APP Project

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Section 01
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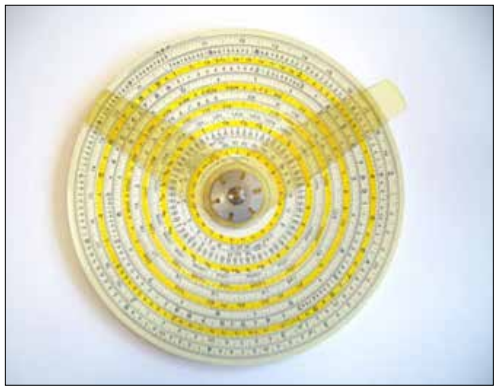
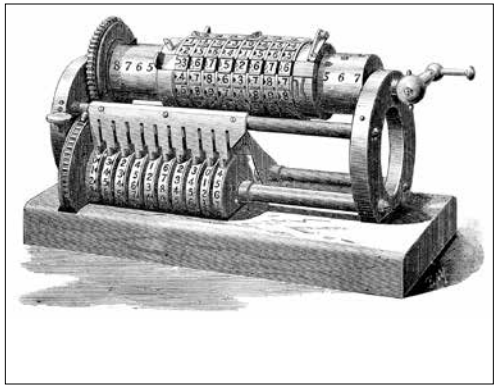
Research

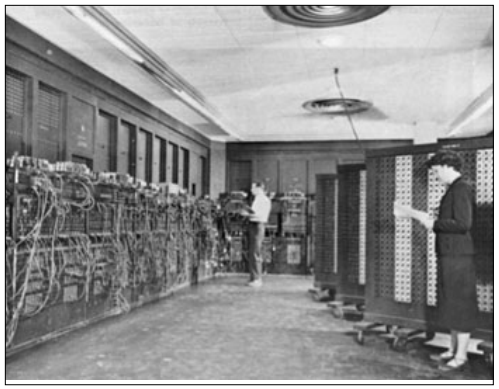
The ***abacus***, a sort of hand operated mechanical calculator using beads on rods, first used by Sumerians and Egyptians around 2000 BC.

The ***slide rule*** is basically a sliding stick (or discs) that uses logarithmic scales to allow rapid multiplication and division.





The first ***mechanical calculator*** appeared in 1642, the creations of French intellectual and mathematics whizz kid Blaise Pascal as "a device that will eventually perform all four arithmetic operations without relying on human intelligence."



The first solid state ***electronic calculator*** was created in the 1960s, building on the extensive history of tools such as the abacus, developed around 2000 BC, and the mechanical calculator, developed in the 17th century. It was developed in parallel with the analog computers of the day. In 1946 people built ENIAC.

ENIAC was 1,000 times faster than electro-mechanical computers and could hold a ten-digit decimal number in memory. But to do this required 17,468 vacuum tubes, 7,200 crystal diodes, 1,500 relays, 70,000 resistors, 10,000 capacitors and around 5 million hand-soldered joints. It weighed around 27 tons, took up 1800 square feet of floor space and consumed as much power as a small town. Not exactly a desktop solution.

Technology and interactions that Smart Phones afford

Phone calls

Text msg

Email

Video calls

Weather service

Interactive maps

Video streaming

Photo msg

Music listening

Media downloads

Web browsing

Online shopping

Online services

Calendar

Planner

Note taking

Voice recording

Books reading

Electronic games playing

Social media access

Photograps

Video

Communication platforms

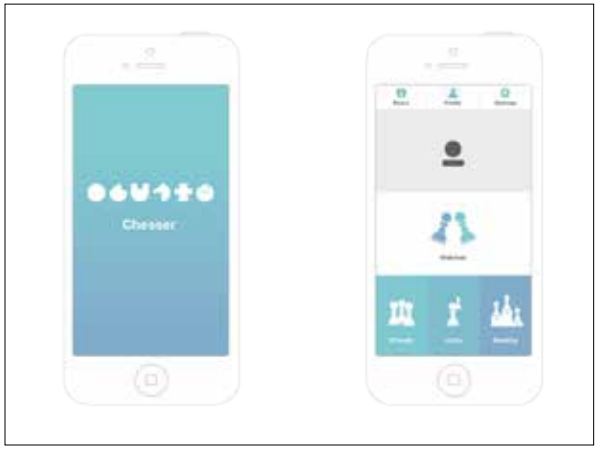
Cloud service

Calculators


Conversations


C-TOOLS
33,123
1,987
71%
1,987
43%

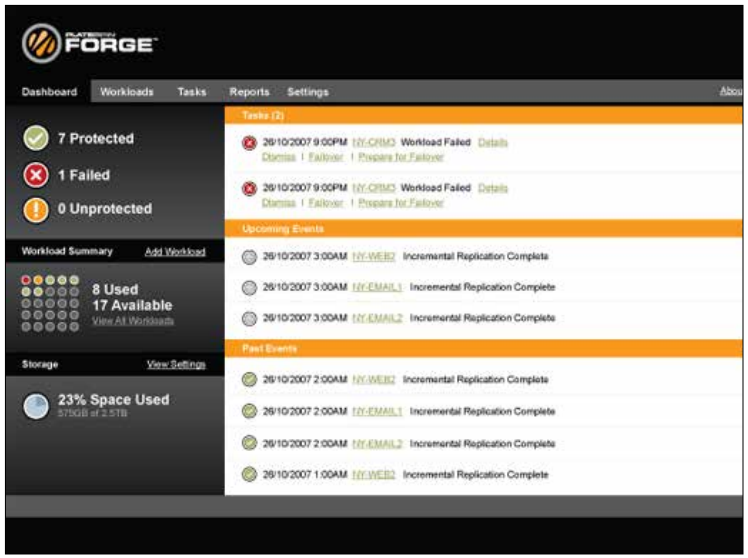

How likely are you to recommend us to a friend or colleague?
Never!
Maybe, if I'm asked
Totally!
Complete Survey


