

CASE STUDY

SMART WATCH PARKING
APP PROPOSAL

CREATIVE BRIEF

PAINLESS PARKING

CLIENT

City Of Boston

Boston is Massachusetts' capital and largest city. Founded in 1630, it's one of the oldest cities in the U.S. Today, Boston has one of the busiest "downtown" street, in America.

THE PROBLEM

Today, the busy city street is already stressful enough for drivers, but adding on the factor of having to find a parking spot in the downtown area can be very difficult and frustrating.

SOLUTION PROPOSAL

Develop a smart watch application that can locate for the user a nearby available parking spot, allow them to pay with a mobile payment seamlessly, and navigate them back to their car in a smooth user friendly manner.

TARGET AUDIENCE

Primary target audience would be your every day city commuter, occasional city driver, and city tourist.

PROJECT CONCEPT

The core user value of this project is to help the user locate a nearby available parking spot, allow the user to make a payment with the use of the integrated mobile payment, and to track the location of your parked car.

USER VALUE PROPOSITION & BENEFITS

Free up user time

Seamless payment system

Increase city traffic flow

Increase city value

Increase tourist driving experience

ASSUMPTIONS AND RESEARCH

Research are done by looking at characteristic of what make a good and bad parking apps. Transit the benefit of a mobile parking app into user smart watch device.

FEATURES

LOCATING NEARBY AVAILABLE PARKING SPOT

Find nearby available parking spots, and present them to user in a list format, sorting from nearest to farthest.

TURN-BY-TURN NAVIGATION INTEGRATION

An integrated turn by turn navigation system powered by Google Map or Apple Map service; helping user navigate the city street to the available parking spot or the location of user parked car.

PAYMENT SYSTEM

User can use an NFC supported payment system to pay the parking meter. Apple Pay and Android Pay support is also integrated into the app.

TRACK PARKED CAR

Place a marker on user parked car to keep track of its location. User can use the turn by turn navigation system to navigate user back to their parked car.

TRACK PARKING SESSION HISTORY

Parking session are recorded automatically for user to view in the park history section of the app.

MANAGING USER ACCOUNT SETTINGS

User can manage their account through the setting section of the app. User can edit their payment information, billing address, and vehicle information.

