Team 5

Project Topic: Uncontrolled Open Access Parking Lot

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Introduction

Our team designed a pay station interface for users of a 200-car uncontrolled surface lot. The design covers everything from the moment the user enters the parking lot to using the pay station and receiving a receipt for their payment. Additionally, we created a design for an online parking verification system to allow owners of parking lots to monitor and verify vehicles in their parking lots. Features of this system allows owners of parking lots to see which customers have paid and which customers have extended their stay past their allotted time. Our system also carries the potential to reduce gas emissions that would normally be used by security that are constantly monitoring open access lots.

We will begin our team report by discussing our background research and literature review. We will then go into our analyses and methods utilized to conceptualize and decide on our final designs. There will then be an overview of our survey data and finally, we will present our final designs for the pay station interface and online parking verification system.

Background / Literature Review

There exist a variety of methods and technologies to charge motorists for the use of parking lots. Two main distinctions between these strategies are the use of controlled or uncontrolled access to parking surfaces- each with their distinct advantages. While controlled parking imposes a maneuverable physical barrier, such as a boom gate, against entering and exiting a designated parking surface, uncontrolled parking lots are essentially open access. Here we will focus specifically on the specifications of uncontrolled parking lots and how owners charge motorists for their use.

Besides the obvious liberty of access, existing uncontrolled lots offer certain advantages such as the availability of multiple payment options (credit, debit, cash), printed receipts, transaction tracking, mobile reminders, and rate flexibility [1].

In both controlled and uncontrolled lots, pay stations/ticket machines provide a means for receiving and verifying motorist payment. For open access lots, as they do not initially restrict entry and exit, increased monitoring, done remotely or by staff, must also accompany the use of pay stations in order to best ensure payment verification. Existing methods primarily involve “pay and display” where payment for the designated amount of time is completed at a pay station and the ticket receipt is then returned to the car dashboard, which is subsequently verified by patrolling lot officers [2]. While this method offers the advantage of open access it can be cumbersome for both user and owner. This is due to the fact that the pay and display system requires users to return to their car, requires staffed parking lot attendants for verification, and generally does not support features for adding additional parking time.

In developing our uncontrolled surface lot pay station we aimed at retaining the above stated advantages of open access parking while simultaneously streamlining the process by introducing a system where users could directly identify where they parked at the pay station. This information would then be relayed to an online server, available to the owner, discriminating

between those spots that had been paid for and those that were idle or potentially left unpaid. An IR blaster and receiver system would be used to communicate real time changes in parking spot occupancy, which could be coordinated with the information from the pay station. In this way the system would allow users to bypass the step of putting the receipt on their cars and provide owners with real-time verification of occupancy and payment. The main features of our design can be broken down into three components: the pay station, the parking lot, and the payment verification system (IR sensors + online verification system). In developing these components and interfaces we aimed to conform our design to established industry standards. For the pay station this included specifications for the height of the pay station, keypad layout, and font size within the digital display. The height of the pay station needs to accommodate a range of eye heights based on the standing height of the largest person (95^{th} percentile) and the shortest person. These heights were found to be 1.8m and 1.35m respectively [3]. We therefore made our pay station 1.575m tall, the average standing height. In arranging the numerical layout of the pay station's keypad we had two choices: an ADD(ing machine) arrangement with 7, 8, 9 on the top row of a 3x3 key matrix or a TEL(phone) arrangement with 1, 2, 3 on top. It was found that there is a task specific preference for each arrangement among users. In scenarios requiring the entry of personal identification, such as phone numbers, there was an 82% preference for TEL [4]. Considering our system involved user entry of their phone number we chose the TEL layout for the pay station's keypad. Studies have found that, in regards to font legibility within digital displays, 14-point fonts are more legible than 12-point fonts [5]. Furthermore, serif fonts are read slower than sans serif counterparts. Therefore for digital displays found in the pay station and elsewhere we used a 14-point sans serif font.

In constructing the parking lot itself we had the choice of 45°, 60°, and 90° angles for parking stalls. The most common angle was found to be 60° because the ease of operation it provides [6]. Although 90° stalls provide the most stalls per area they have the highest degree of

difficulty of use and were recommended for all day parking rather than coming and going. Therefore, our lot's parking stalls would consist of 200 parking spots angled at 60°.

The owner verification system can be broken down into two parts: 1) an IR blaster and sensor system and 2) an online parking server verification system. We chose to use an electromagnetic (infrared) parking sensor to detect parking occupancy as it provides the advantage of wireless detection, can be extended across long ranges, and provides real time information based on disturbance of the IR field. IR parking detection systems are currently in use and consist of an IR sensor which emits and receives the IR signal, an AVR controller which collects, monitors, and displays the information from the IR sensor, and an IR blaster used to extend the range of the sensors and the capacity to remotely alter the field [7]. The online parking verification system will consist of a digital display that provides real time spatiotemporal information of stall occupancy based on information from the IR sensors that has been transduced by the AVR controller. In order to distinguish between paid, unpaid, and idle parking spots the verification system will incorporate information from the pay station and display the status as one of four colors: red (unpaid/time expired), orange (payment not received), yellow (processing), and green (payment cleared). The color-coding scheme was based on research showing that color-coding for opposing actions or statuses is best done using complementary colors (i.e. red and green) as they best segregate the visual field [8].

References

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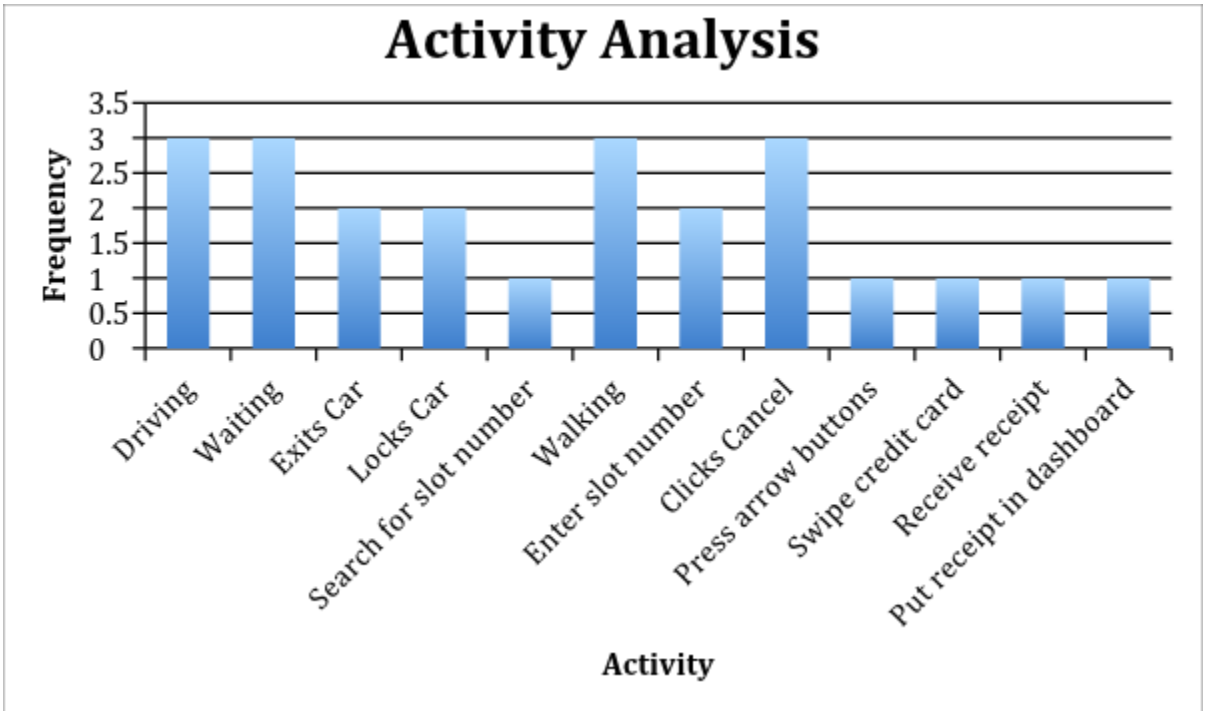
Activity Analysis

Live Observation Notes:

- Searches for parking (driving)
- Waits for driver to back out (waiting)
- Backs up to allow driver to back out (driving)
- Parks in parking spot (driving)
- Exits car
- Locks car
- Searches for parking slot number
- Walks to pay station (walking)
- Enters incorrect slot number (enter slot number)
- Clicks cancel
- Clicks cancel
- Clicks cancel
- Re-enters correct slot number (enter slot number)
- Selects time of 2 hours by pushing up button
- Swipes credit card
- Waits for receipt (waiting)
- Receives receipt
- Walks to car (walking)
- Puts receipt in dashboard
- Exits car
- Locks car
- Walks out of parking lot (walking)



Activity Analysis Review

To perform our activity analysis, we observed a friend go through every step in the process of parking in an open access parking lot. Some of us had not actually parked in an open access parking lot for quite a while, so we wanted to refresh our memory of the process. Additionally, we wanted to see what sorts of tasks were performed during the process that might not be reported by users in the survey. We recorded every task performed. Most of the tasks were evenly distributed, but they could mostly be categorized by walking, driving, waiting, and using the keypad.