Chooser


AT&T
12:34 PM
add
view
favorites
maps
contacts
settings
AT&T
12:34 PM
Area 120 m²
Price R$ 350,00
Condo R$ 700,00
2
1
3
1
2
NW


LINKSYS Smart Wi-Fi
Smart Wi-Fi Tools
Device List
Guest Access
Parental Controls
Media Prioritization
Speed Test
USB Storage
Router Settings
Connectivity
Troubleshooting
Wireless
Security


Settings
Social networks
Localization
Activity
My Statistics
My Statistics
News / Leaderboard / ...


FORGE
Dashboard
Workloads
Tasks
Reports
Settings
7 Protected
1 Failed
0 Unprotected
Workload Summary
Add Workload
8 Used
17 Available
Storage
View Settings
23% Space Used
Tasks (2)
Upcoming Events
Past Events

List of Possible Calculator's Apps

Loan calculator

Pregnacy calculator

Tips calculator

Weight calculator

Bill splitter

Unit conversion

Trip cost calculator

DUI calculator

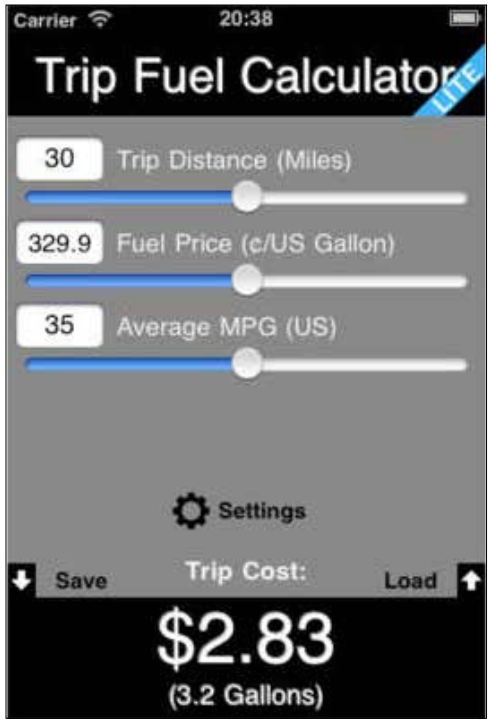
Debt watcher

Cars' price comparison

Baby sitter calculator

My choice for the App

Trip cost calculator

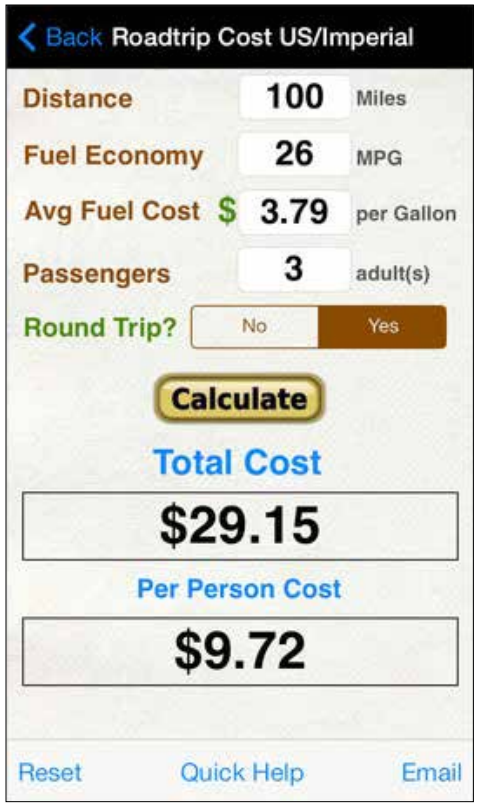


I like about

I like simplicity of this design. There is no unnecessary or distractive functions. I like slide bars as a control.

I don't like about

Although design is simple, doesn't feel invitive. Moreover, the layout is kind of mixed up - Setting icon is placed between input and result and those small arrows are annoying. What they are for anyway? At the second thought, would the slide bar be precise enugh for decimal numbers?



I like about

I like the layout of this app. It's nice to have additional functions such as dividing the cost between passenger.

I don't like about

I feel like the colors are used to adorn app rather tan strategicaly. It feels busy.

Prototype and Test

Persona

Emma Tracy, she is 26 years old and engaged recently. She begun to work as a graphic designer two years ago, after completed her Bachelor degree. She is young and independent person that likes to go places, but has a need for budgeting. She is at the beginning of her carrier and currently she is saving for a new car.

Scenario 1

You are excited for a long awaited camping trip. You start preparation and you need to set up the budget for it. How much will you spend on the logistics of that trip (transportation)?

Use the app to calculate the cost of a gasoline.