METER CLOCK TRACKING

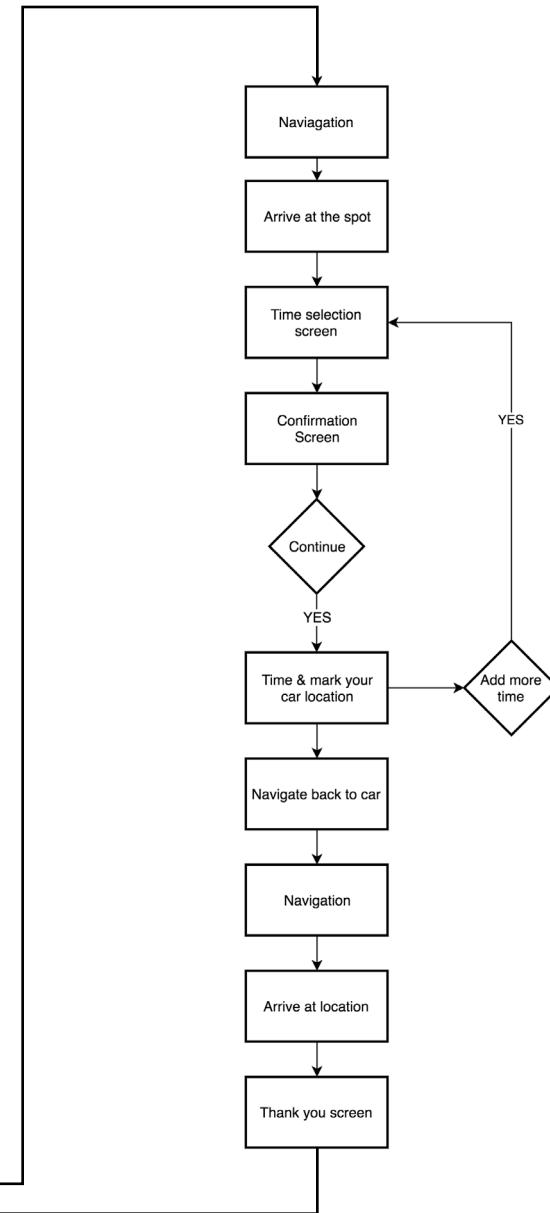
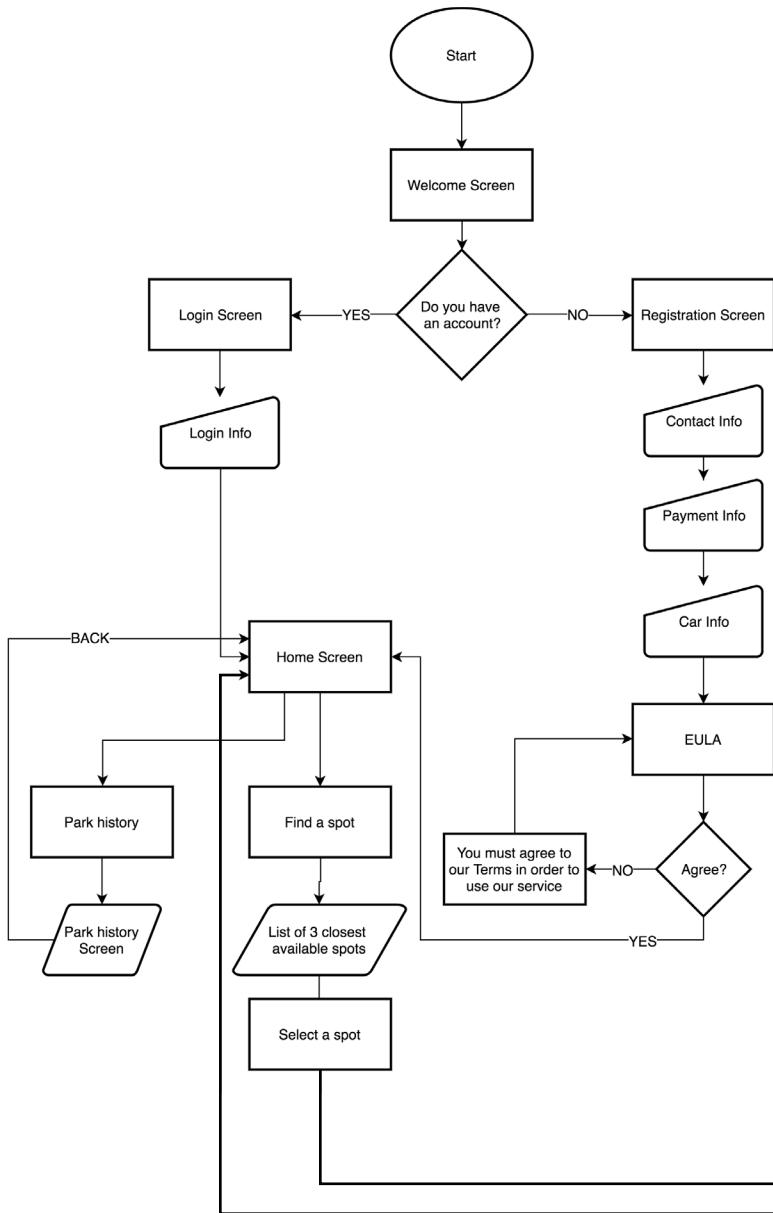
A build in timer to keep track of the meter clock, alerting user when the meter clock is running out to prevent a ticket fee.

NOTIFICATION FEED

User can view their meter clock through the notification feed, user also have an option to extend their parking session and make payment through the notification feed.

FLOW CHART

PAINLESS PARKING | 4



PERSONA



SUSAN

AGE: 26

OCCUPATION: nurse

CONTEXTUAL CONSIDERATION: young, impatient driver, large family

LIFE EXPERIENCE: young, inexperience, College graduate

USER BENEFITS: directional assistance, quicken commute flow



BILL

AGE: 21

OCCUPATION: college student

CONTEXTUAL CONSIDERATION: activist, advanced technical user, impatient with technology

LIFE EXPERIENCE: young, inexperience, college student, new driver

USER BENEFITS: directional assistance, quicken commute flow



MERRY

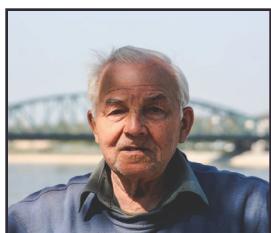
AGE: 42

OCCUPATION: major events planner

CONTEXTUAL CONSIDERATION: light phone user, busy schedule, novice technical user

LIFE EXPERIENCE: 10 years of career experience, middle age, experienced driver

USER BENEFITS: directional assistance, quicken commute flow



JIM

AGE: 58

OCCUPATION: Accountant

CONTEXTUAL CONSIDERATION: old, experience, family man, responsible

LIFE EXPERIENCE: college life, long time experienced driver

USER BENEFITS: quicken daily commute flow, reduce daily traffic

SURVEY

QUESTIONS

1. Have you ever used a mobile application that let you pay your parking meter through your phone?
2. Have you ever used your phone to pay for any products or services before?
3. Would you install and use a mobile application that let you pay your parking meter through mobile payment?
4. Do you drive a vehicle as your main form of transportation?
5. Do you agree that finding a parking spot should be made easier?
6. Would a mobile application that let you locate nearby available parking spot be of any use to you?
7. Have you ever lost the location of where you parked your car?
8. Would a mobile application that let you save the location of your parked car be of any use to you?
9. Do you currently have any parking application installed on your smart-phone?
10. Are you willing to pay a subscription fee to make parking your car less of an annoying process?