Pareto Analysis

Reported problems from users:

- Sometimes there aren't enough time choices
- You can't see how much time you have left in the spot
- Pay stations are usually cumbersome and difficult to use
- Have to remember your space number
- Walking to the pay station
- Putting receipt back in the dashboard
- Putting receipt back in the dashboard
- Putting receipt back in the dashboard
- Remembering correct stall number
- Remembering correct stall number
- Walking to the meter station
- Too crowded
- My least favorite aspect is when you have to press a button to talk to someone, it makes the process more difficult
- Interface has many unused elements and is unnecessarily slow
- Poor lighting which makes me feel uneasy if an event runs late
- I only use these lots if I can't find parking on the street closer to where I want to go Often lots can be out of the way
- Not knowing when to pay / when is parking free
- Having to keep track of a paper ticket
- Machines don't work
- Confusing to use
- Overpay due to hourly rate

Top 20% of problems reported:

- Putting receipt back in dashboard
- Remembering correct stall number

Pareto Analysis Review

Before we could design our open access parking lot interface, we needed to determine exactly how current systems worked and what the most important and common problems were that most users experienced. In order to decide which problems to first tackle, we did a pareto analysis by collecting data from our users and asking them to list their least favorite aspects of open access lots. We received a wide variety of issues, but the two issues that consisted of the top 20% of the results were "putting the receipt back in the dashboard" and "remembering the correct stall number." Solving these two issues significantly influenced our design process, and they ended up being two major aspects of our final design.

Operational Analysis

1. Review information for functions, inputs, outputs, operating conditions and limitations:
    - "For a 200 car surface lot that has not controlled access. Drivers identify the slot they are parked in and pay. Must support cash, credit and token parking (Gratis parking paid for by someone else). Must support free parking sometimes. Interface would be for both drivers and the owners."
2. Describe what the product will do in a single sentence:
    - The product will offer users both free and paid parking in a parking lot with no barrier to entry or exit.
3. Describe what the product will do in terms of subordinate functions required to accomplish the product's purpose:
    - The product will have buttons and a display to allow users to select the amount of time they want to pay for parking
    - The product will have payment slots that allow users to pay by credit, cash, or token
    - The product will have at least 200 parking slots
    - The product will have visible numbers in each parking slot
    - The product will have additional features (text, call) to allow users to add additional time remotely
4. Anticipate and elaborate failure that might occur with this system:
    - Users may fail to pay for parking
    - Users may enter the wrong parking slot
    - Users may park illegally (taking up 2 or more spots, fitting 2 motorcycles in 1 spot, etc)
    - Pay station may crash/fail
    - Supporting features (text, call) may crash/fail
5. Describe users of the system
    - Users are people 15+ who own cars and are able to drive
    - Users may be attendees of major events (sporting games, conventions, etc)
    - Users may be employees of offices downtown
    - Users may be visitors/tourists of downtown

Operational Analysis Review

Before we came up with our design, we wanted to ensure that we understood every function that our design would need to support. Directly after reading the prompt, we had some innovative design ideas in mind, but we wanted to first thoroughly outline all of the minimum required functions based on what the prompt demanded. This way, we would not miss addressing a basic feature of the parking lot in the process of getting carried away with an exciting idea. An operational analysis allowed us to do this, in addition to outlining potential failures and users. Outlining potential failures helped us come up with "back up" support features in our design to remedy anticipated failures. By knowing who our users were, we could cater our design to address their needs. This caused us to think of new aspects we needed to add to our design, such as creating multiple pay stations in order to reduce lines that may occur before popular downtown events.

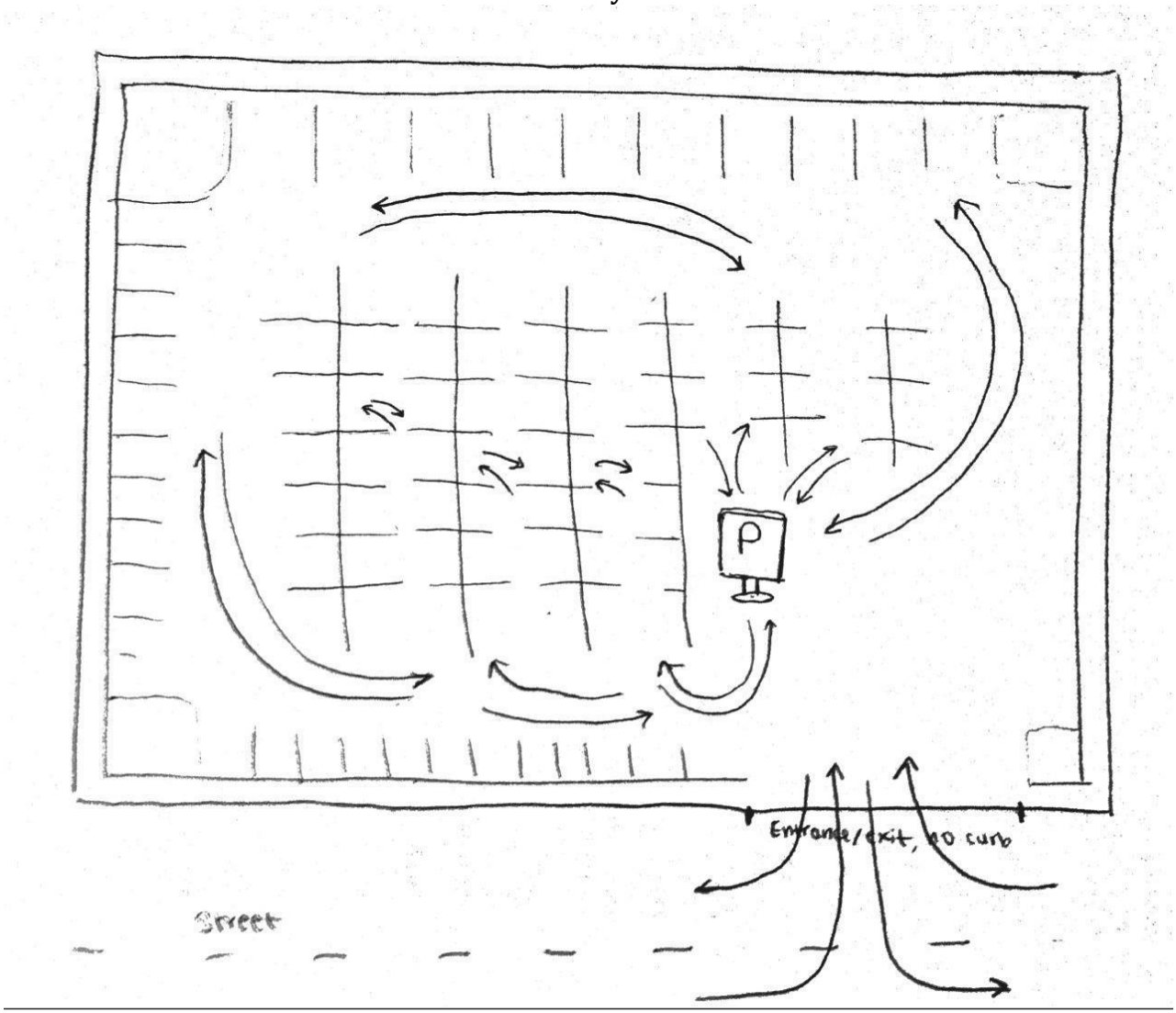
Similar Systems Analysis

Pros of Current Pay Stations	Cons of Current Pay Stations
1. Multiple payment options 2. Digital prompts make it clear what the next step is 3. Ticket prints out at the machine 4. Ticket has everything user needs to know 5. Lack of barrier allows for less traffic at entry	1. Usually only one machine per lot a. Leads to crowding b. What if the machine breaks? 2. Have to walk to pay station, get ticket, walk back to car to put ticket on dash 3. Parking ticket on dashboard 4. Difficult to add time 5. Not usually handicap accessible 6. Security has to drive around lot to check for tickets in dash and enforce towing consequences 7. Digital prompt / payment options limited

Similar Systems Analysis Review

We examined the different functions of similar systems in order to determine what positive aspects of current systems we wanted to keep and what negative aspects we wanted to improve or eliminate. Our favorite aspect of current open access parking lots was the clear instructions provided both on the pay station meter and by the digital display. This made the payment process clear and easily understandable for the user. Our least favorite aspect was the amount of unnecessary effort that both the user and owner needed to exert in order to prove payment – from the user's perspective, putting the receipt on the dashboard, and from the owner's perspective, hiring security to constantly circulate the parking lot and check all the receipts.