Scenario 2

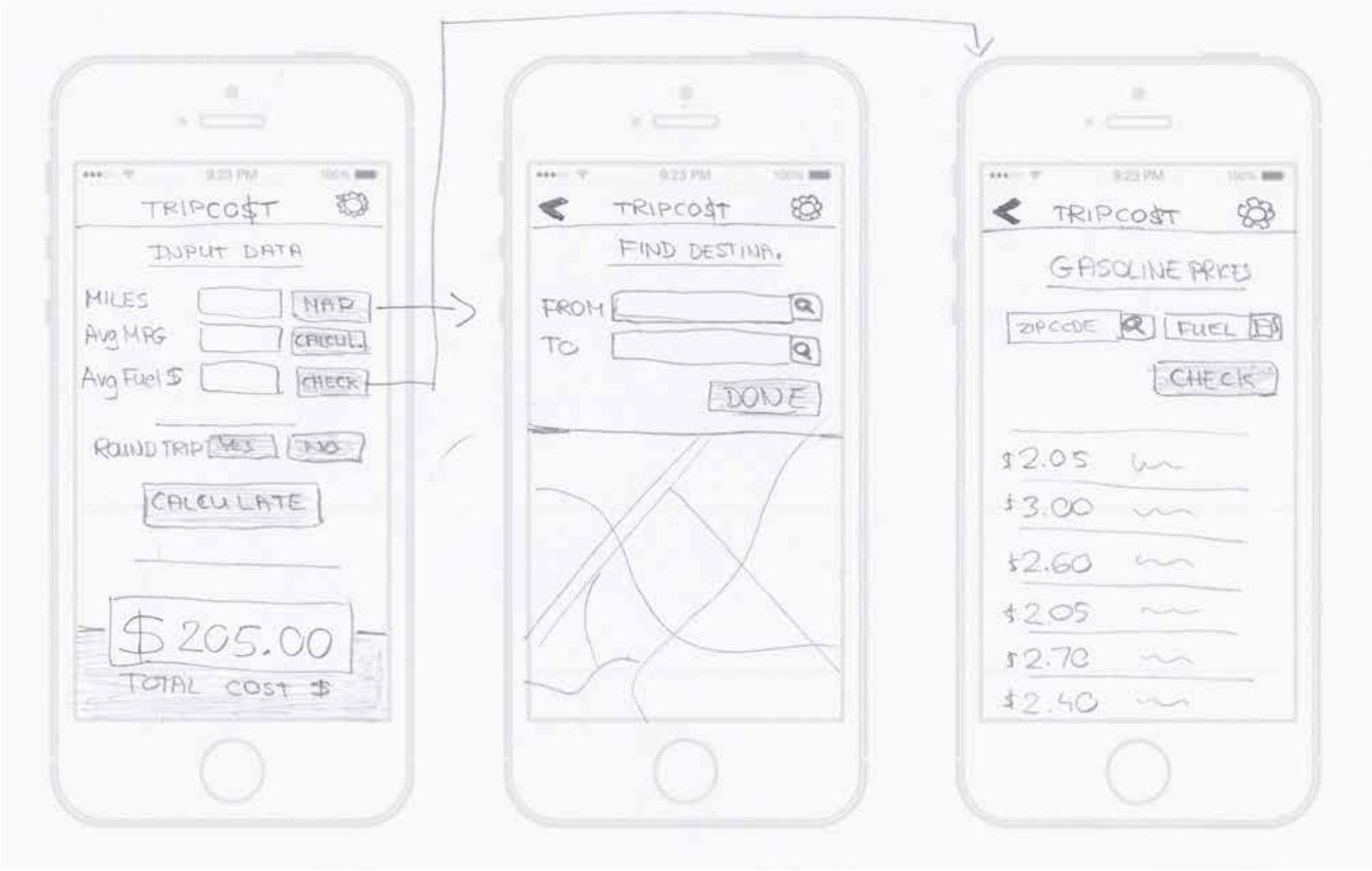
You need to get to your destination and you have to choose the road between one long on highway and another, apparently shorter, through the cities and towns. Your priority is the cost.

Use the app to compare the costs of both options.

