

King of the Road

HCI – 440 Team Project 2
Conceptual Model

Magnum Opus (Group 9)

Elizabeth Keyes
Agnes Pura
Irma Rodela
Eric VanHorn

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Executive Summary

The King of the Road mobile application is a simple and easy way to supplement your road trip by allowing a traveler to track their trip, track costs associated to a trip, find recommendations for food, lodging and attractions, and finally to share their trip with others. The two conceptual models featured offer simplicity and easy use of the main features King of the Road offers. Our team reviewed the use cases and other mobile apps to find features that would work well together to give the user a sense of familiarity and simplicity.

Usability Goals

Description	Priority
Intuitive Use – Users should be able to use the app with no prior knowledge or training. Highly learnable.	1 - High
Efficiency – Allows the user to navigate between functions effortlessly and in a limited sequence of steps (inputs).	1 - High
Performance – Application performs as designed and expected by the consumer (stability, speed, accuracy).	2 - Medium
Up-Time – application should exceed 98% “up-time”.	2 - Medium
Flexibility – rapid adaptation to variation in task or environment	3 - Low
Utility – application will provide the desired functionality as demanded by the consumer.	1 - High

Use Cases

Primary Actors

User – person using the smart phone

System – smart phone app

Trip Sharing

After the end of a road trip, a user can share their trip with the King of the Road community or friends and family. The user can choose to share after ending a trip or from their trip history. The user would have the option to share the whole trip including route, photos, notes, reviews and stops or opt for only sharing pieces of their trip for security reasons.

Pre-Condition

User has started at least one trip.

Post-Condition

User's trip is shared to the desired audience (contacts or all).

Normal Flow

1. User ends trip
2. User is prompted to share the trip
3. User chooses to share the trip
4. User is prompted to share the trip with the KOTR community or OTHER
5. User chooses to share with the community
6. User is prompted to choose what he would like to share (route, photos, notes, reviews and stops)
7. User chooses what options he would like to share and then clicks SHARE button
8. Trip is now visible to other KOTR app users

Alternate Flow

1A1: User may also share their trip from the trip history and share a previously private trip.

1. User views trip history
2. User chooses a trip from trip history
3. User chooses to share the trip
4. User is prompted to share the trip with the KOTR community or OTHER
5. User chooses to share with the community
6. User is prompted to choose what he would like to share (route, photos, notes, reviews and stops)
7. User chooses what options he would like to share and then clicks SHARE button
8. Trip is now visible to other KOTR app users

3A1: User may choose not to share the trip and keep it private.

1. User chooses to keep the trip private
2. User is prompted that the trip is now flagged private

5A1: User may choose to share their trip only with family and friends

1. User chooses to share with only family and friends.
2. User is prompted with their contact list
3. User chooses contacts from their list
4. User clicks the SHARE button
5. User is prompted that a link has been set to contacts.

Lookup Stops

The system will use GPS service to locate user on the map. Based on that location user will be able to find points of interest: hotels, restaurants, travel service, gas station in the area.

Pre-Condition

Phone GPS is on.

Post-Condition

User has located the place of interest.

Normal Flow

1. User selects point of interest button
2. System displays a list of available categories
3. User selects one of the categories
4. System displays a list of points of interest based on selected category: name, distance from current location, rating
5. User selects one of the items
6. System displays details about the place
7. User clicks on the Map button
8. System displays the map with current location pointed and the location of the selected place

Alternate flow

1A1: User can also search for a specific attraction

1. User enters the name of the place in the search box
2. User clicks on search button
3. System displays a list of all points of interest that match the search criteria
4. Continue to step 5 in main flow

5A1: User selected the wrong category and user needs to change the selection

1. User clicks the back button
2. System display the list of categories
3. Continue to step 3 in main flow

7A1: User looks for discounts for the selected place. Discount tab is only available if there are discounts or coupons attached to selected place.

1. User clicks the Deals button
2. System displays the details of the deal or coupon for the selected place

7A2: User can click on the Drive to button to get directions

1. User clicks on Drive to button
2. System displays the map with current location pointed and the location of the selected place
3. System gives voice instructions for the user on how to get to the selected place

Track Mileage

User can calculate the total mileage of the current trip from start to end, or between selected way-points. User can also check the mileage of the prior trips. Mileage can be track for tax deduction or reimbursement or personal purposes. Mileage tracker uses GPS positioning.