Flow Analysis



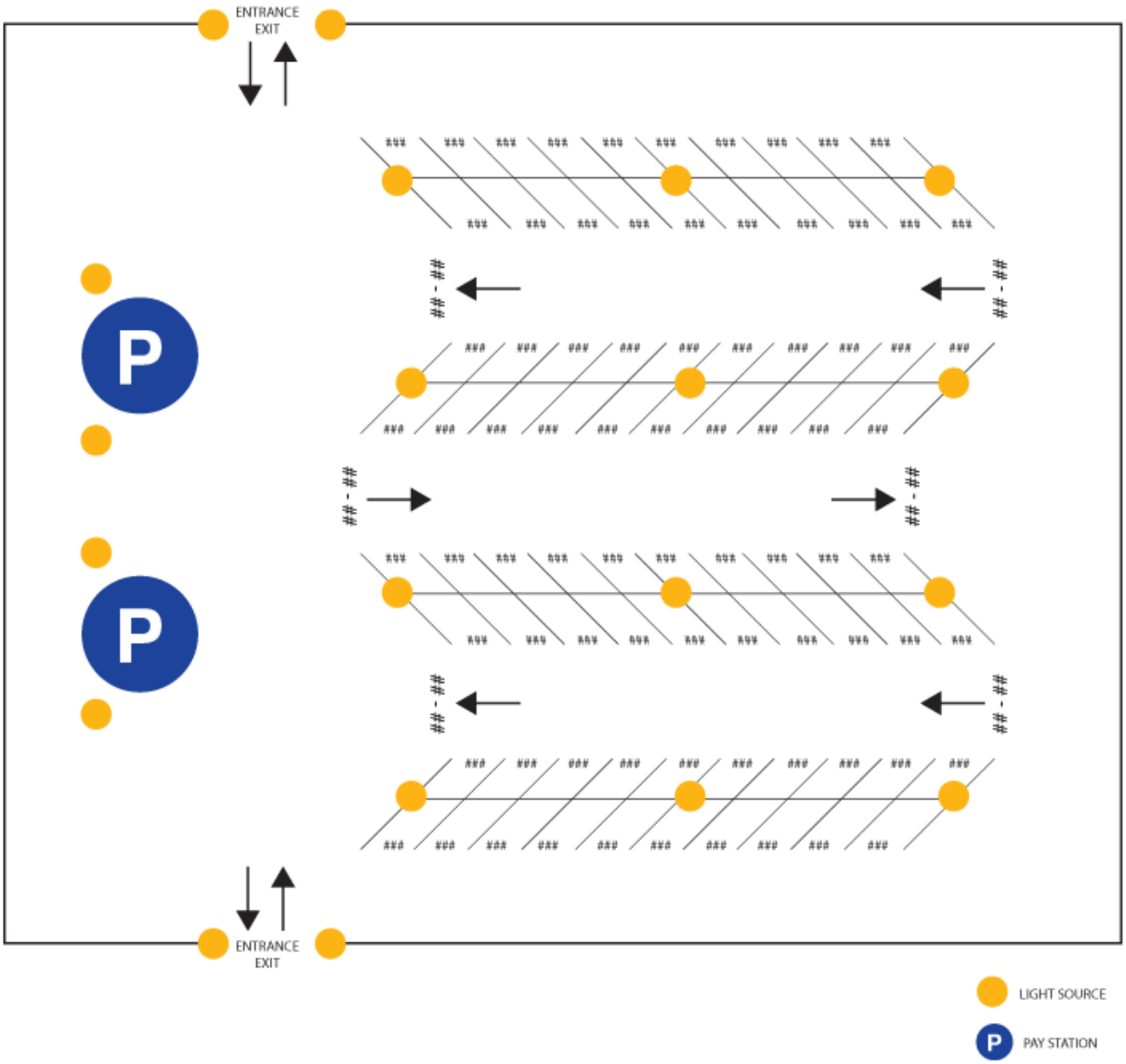
Comments:

- Arrows constantly require movement in both directions due to necessity of putting receipt back in dashboard
- Only one exit/entrance
- Only one parking meter
- Cars do not always drive through correct lanes

Flow Analysis Review

We also drew a flow analysis of the same parking lot we used for activity analysis. We did a flow analysis in order to determine what current layouts of open access parking lots looked like and whether or not they "flowed" in a logical manner. We tried to keep our flow layout clean by not filling it with too many arrows. However, we noticed some clear flaws in current layouts based on our analysis. Firstly, the need to put the receipt back in the dashboard of the car created constant movement in both directions. This doubled the amount of time that pedestrians had to walk around in the parking lot, putting them at greater risk for car accidents and slowing down movement of driving cars looking for parking spots. Additionally, if the user parked far away from the parking meter, they would have to walk double the distance, which can be irritating and tiring for the user. The location of the parking meter and entrance/exit also created issues. The parking meter was located right by the entrance, which we acknowledged had value because it alerted the user that the parking lot required payment and was not free. However, it was located away from almost all the other parking spots, and since there was only one parking meter, people had to walk a greater distance to access the pay station. Since there was only one entrance, cars were forced to drive around the entire parking lot to enter and exit the lot. This would create traffic within the lot when cars were waiting for other cars to back out or park into spots. Finally, since the parking slots were not angled, cars could enter parking lanes in both directions to park in a spot. Since the lanes were not quite wide enough to comfortably allow two cars to drive simultaneously in opposite directions, the cars drive slowly and maneuver around each other, building up more traffic. Based on our flow analysis, we realized we needed to make a couple of changes in our design. We wanted to make a symmetrical design that would allow users to only need to use half the space of the parking lot to complete their tasks, so we created two parking meters and two entrances. Additionally, we decided to use slanted parking slots (slanted at 60 degree angles), since not only are they easier for

user parking, but also they created a logical sense of direction in the parking lot that would reduce traffic and congestion. Below is an image of our suggested layout for the parking lot.



Cognitive Walkthrough Analysis

1. A: The user will enter the parking lot and pick an open space to park in.
   B: The user knows that parking is making progress toward their goal by seeing a "PARKING LOT" sign at the front of the lot.
2. A: The user will take note of the parking space number because of the sign at each row with row numbers.
   B: The user will know that this is making progress of their goal because they will need the number to pay for their stall.
3. A: The user will know to walk to the pay station.
   B: The user will know to walk to the pay station because of the sign that says the parking rates and times.
4. A: The user will enter their parking space number because the display on the pay station will prompt them to do so.
   B: The user will know they are making progress because the screen will change to ask for payment.
5. A: The user will know to enter some form of payment because the display will prompt them to do so.
   B: The user will know entering payment was correct because they will receive a receipt.
6. A: The user will take their ticket and leave.
   B: The user will know to leave because the receipt confirms that they are done.

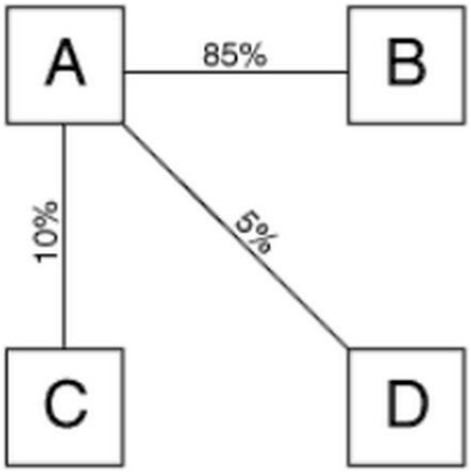
Cognitive Walkthrough Analysis Review

We performed our cognitive walkthrough analysis based off of Spencer's Reduced Set of Questions: A) Will the user know what to do at this step? And, B) If the user does the right thing, will they know they did the right thing and are making progress toward their goal? By doing our cognitive walkthrough, we realized that we needed many sets of instructions around the parking lot – at the entrance (sign indicating parking rates), within the digital prompts, on the meter itself, and on the receipt. By including instructions and information in all these areas, we ensured that users would know what tasks were required and could track their progress. The only flaw we found after finalizing the cognitive walkthrough was that it could be unclear to first time users of open access parking lots that they would need to take note of their parking slot number before walking to the pay station. Since most street parking meters and closed access lots do not require the user to identify their slot number, this step isn't necessarily intuitive to the user. To mitigate this issue, we tried to make our parking slot numbers more visible by listing slot numbers of each row (ex: "30-

60”) at the beginning of each row of parking slots. By doing this, we hoped this would not only help the user realize that the numbers in each spot served a purpose, but also help them remember in which spot they parked.