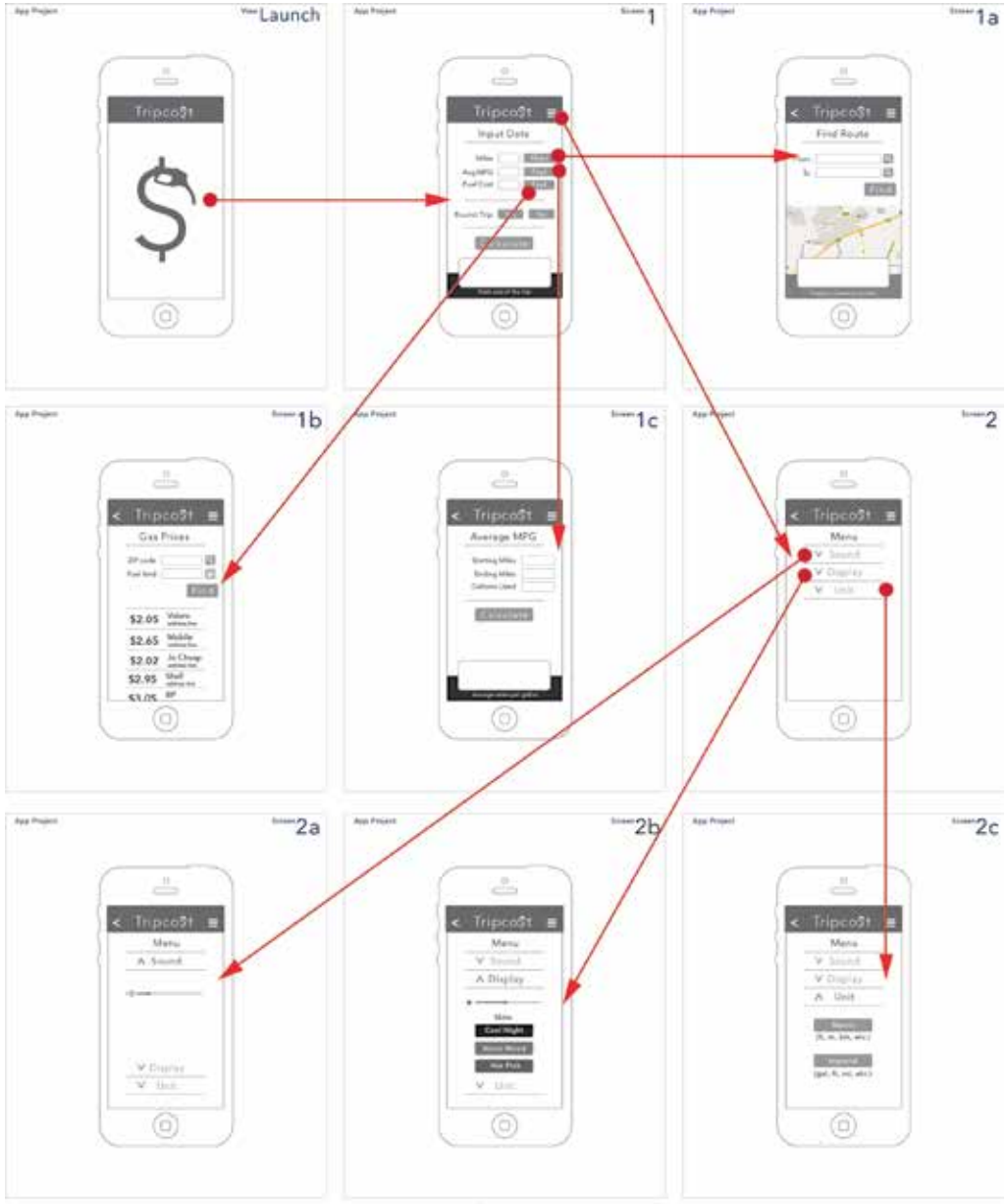
Scenario 3

You want to explore new possibilities to plan next vacations. You choose several places you would like to visit. Part of the process is to check affordability, so you need to compare the cost of the trips.

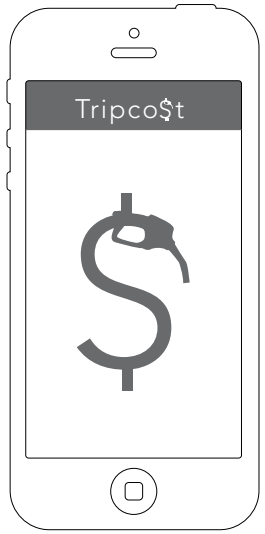
Use app to calculate cost of the trips in order to make the comparison.


TRIPCO$T
INPUT DATA
MILES
Avg MPG
Avg Fuel $
MAP
CALCUL.
CHECK
ROUND TRIP
YES
NO
CALCULATE
$ 205.00
TOTAL COST $
TRIPCO$T
FIND DESTINA.
FROM
TO
DONE
TRIPCO$T
GASOLINE PRICES
ZIPCODE
FUEL
CHECK
$2.05
$3.00
$2.60
$2.05
$2.70
$2.40

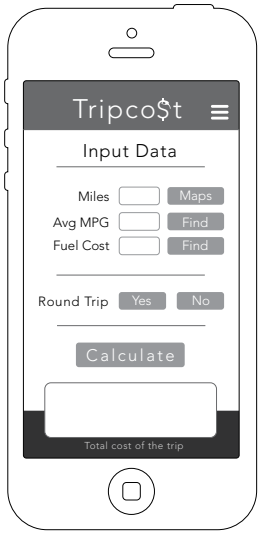
Wire Framing


Launch
1
1a
1b
1c
2
2a
2b
2c
Tripcost
Input Data
Find Route
Gas Prices
Average MPG
Menu
Sound
Display
Unit