<https://www.surveymonkey.com/r/K3YJVPP>

RESULTS

Based on 15 responses

Have you ever used a mobile application that let you pay your parking meter through your phone?

ANSWER	PERCENTAGE
YES	53.33%
NO	46.67%

Have you ever used your phone to pay for any products or services before?

ANSWER	PERCENTAGE
YES	66.67%
NO	33.33%

Would you install and use a mobile application that let you pay your parking meter through mobile payment?

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ANSWER	PERCENTAGE
YES	60%
NO	40%

Do you drive a vehicle as your main form of transportation?

ANSWER	PERCENTAGE
YES	80%
NO	20%

Do you agree that finding a parking spot should be made easier?

ANSWER	PERCENTAGE
YES	86.67%
NO	13.33%

Would a mobile application that let you locate nearby available parking spot be of any use to you?

ANSWER	PERCENTAGE
YES	86.67%
NO	13.33%

Have you ever lost the location of where you parked your car?

ANSWER	PERCENTAGE
YES	40%
NO	60%

Would a mobile application that let you save the location of your parked car be of any use to you?

ANSWER	PERCENTAGE
YES	60%
NO	40%

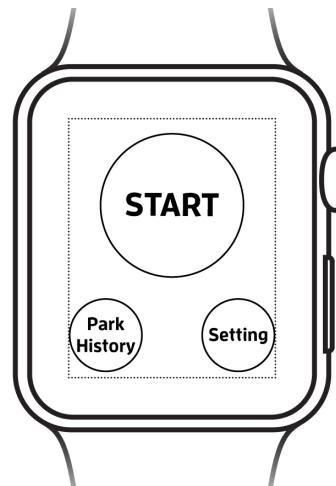
Do you currently have any parking application installed on your smart-phone?

ANSWER	PERCENTAGE
YES	40%
NO	60%

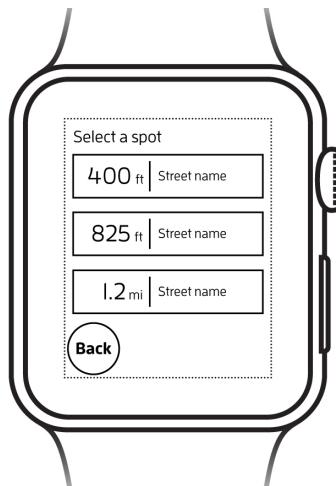
Are you willing to pay a subscription fee to make parking your car less of an annoying process?