Link Analysis

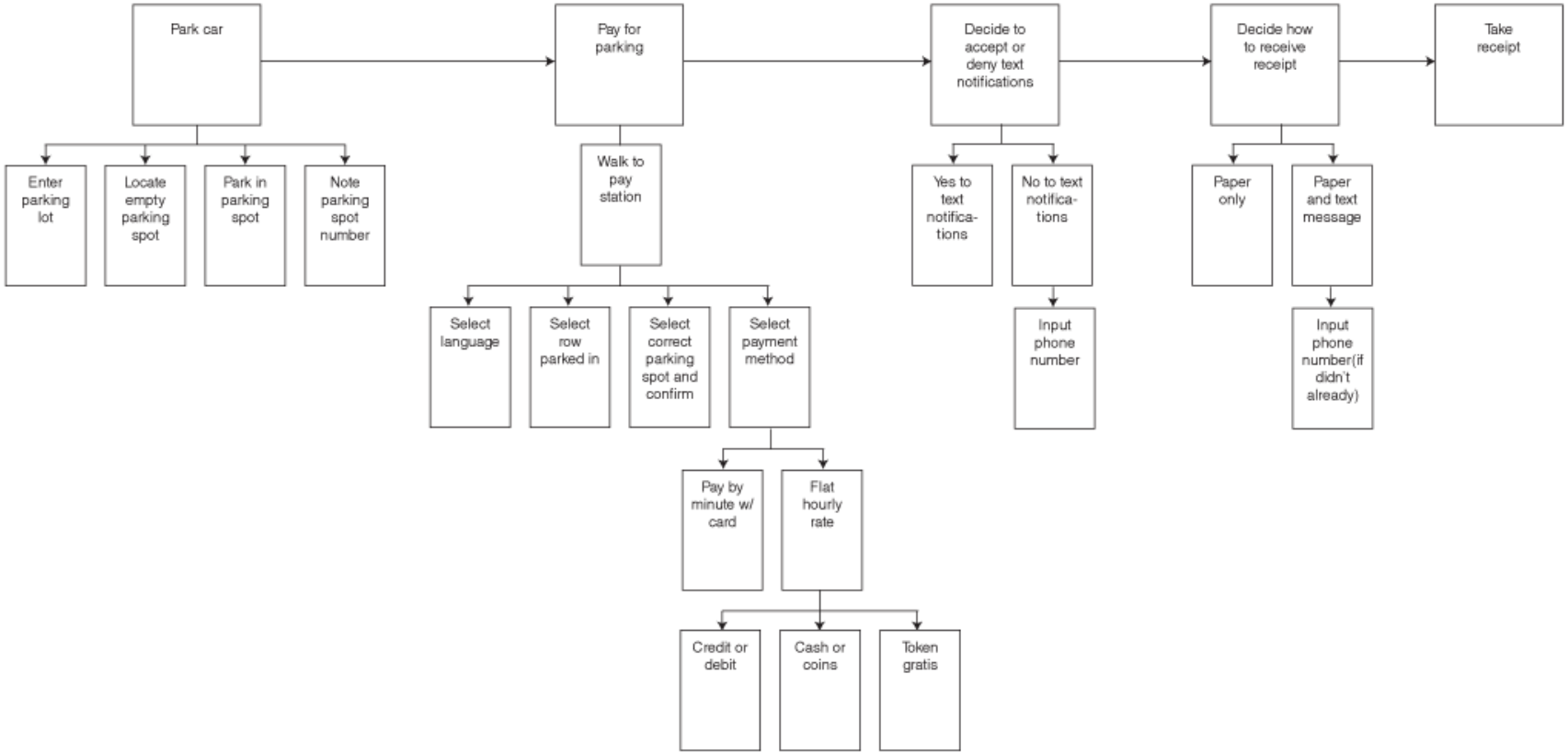
Component	Importance	% Time Spent Viewing	Multiplied values
A: digital display	1	50%	200%
B: keypad	2	35%	105%
C: payment options	3	10%	20%
D: receipt dispenser	4	5%	5%



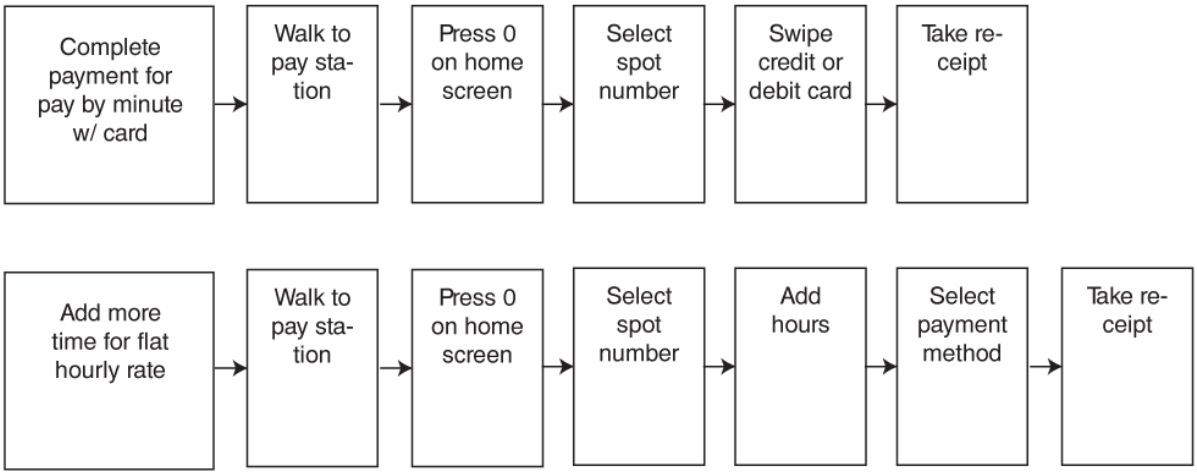
Link Analysis Review

We performed a link analysis in order to determine where to place the different features on the pay station interface. Since we did not have eye-tracking devices, we used a timer, closely examined a user using a current pay station, and roughly estimated the amount of time they spent looking at and using each feature. We determined that the user spent the majority of their time focused on the digital display, and it had the greatest importance. The keypad was used the second most, the payment option third, and the user barely focused on the receipt dispenser at all except to take the receipt at the end. We also determined that the user only switched between each feature and the digital display, but never between a pair of any of the non-digital display features. Since the user spent most of his time oscillating between the digital display and the keypad, those two features had the highest link value in addition to being the most important. Therefore, we placed them in close proximity to each other on the best line of sight. The successive elements, the payment options and receipt dispenser, were placed below the digital display.

Task Analysis (First Time Customer)



Task Analysis (Returning Customer)



Task Analysis Review

The task analysis allowed us to make sure that we covered all of the users' potential goals and that the process of accomplishing those goals was simple. For returning customers, we knew that they already went through the pain of going through the initial payment process, so we did everything we could to minimize the work they had to do if they needed to return. Users needed to return to the pay station under two circumstances: to finish paying by minute with card or to add more time. The number of steps required to perform either option was reduced to the fewest number of steps possible.

Decision Analysis Review

Our decision analysis can be viewed through our presentation file. We used survey data and user feedback to determine which features to implement and what design choices to make. Most importantly, it helped us decide that in order to remove the pain of returning the parking ticket to the dashboard, we needed a separate system. This is the basis for why we chose to create a system based on IR sensors and an online parking verification system for the parking lot owners to use.

Flow Process Chart Analysis

Due to the file size of the flow process chart, we attached it in a document separate from the team report. The flow process chart played a vital role in helping us realize that we were missing some features form our menu options on the pay station interface. Such features included options for returning customers, free parking, and replacing the yes/no options with enter/cancel. We used low-fidelity designs to complete this analysis instead of high-fidelity designs for the purpose of time and simplicity. Though tedious in nature, the flow process chart made us aware of many key features that our system lacked at the time.

Survey 1

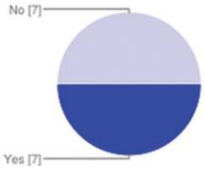
Our first survey was performed to get a feel for how many users have experienced using an open access parking lot. We also asked very general, open-ended questions such as the users' favorite and least favorite features of open access parking lots. We also asked the users to rate a couple specific features such as 'adding additional time to parking slot' and 'paying without returning the ticket to the dashboard' that we thought would be important, judging by our personal experience and field research on open access lots. It is important to note that in both of our surveys, we started by asking users if they had ever visited an open access lot before. If they did not, they were marked ineligible to complete the survey and no further data were collected from them. By doing this, we restricted our survey participants to specific users who were familiar with the open access parking lot system.

14 responses (Survey 1)

Publish analytics

Summary

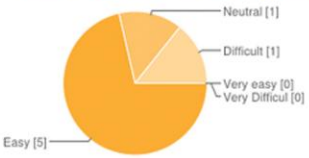
Have you ever been to an open access parking lot?



Yes	7	50%
No	7	50%

Open Access Lot Pay Stations (Cont.)

How was your experience with the open access lot's pay station?



Very easy	0	0%
Easy	5	71%
Neutral	1	14%
Difficult	1	14%
Very Difficult	0	0%

What are your favorite aspects of open access parking lots?