Pre-Condition

User has an open trip or closed trip in the history.

Post-Condition

User finds out the total mileage between selected points.

Normal Flow

1. User selects "Track mileage" from the menu
2. User selects current trip
3. System recognizes the start location and the end location
4. System recognizes the way-points of the trip that were saved
5. System calculates the total mileage
6. System displays the trip route and the total mileage

Alternate flow

2A1: User can calculate mileage for the trips in history

1. User selects previous trip
2. System displays a list of prior trips
3. User selects trip from the list
4. Continue to step 3 in main flow

3A1: User can calculate mileage between selected way-points from the trip

1. User selects different start location by dragging the start mark to different way-point on the trip route
2. System sets the start location to selected location
3. User selects different end location by dragging the end mark to different point on the trip route
4. Continue to step 4 in main flow

Budgeting the Cost of the Trip

Users are able to enter information about their current trip's costs, and look up previous trip costs. Costs could include a tank of gas, their hotel costs, a meal, or entrance into an attraction. This use case covers entering in the information to keep a running total of the trip from user input.

Pre-Condition

User is logged in.

User has started a trip.

Post Condition

User knows the current total for their trip.

Normal Flow

1. User selects "Cost Info" from the main menu
2. System displays the current total for the trip
3. User selects "Add Cost"
4. User selects which type of cost (Gas, Hotel, Food, Other)
5. User types in the cost in US dollars
6. User confirms input is complete and accurate
7. System updates total

Alternate Flow

6A1: User does not want to save this cost, or has entered something incorrectly

1. User denies input is complete and accurate
2. System returns to previous input screen with previous input
3. Continue to step 4 in main flow

Starting a New Trip

A user must start a trip in order to access many of the benefits of King of the Road. A user may enter in minimal information for the trip if they are not sure where they will be stopping, or may enter specific stops that they know they will be going to. This trip is stored in the app to continue or access later. By default, a newly created trip will act as the active trip throughout the rest of the app, but may be changed by a user later.

Pre-Condition

User is logged in.

Post Condition

A new trip is created and stored for the user.

Normal Flow

1. User selects "New Trip" from menu
2. User names the trip for later reference
3. User enters final destination address
4. System looks up destination address and displays formatted address to user
5. User selects "Add Stop"

6. User enters stop address
7. System looks up stop address and displays formatted address to user
8. System prompts user to confirm input
9. User confirms input is correct and accurate
10. System stores newly made trip as default trip
11. System returns to main menu

Alternate Flow

4A1: System does not recognize destination address

1. System displays error to user
2. System returns to step 3 in main flow

5A1: User does not want to add another stop

1. System skips to step 8 in main flow

7A1: System does not recognize stop address

1. System displays error to user
2. System returns to step 6 in main flow

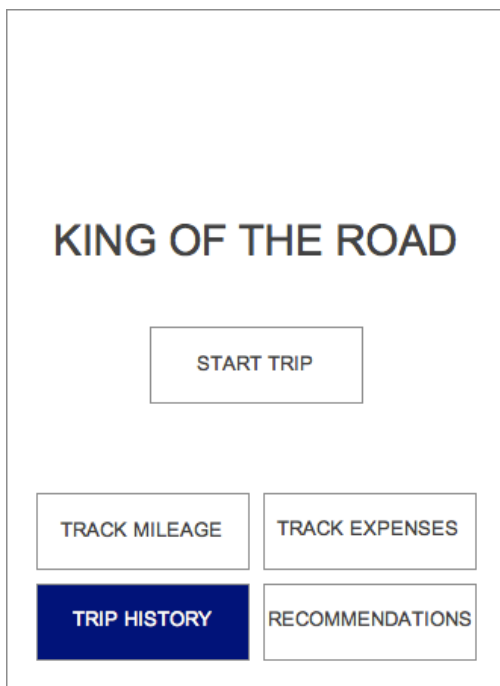
8A1: User does not want to save this trip, or has entered something incorrectly

1. User denies input is complete and accurate
2. System returns to previous input screen with previous input
3. Continue to step 2 in main flow