ANSWER	PERCENTAGE
YES	20%
NO	80%

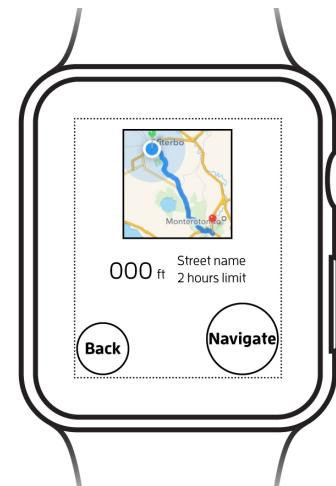
WIRE-FRAME



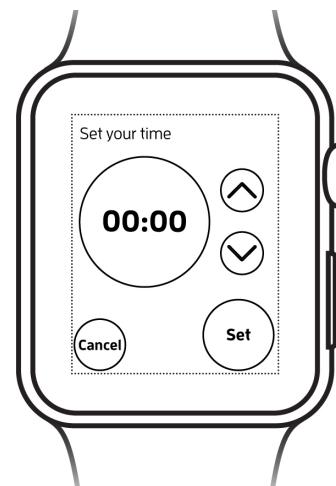
HOME



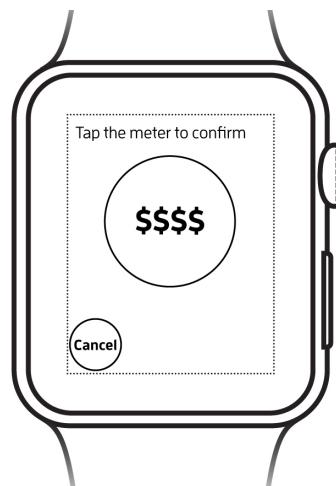
SELECT A PARKING SPOT



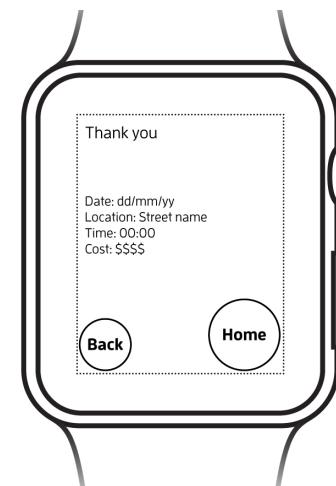
SPOT DETAIL SCREEN



SET TIME



PAYMENT



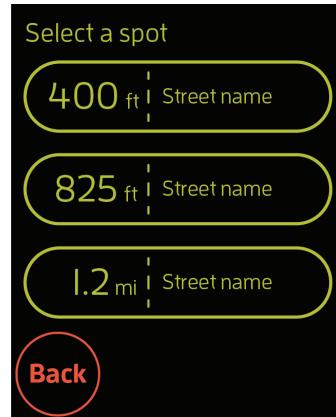
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LO-FI PROTOTYPE

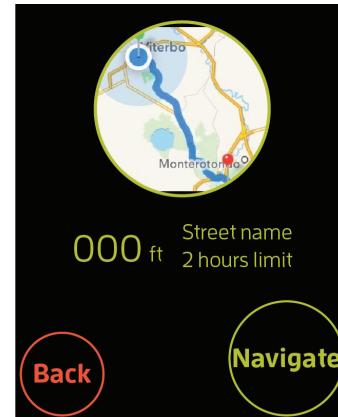
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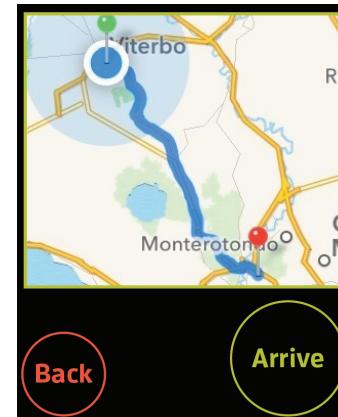
HOME



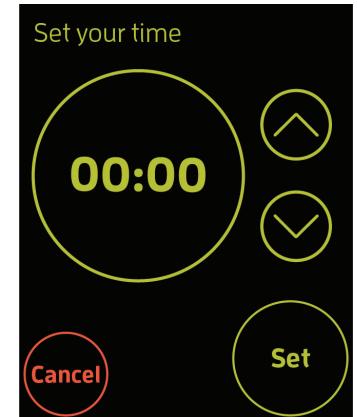
SELECT A PARKING SPOT



SPOT DETAIL SCREEN



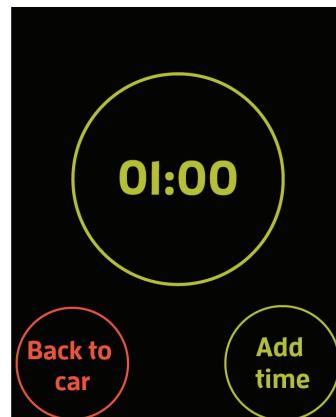
NAVIGATION



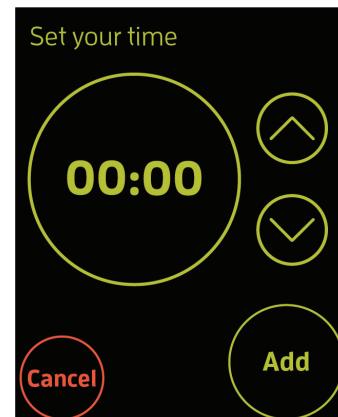
SET TIME



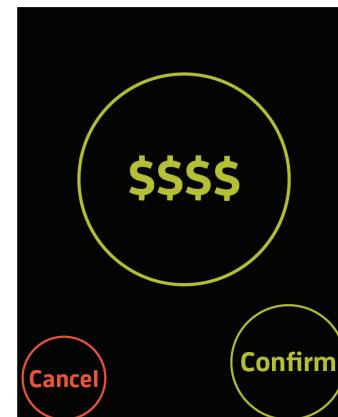
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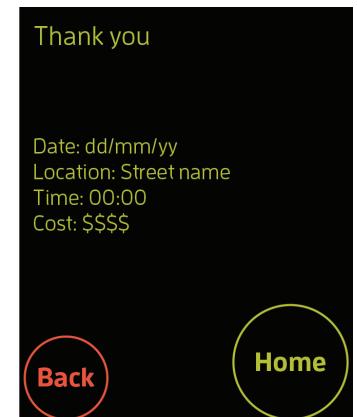
ADD ADDITIONAL TIME