App Project View Launch

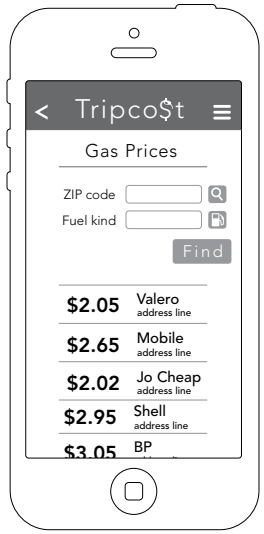


App Project Screen 1

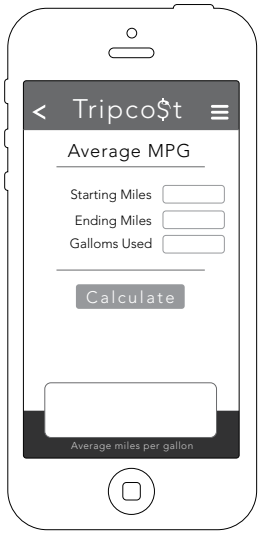


App Project Screen 1a

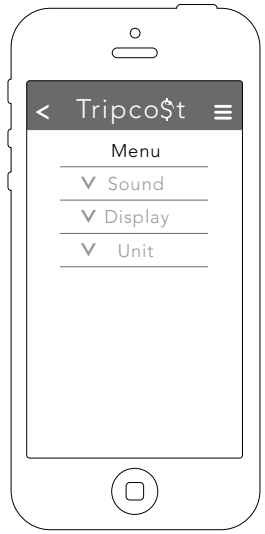
App Project Screen 1b



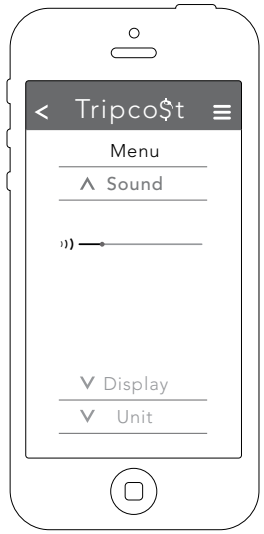
App Project Screen 1c



App Project Screen 2

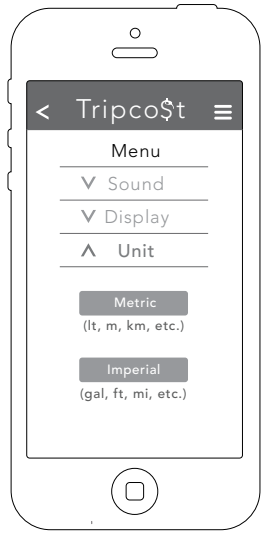


App Project Screen 2a



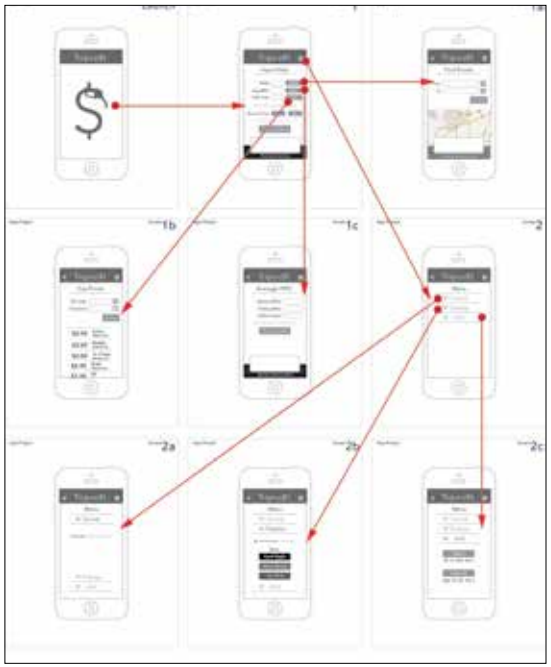
App Project Screen 2b

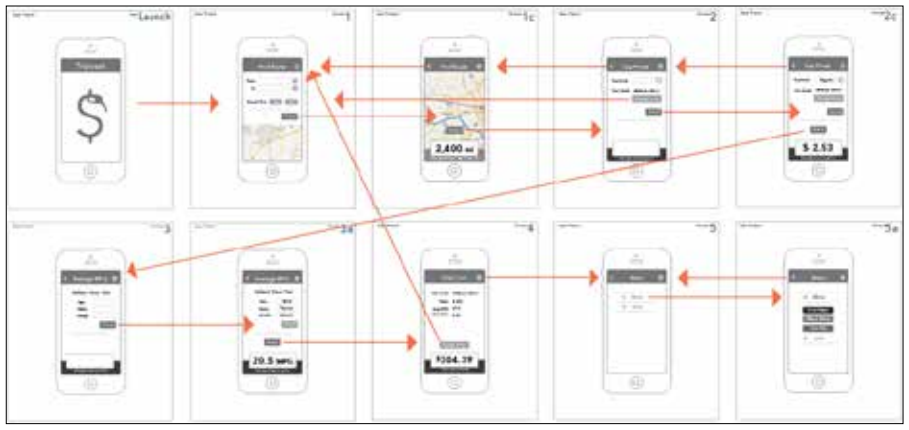
App Project Screen 2c



In the first phases of the user tests, I observed my testers having some difficulties to develop the consistent mental model of the interface. This was happening because of the over-complicated system. For example, data in some of the fields (screen 1) could be inputed manually or through the searching button. After those tests and feedback I received from the testers, instructor and peers, I came to conclusion that the solution will be to simplify the system by inputing all the data through the find/search buttons and to improve the flow by automatically advance to the next screen whenever is possible. Moreover, I eliminate some settings features that were not essential to the project.

The testers were able to correctly associate the names of the functions with respective tasks. I did some adjustments from the sketches to workable prototype after first set of testing.