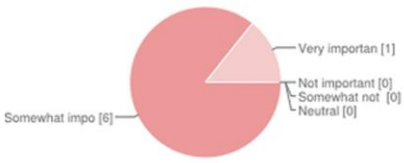
Unsure don't always have to wait in a line Don't have to deal with the machines at the gates which can be hard to reach and slow down the parking process. There's no ticket that you have to display on the dashboard to worry about. The machines at the gate are also sometimes a nuisance because they have issues with either the credit card or the ticket. Limited physical barriers to entry Favorite aspects are when the machine is easy to use, one of the easiest I've used is you insert/remove your credit card to enter and then insert/remove your credit card when leaving and the machine charges you based on how long you were there (potential downside if you don't have a card with you I guess). Not sure anyone really enjoys paying for parking, idk, perhps not having to wait in line to get a ticket upon entrance

What are your least favorite aspects of open access parking lots?

Sometimes there aren't enough time choices. Also, you can't see how much time you have left in the spot. Pay stations are usually cumbersome and difficult to use. I bought a 'day pass' and ended up needed to stay longer so I had to go back at 9PM that night to buy an 'overnight' pass. Ended up getting locked out of the building where I was staying with my ex-girlfriend and couldnt contact her cause my phone was dead. Then I had to come back in the morning and leave before my overnight pass ran out at like 6:30 am. So fucking annoying. Have to remember your space number. walking to the pay station Too crowded My least favorite aspect is when you have to press a button to talk to someone, it makes the process more difficult.

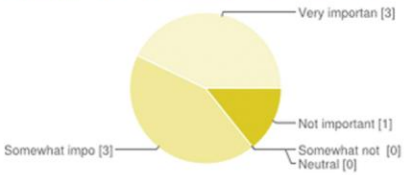
Please rate the importance of these aspects of open parking lots

Ability to add additional time to parking spot



Not important	0	0%
Somewhat not important	0	0%
Neutral	0	0%
Somewhat important	6	86%
Very important	1	14%

Paying for your parking spot without having to put your ticket in the dashboard



Not important	1	14%
Somewhat not important	0	0%
Neutral	0	0%
Somewhat important	3	43%
Very important	3	43%

Finally, do you have any suggestions that you wish were available in open access parking lots?

Not really. how does it deal with user not paying or not buying enough time free parking? hahaha i wouldnt mind getting an alert text telling me if I am running out of time that maybe had a link to be able to add more time.

Survey 2

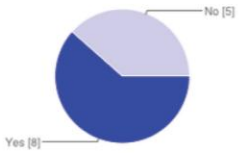
Results from our first survey gave us ideas for our second survey. We used the second survey to collect more refined data on specific features of the pay station. At this point, we had performed a number of concept exploration analyses to come up with a few low-fidelity designs. We used these to gauge the users' reactions and preferences to different design elements. We also gave users open-ended questions with regards to negative and positive experiences with open access parking lots. This allowed us to look at issues with current systems and see what we could do to remedy those issues.

13 responses (Survey 2)

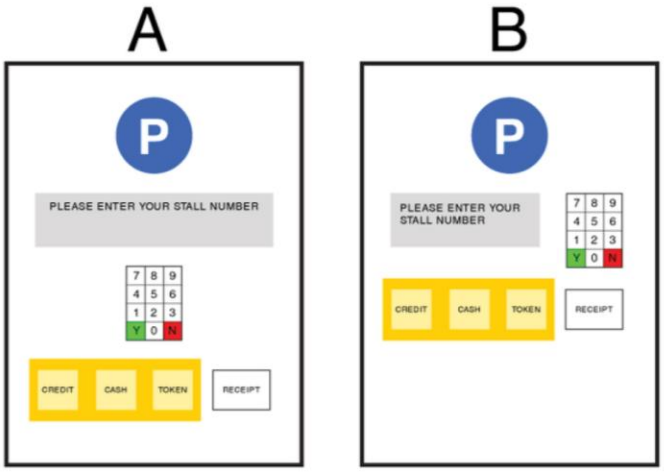
Publish analytics

Summary

Have you ever been to an open access lot?

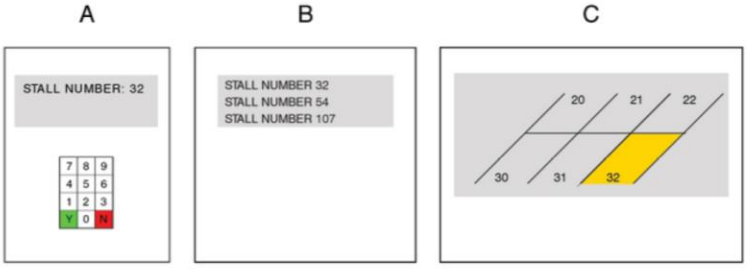


Yes	8	62%
No	5	38%

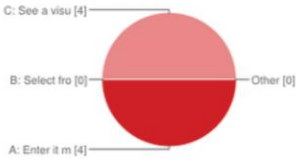


Which of the above interfaces do you prefer?

A	3	38%
B	5	63%

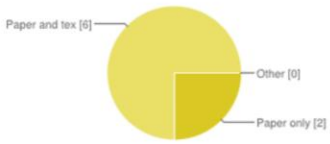


How would you prefer to enter your stall number?



A: Enter it manually with a keypad (Ex: "Enter stall number," Type "32")	4	50%
B: Select from a list of stall numbers (only available stalls without parked cars will show up)	0	0%
C: See a visual diagram of the parking lot; select correct stall (available stalls will be highlighted)	4	50%
Other	0	0%

How would you prefer to receive a receipt for your parking?



Paper only	2	25%
Paper and text message	6	75%
Other	0	0%

How would you want to receive notifications that your time is almost up?

Text	8	100%
Phone call	0	0%
I don't want notifications	0	0%

13 responses (Survey 2 Cont.)

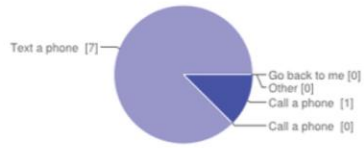
Publish analytics

Summary

How many notifications would you like?

One, 15 minutes before time is up	2	25%
Two, one 30 minutes before, one 15 minutes before time is up	6	75%
I don't want notifications	0	0%
Other	0	0%

Your event is running late, and you need to add time to your parking spot. How would you prefer to do this?.

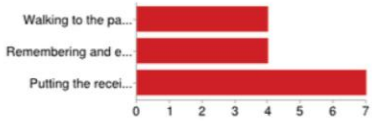


Go back to meter itself	0	0%
Call a phone number; talk to a real person	1	13%
Call a phone number; talk to an automated system	0	0%
Text a phone number; receive a text confirmation	7	88%
Other	0	0%

What type of input method do you prefer?

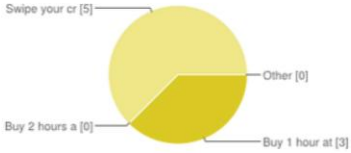
Touchscreen	3	38%
Keypad with buttons	5	63%

What aspects of current open access parking lots do you find to be irritating/cumbersome?



Walking to the parking meter station	4	27%
Remembering and entering the correct stall number	4	27%
Putting the receipt back in your car in your dashboard	7	47%

How would you prefer to pay for your time?



Buy 1 hour at a time, flat hourly rate	3	38%
Buy 2 hours at a time, flat hourly rate	0	0%
Swipe your credit/debit card when first parking, then swipe again when leaving. Pay for how many minutes you stayed based on when your credit card was swiped	5	63%
Other	0	0%

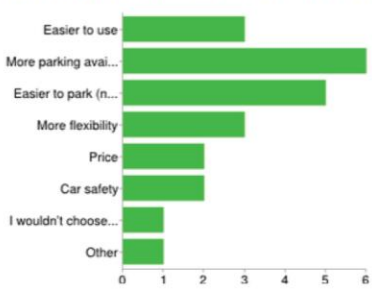
What issues do you currently experience with open access parking lots?

The interface has many unused elements and is unnecessarily slow. Having to keep track of a paper ticket the machines often don't work or are confusing to use Poor lighting which makes me feel uneasy if an event runs late n/a I only use these lots if I can't find parking on the street closer to where I want to go. Often these lots might be a bit out of the way. Having pay per hour rather than pay per minute, so if I'm there from 4pm to 5:01pm I pay for 2 hours worth of parking none, have not used in long time

What positive experiences have you had with open access parking lots? Any stand out features?