SET TIME

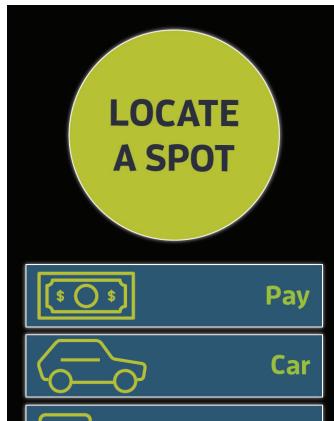


CONFIRM

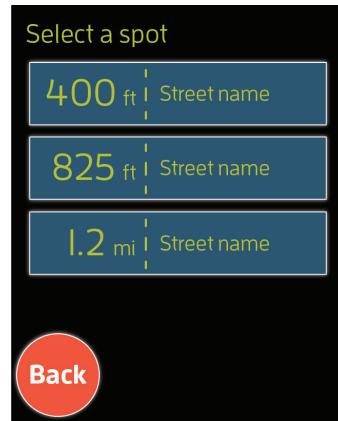


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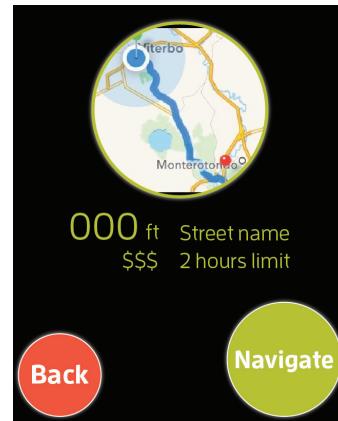
HI-FI PROTOTYPE



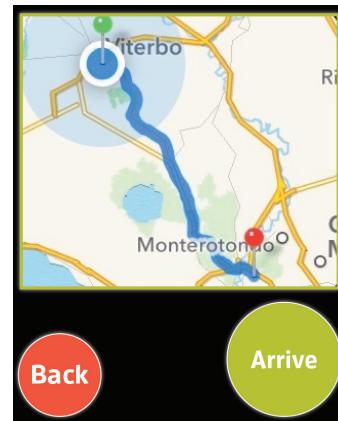
HOME



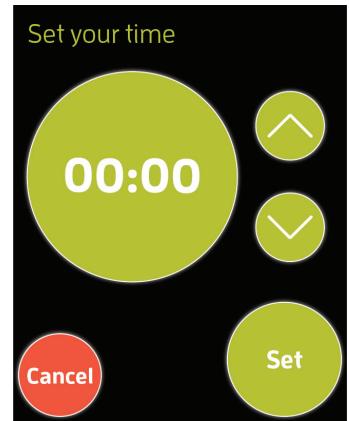
SELECT A PARKING SPOT



SPOT DETAIL SCREEN



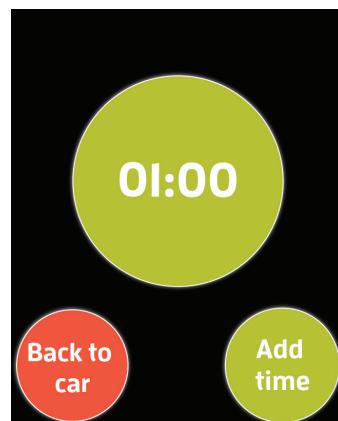
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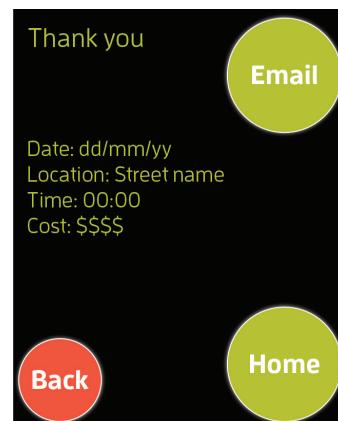
SET TIME



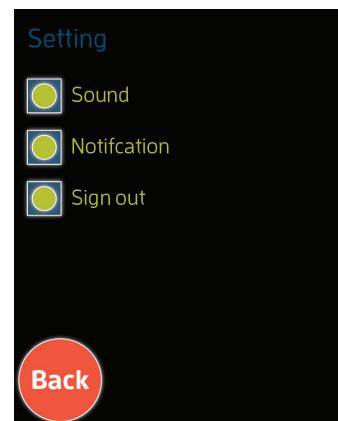
PAYMENT



CLOCK



RECEIPT



SETTING



NOTIFICATION

TESTING SCRIPT

WELCOME AND PURPOSE

Thank you so much for coming in today. I wanted to give you a little information about what you will be looking at and give you time to ask any questions you might have before we get started.