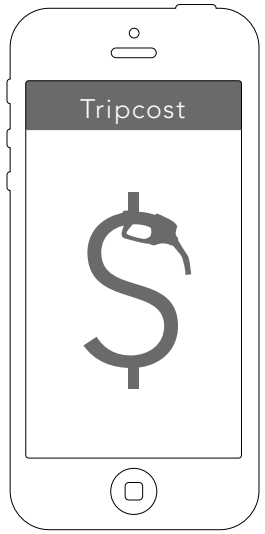


After redesigning the interface, flow of the calculations improved a lot. Most of the screens move the users to the next step automatically, and user's confirmation is required only at the end of the step. The testers were able to follow that model.

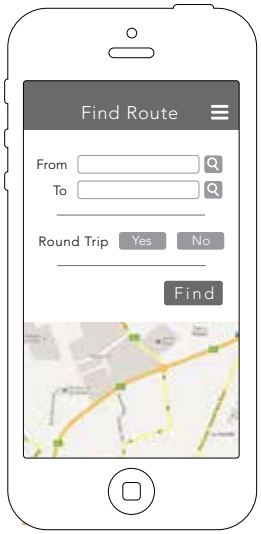
Since the prototype was designed for the specific scenarios, some errors happened when some of the users didn't follow those scenarios.