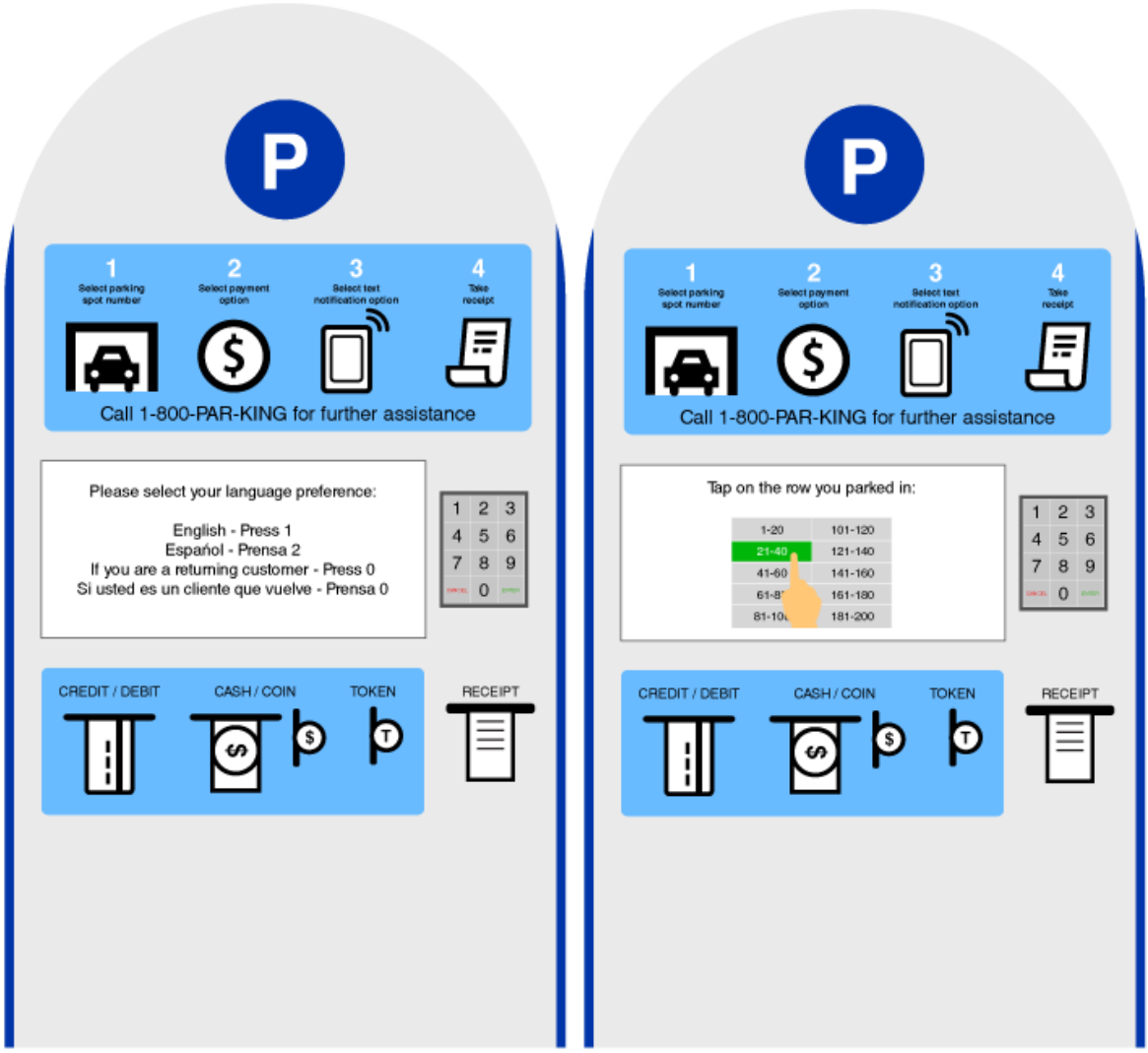
Convenience and flexibility. Can come and go as I please easy to use n/a Simple interfaces work best; machines that allow you to pay with either cash or credit/debit Prorated pricing eliminating the need to return to the meter mid event. That or an 12 - 24 hour rate that does the same thing as well. It takes less time to park than a parking lot with a 1-car entrance/exit Nothing in particular. They are usually close to event areas, so getting through the menus quickly allows one to get to the event before the lines get long.

Why would you choose to park at an open access parking lot over regular metered street parking or a closed access parking lot? (Check all that apply)

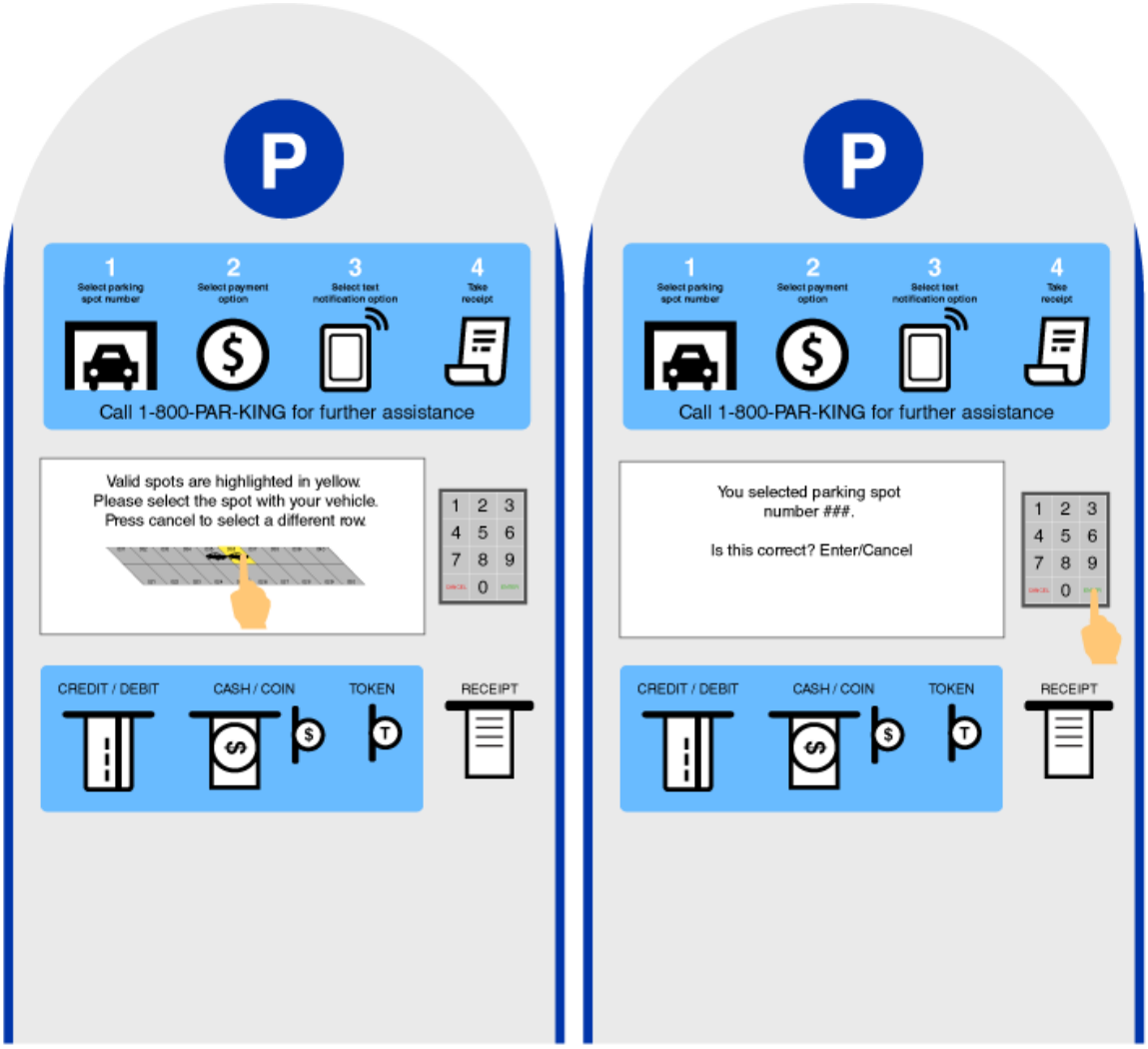


Easier to use	3	13%
More parking availability	6	26%
Easier to park (no parallel parking)	5	22%
More flexibility	3	13%
Price	2	9%
Car safety	2	9%
I wouldn't choose an open access parking lot over other forms of parking	1	4%
Other	1	4%