Today I am asking you to serve as an evaluator of a smart watch application and to complete a set of tasks. My goal is to see how easy or difficult you find the applications to use.

This is not a test to see how well you perform but instead it is to see how well the application function for a user like yourself.

The purpose of this application is to help you as a driver locate a nearby available parking spot, allow you to pay with mobile payment seamlessly, and navigate you back to your car when you're done in a smoothly user friendly manner.

TEST FACILITATOR'S ROLE

My role is to record your reactions and comments of the mobile application you will view.

During this session, I would like you to think aloud as you work to complete the tasks I have planned for you. I will not be able to offer any suggestions or hints, but from time to time, I may ask you to clarify what you have said or ask you for information on what you were looking for or what you expect to happen.

Do you have any question or concern before we begin?

TASK ONE

Pretend that you are dragging along on the busy street of Boston, I want you to open the apps and run through the process of finding a parking spot.

QUESTION

Rate from 1-5, 1 being the easiest and 5 being the most difficult, how do you feel about the overall setup process.

Is there anything that confuses you?

Is there a feature that you wish to see implemented in a later version?

TASK TWO

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Close out of the apps and open the notification center, Add an extra hour to your time.

QUESTION

Rate from 1-5, 1 being the easiest and 5 being the most difficult, how do you feel about the experience.

Is there anything that confuses you?

Is there a feature that you wish to see implemented in a later version?

TASK THREE

Now run through the process of navigating back to your car.

QUESTION

Rate from 1-5, 1 being the easiest and 5 being the most difficult, how do you feel about the experience.

Is there anything that confuses you?

Is there a feature that you wish to see implemented in a later version?

FINAL QUESTIONS

How do you feel about the experience?

Did you come by any confusion while completing the task?

Do you have any last suggestions or recommendations for the apps?

CONCLUSION

Thank you for completing the usability test for this smart watch application. Your feedbacks will be a great help to us on building the final version of this product.

TEST RESULT

TASKS

TASK ONE: Pretend that you are dragging along on the busy street of Boston, I want you to open the apps and run through the process of finding a parking spot.

TASK TWO: Close out of the apps and open the notification center, Add an extra hour to your time.

TASK THREE: Now run through the process of navigating back to your car.

RESULT

COMPLETION TIME

USER	TASK ONE	TASK TWO	TASK THREE	TOTAL
ELVIS FERNANDES	48 SECONDS	30 SECONDS	19 SECONDS	97 SECONDS
SEBASTIAN WAN	26 SECONDS	20 SECONDS	12 SECONDS	58 SECONDS
CHARLES SEARLE	25 SECONDS	15 SECONDS	14 SECONDS	54 SECONDS
JASON THI	30 SECONDS	26 SECONDS	14 SECONDS	70 SECONDS
PHONG VU	29 SECONDS	19 SECONDS	17 SECONDS	65 SECONDS

NUMBER OF ERRORS

USER	TASK ONE	TASK TWO	TASK THREE	TOTAL
ELVIS FERNANDES	1	1	0	2
SEBASTIAN WAN	0	0	0	0
CHARLES SEARLE	0	0	0	0
JASON THI	0	1	0	1
PHONG VU	0	0	0	0

USER ONE - ELVIS FERNANDES

PAINLESS PARKING | 14

TASK 1

User completed the task in 48 sec with 1 error, user was confused of when the payment screen will come up.

TASK 2

User completed the task in 30 sec with 1 error, user didn't know how to check the notification on the device.

TASK 3

User completed the task in 19 sec without any error.

SUGGESTION

No suggestion.

GENERAL ANALYSIS

During task 2, user couldn't figure out how notification work on the device.

USER TWO - SEBASTIAN WAN

TASK 1

User completed the task in 26 seconds, user completed the task with no error.

TASK 2

User completed the task in 20 seconds without any error.

TASK 3

User completed the task in 12 seconds without any error.

SUGGESTION

Differentiate between driving to the parking spot and walking back to the car.

GENERAL ANALYSIS

User completed all 3 tasks with little to nothing error.

USER THREE - CHARLES SEARLE

PAINLESS PARKING | 15

TASK 1

User completed the task in 25 seconds without any error.

TASK 2

User completed the task in 15 seconds without any error.

TASK 3

User completed the task in 14 seconds without any error.

SUGGESTION

Pretty simple, update icons and buttons.

GENERAL ANALYSIS

User completed all 3 tasks with little to nothing error.

USER FOUR - JASON THI

TASK 1

User completed the task in 30 seconds without any error.

TASK 2

User completed the task in 26 seconds with 1 error, user was confused as to where the notification area is on the device.

TASK 3

User completed the task in 14 seconds without any error.

SUGGESTION

Pretty simple, no suggestion.

GENERAL ANALYSIS

User completed all 3 tasks with little to nothing error.