Final Calculator

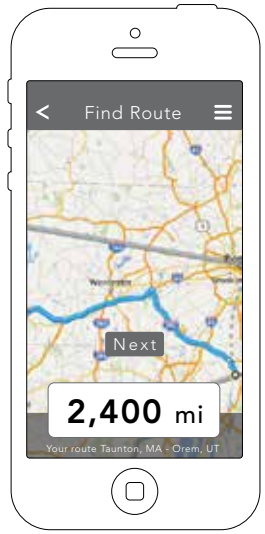
App Project View Launch



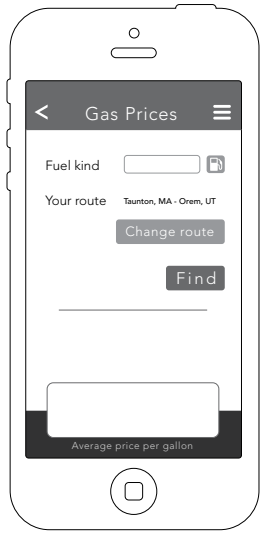
App Project Screen 1



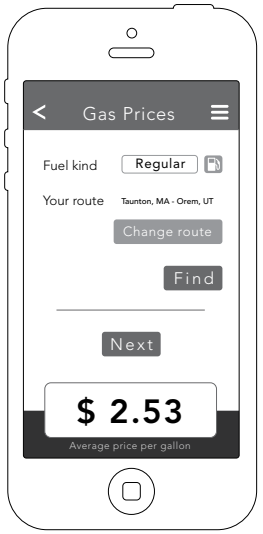
App Project Screen 1c



App Project Screen 2



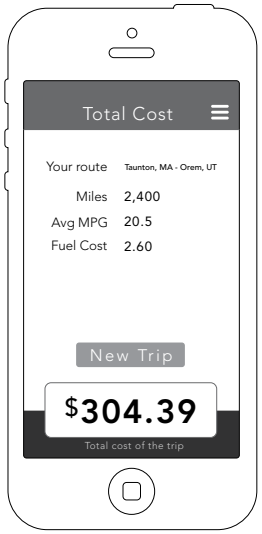
App Project Screen 2c



App Project Screen 3

App Project Screen 3a

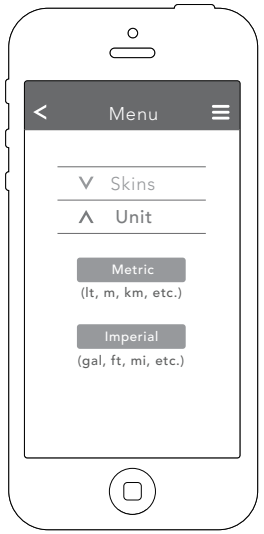
App Project Screen 4

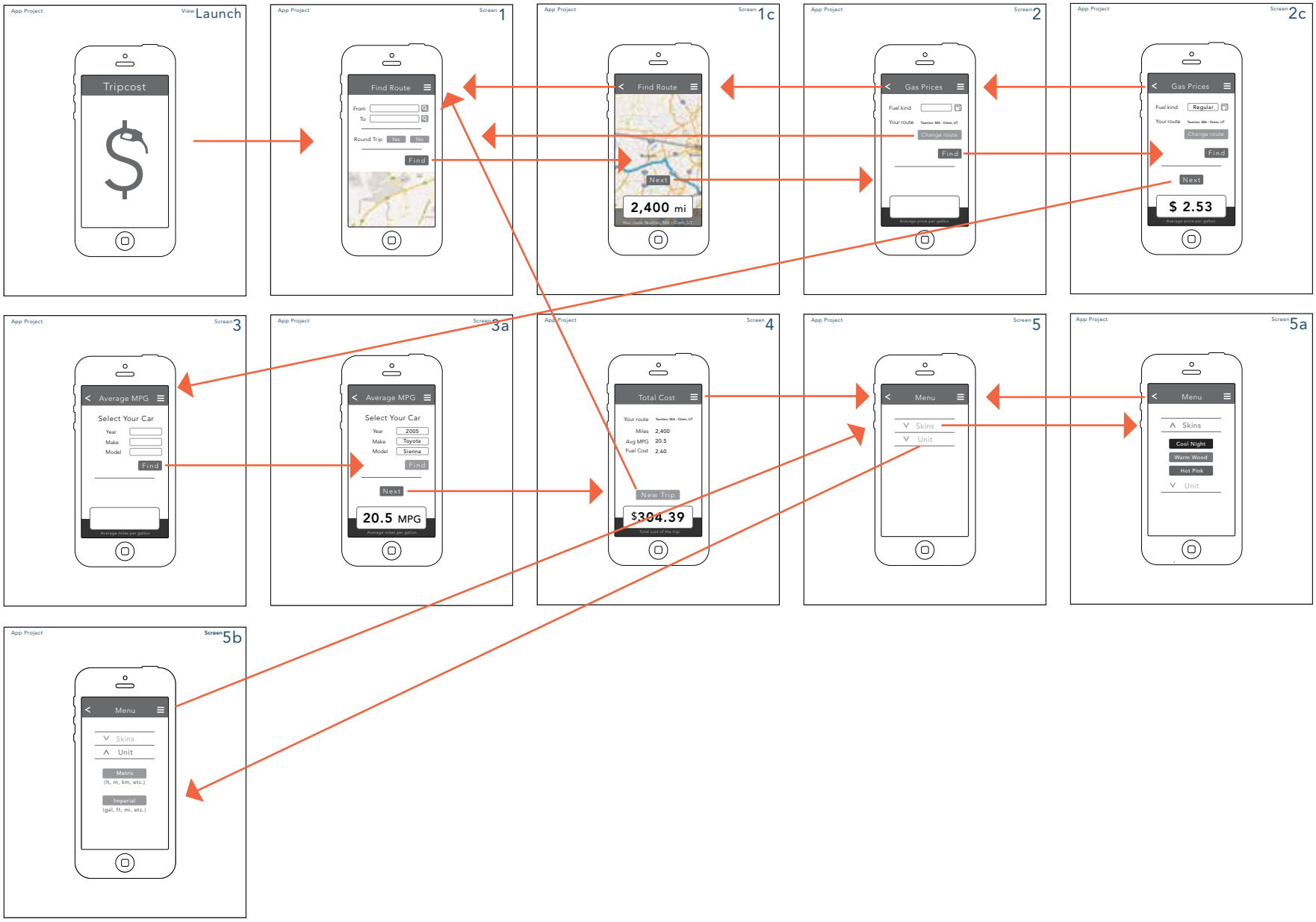


App Project Screen 5

App Project Screen 5a

App Project Screen 5b




App Project
View Launch
Tripcost
Screen 1
Find Route
From
To
Round Trip
Yes
No
Find
Screen 1c
Next
2,400 mi
Screen 2
Gas Prices
Fuel kind
Your route
Change route
Screen 2c
Regular
$ 2.53
Screen 3
Average MPG
Select Your Car
Year
Make
Model
Screen 3a
2005
Toyota
Sienna
20.5 MPG
Screen 4
Total Cost
Miles
2,400
Avg MPG
20.5
Fuel Cost
2.60
New Trip
$304.39
Screen 5
Menu
Skins
Unit
Screen 5a
Cool Night
Warm Wood
Hot Pink
Screen 5b
Metric
(lt, m, km, etc.)
Imperial
(gal, ft, mi, etc.)