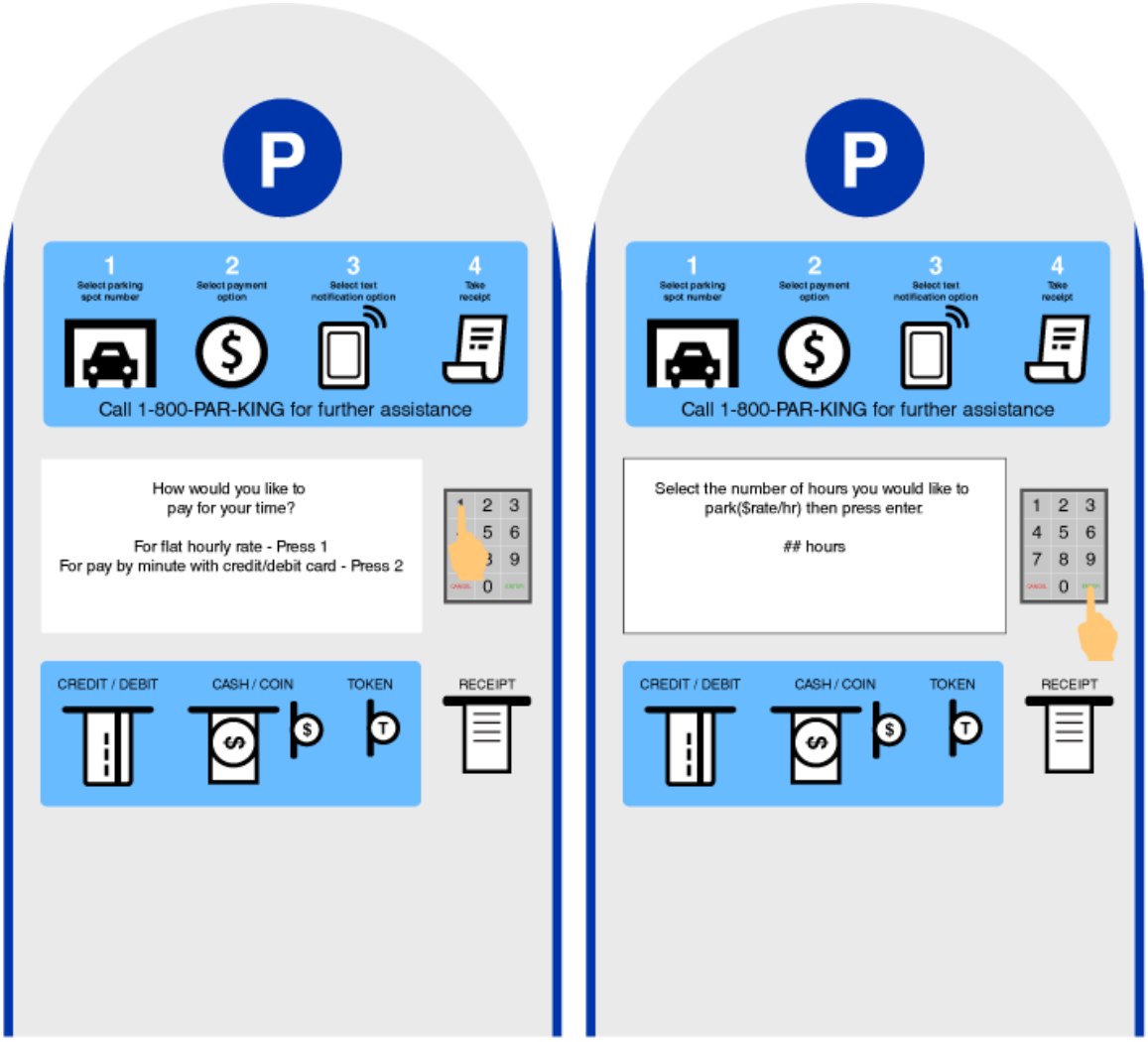
Final Design (Pay Station Interface)



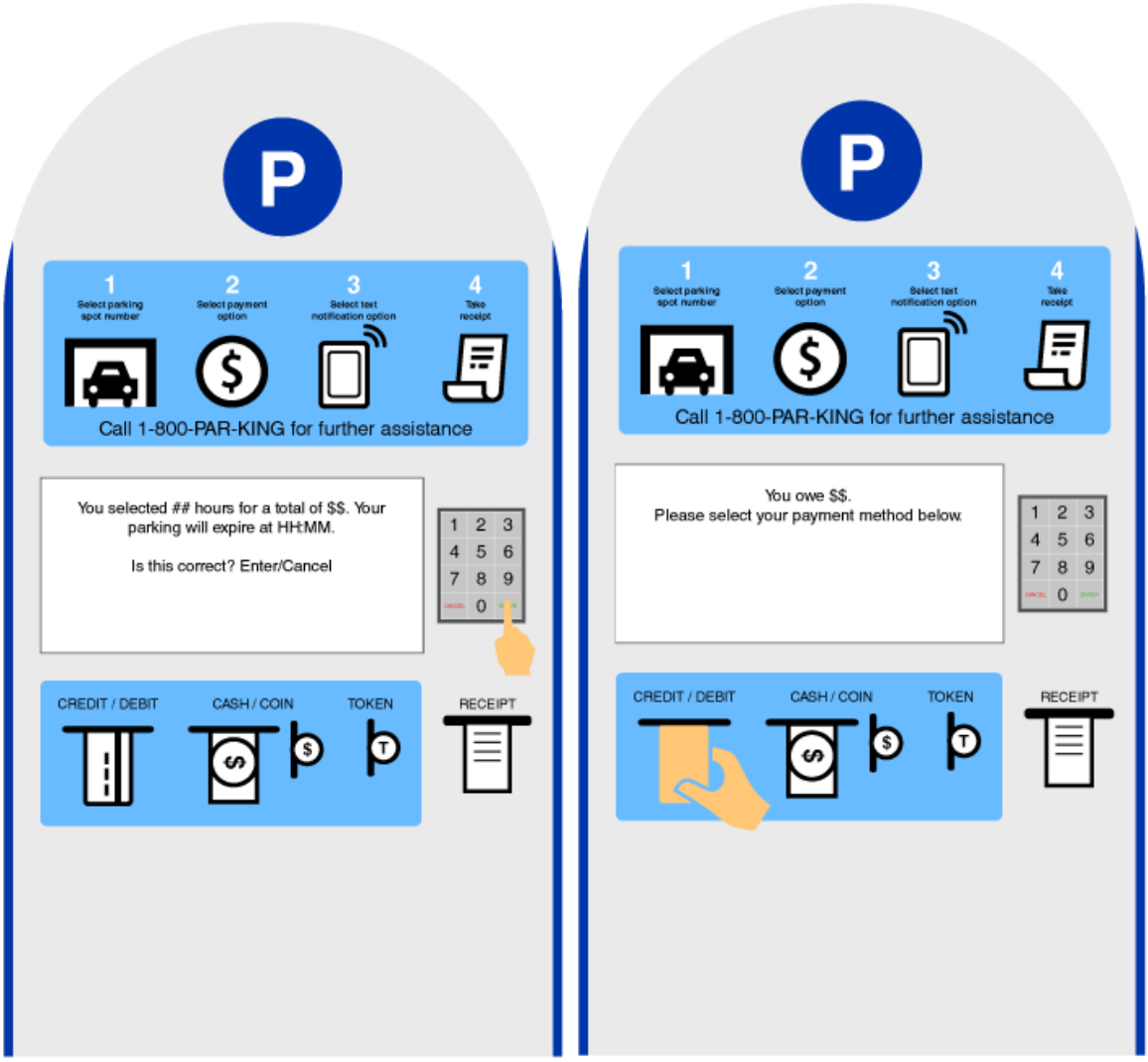
Final Design (Pay Station Interface)



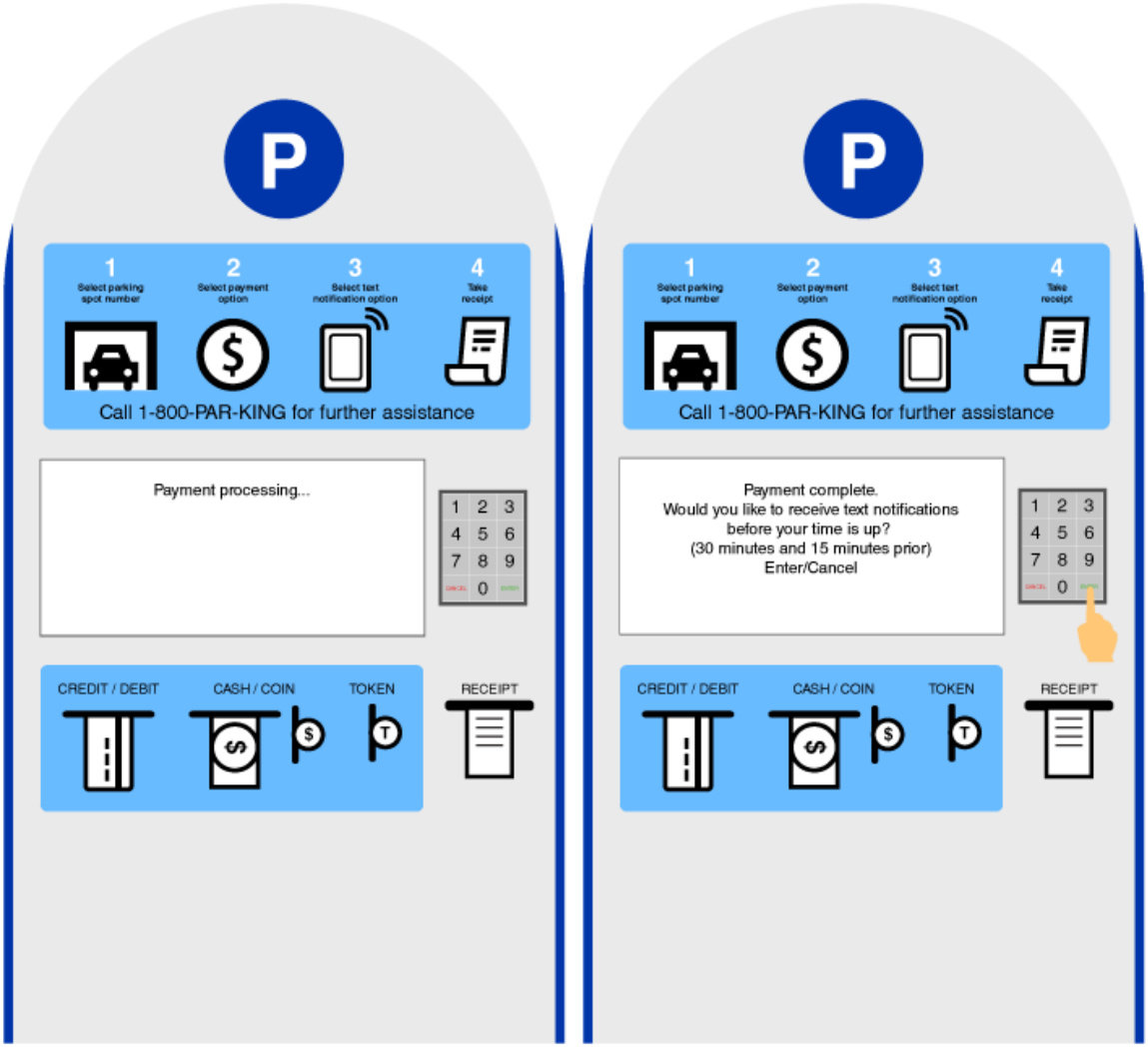
Final Design (Pay Station Interface)