TASK 1

User completed the task in 29 seconds without any error.

TASK 2

User completed the task in 19 seconds without any error.

TASK 3

User completed the task in 17 seconds without any error.

SUGGESTION

Pretty simple, no suggestion.

GENERAL ANALYSIS

User completed all 3 tasks with little to nothing error.

CHANGES

Added breadcrumbs to guide user

Improve text hierarchy

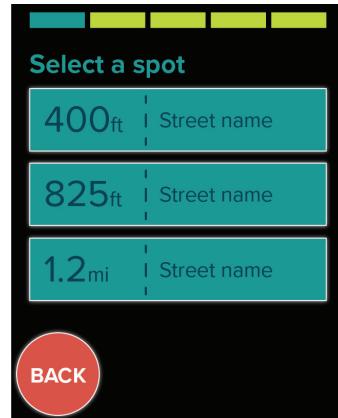
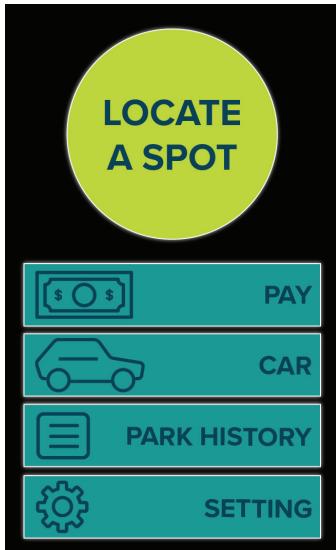
Update button design

