cultural backgrounds and experience levels go through the purchasing process.