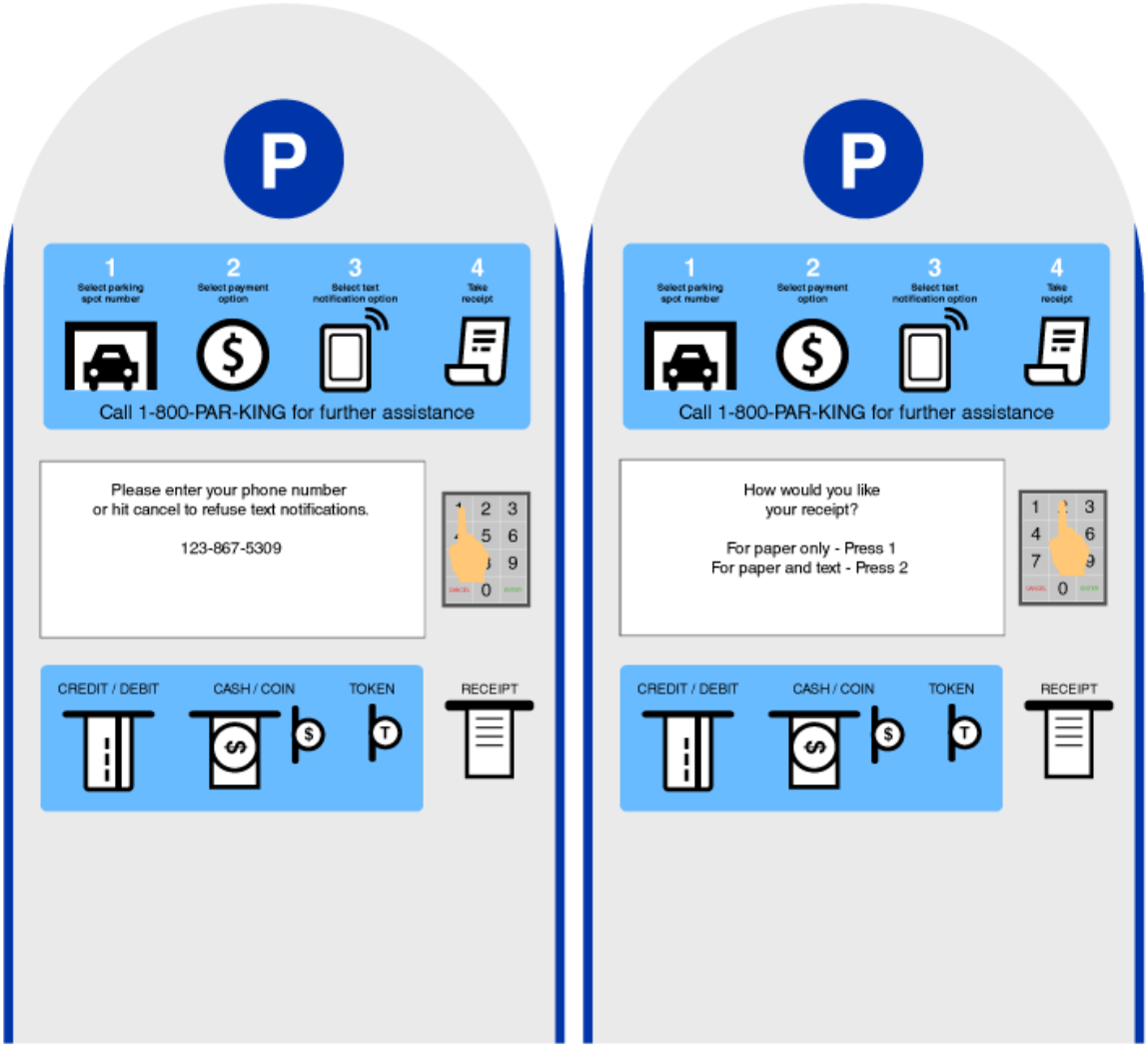
Final Design (Pay Station Interface)



Final Design (Pay Station Interface)

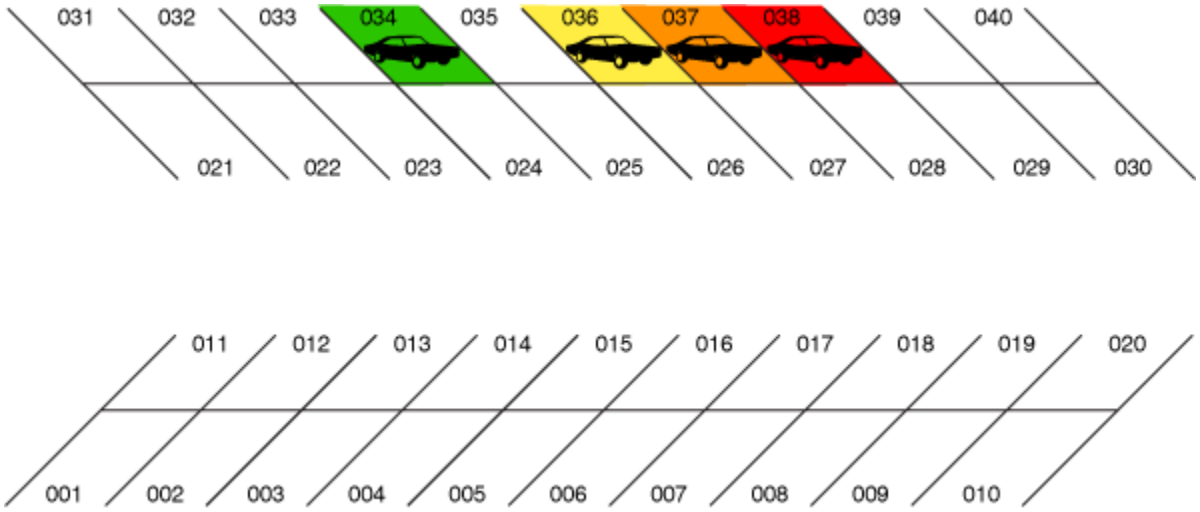


Final Design (Pay Station Interface)



Final Design (Pay Station Interface)

Final Design (Online Parking Verification System)



CURRENT TIME: 14:35

Spot #	Time In	Time Expire	Time Remaining	Status
...				...
020				Empty
021				Empty
022				Empty
023				Empty
024				Empty
025				Empty
026				Empty
027				Empty
028				Empty
029				Empty
030				Empty
031				Empty
032				Empty
033				Empty
034	14:00	16:00	+1h 25m	Payment cleared
035				Empty
036	14:30	--	-0h 5m	Processing
037	14:00	--	-0h 35m	Payment not received
038	10:00	14:00	-0h 35m	Time Expired
039				Empty
040				Empty
...				...

*a 30m window to make payment after parking

Credits

Icons used for design:

http://thenounproject.com/term/receipt/31428/

http://thenounproject.com/term/smartphone/19773/

http://thenounproject.com/term/dollar/33377/

http://thenounproject.com/term/parking/37089/

http://thenounproject.com/term/bank-card/3572/