Design layout update

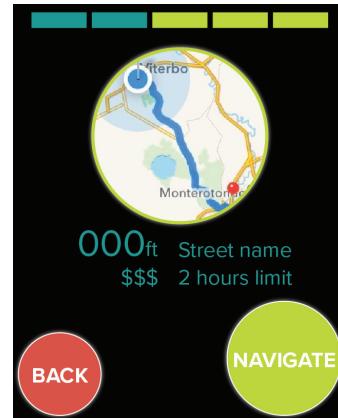
New color palettes

HI-FI V2

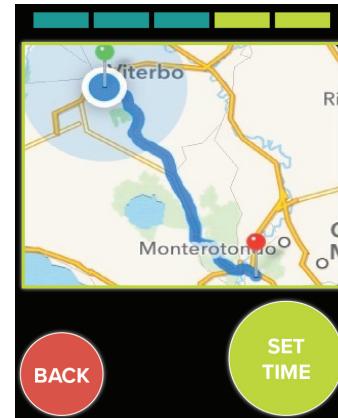
PAINLESS PARKING | 17



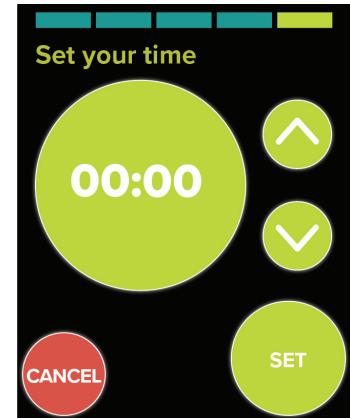
SELECT A PARKING SPOT



SPOT DETAIL SCREEN



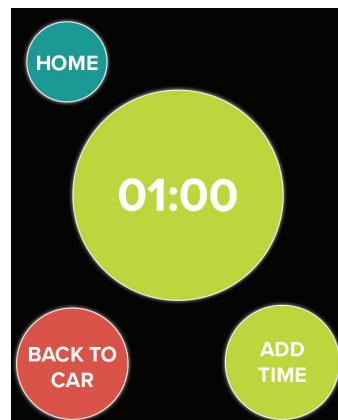
NAVIGATION



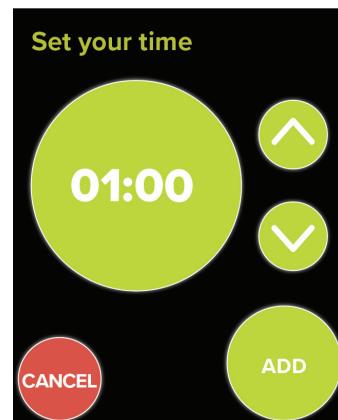
SET TIME



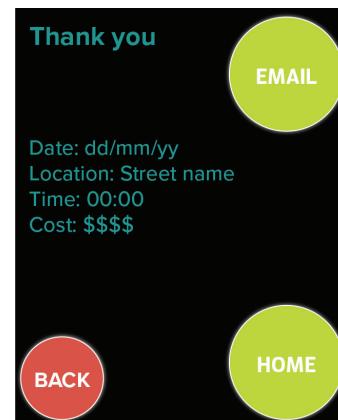
PAYMENT



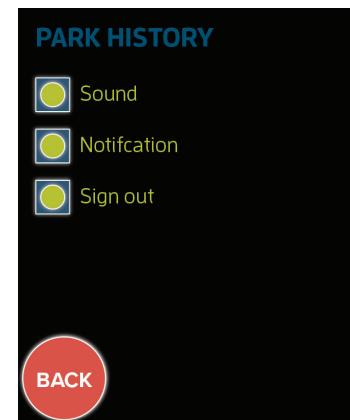
CLOCK



ADD TIME

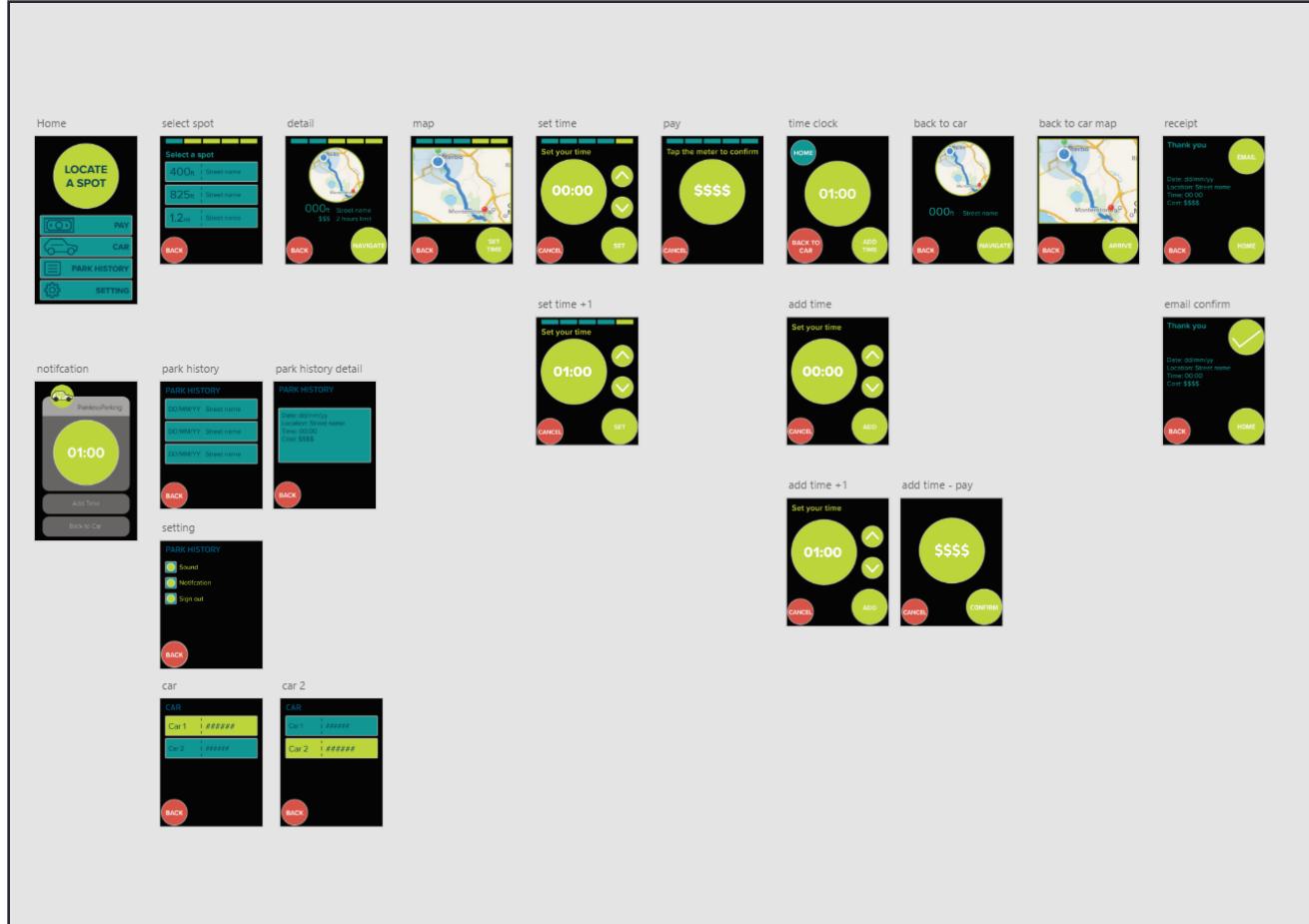


RECEIPT



SETTING

HI-FI V2 PROTOTYPE



PROTOTYPE

<https://goo.gl/oa3JwF>

FULL PROJECT DETAILS

TheTruDesign.com/painless-parking/smartwatch-app-painless-parking.html