App Project
View Launch
Tripcost


App Project
Screen 1
Find Route
Find


App Project
Screen 1c
Find Route
Next
2,400 mi


App Project
Screen 2
Gas Prices
Change route
Find

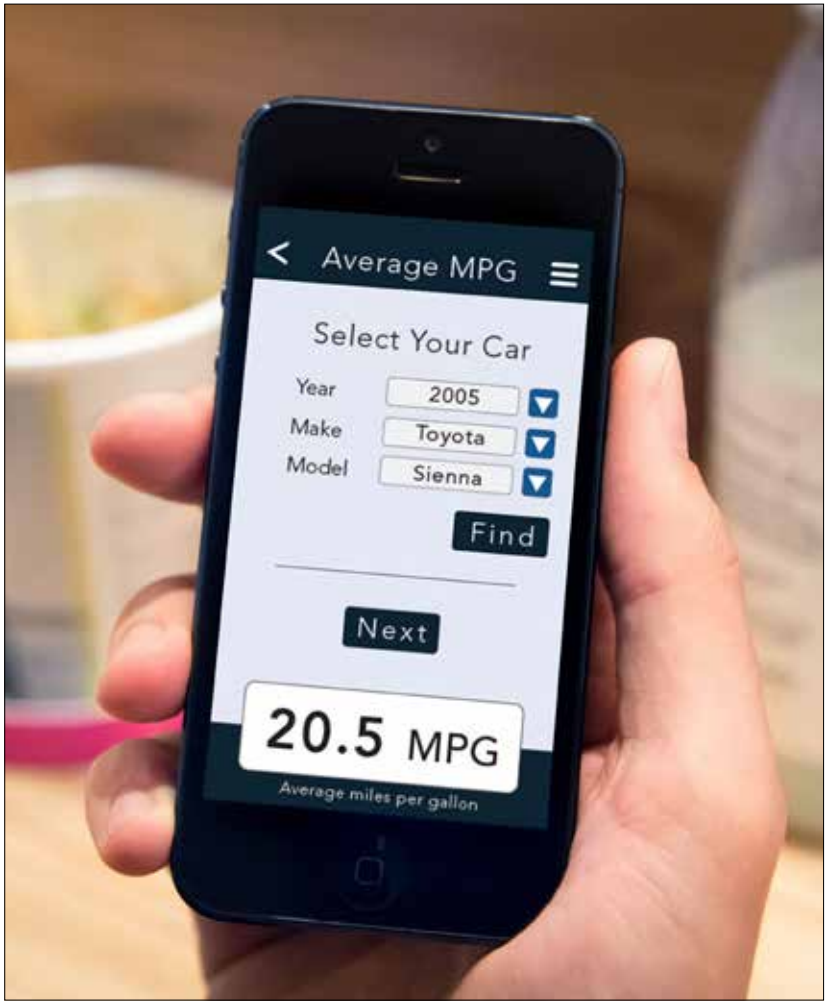

App Project
Screen 3a
Average MPG
Select Your Car
Find
Next
20.5 MPG

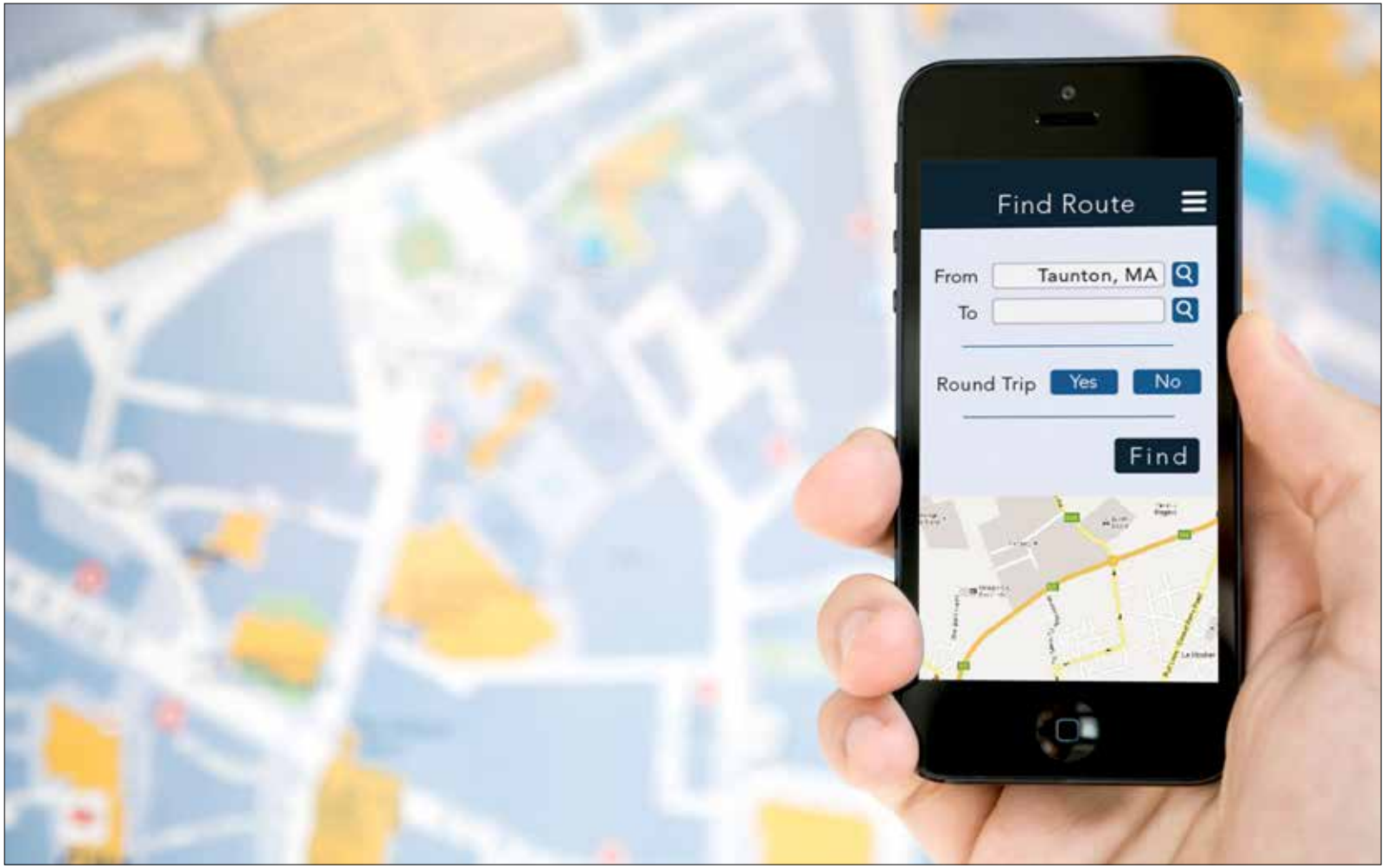

App Project
Screen 5a
Menu
Skins
Cool Night
Warm Wood
Hot Pink
Unit


App Project
Screen 5c
Menu
Skins
Cool Night
Warm Wood
Hot Pink
Unit


App Project
Screen 5d
Menu
Skins
Cool Night
Warm Wood
Hot Pink
Unit


Tripcost


Average MPG
Select Your Car
Year
2005
Make
Toyota
Model
Sienna
Find
Next
20.5 MPG
Average miles per gallon


Find Route
From
Taunton, MA
To
Round Trip
Yes
No
Find