Conceptual Models

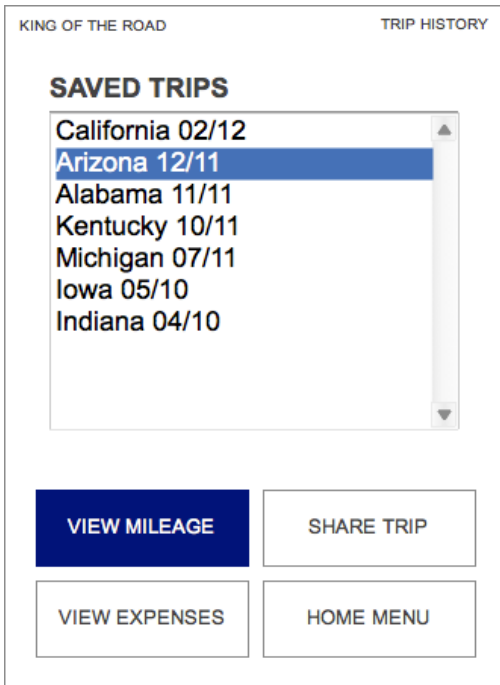
Model 1

This conceptual model is using large and labeled buttons to help direct the user to the available functionality. This model is also using elements that are familiar to forms on the web such as select boxes and form fields. The layout is clean and simple and easy to follow.



Home Screen

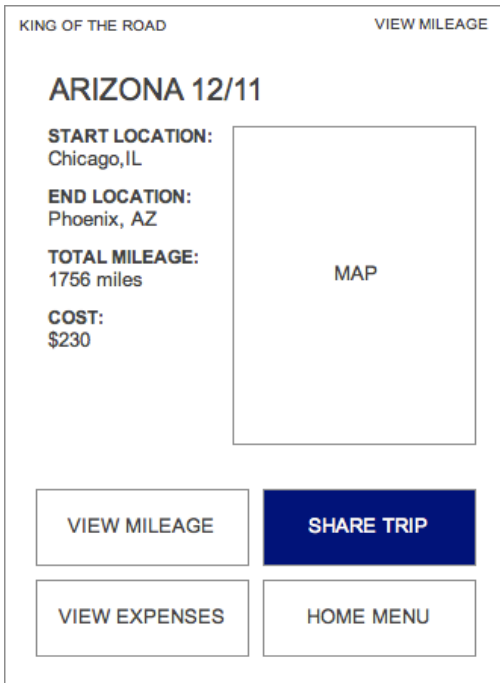
The home screen will quickly allow the user to access the features that will help the user track mileage, track expenses, find recommendations and view trip history. This main home page



View Trip History

Users will be able to choose trips via a select box of available saved trips.

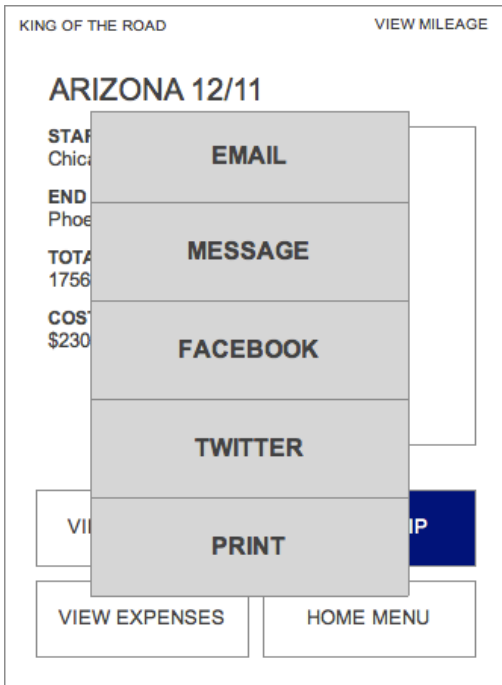
A set of buttons for navigating the selected feature will be available.



View Trips

The app name and the selected feature will be represented at the top of each screen.

Buttons will highlight when chosen.



View Trips: Sharing

Users will be presented with pop up menus for integrated phone features such as email, messaging, print and social network access.

PROS	CONS
<ul style="list-style-type: none"> - easy clean design - clearly marked buttons - linear navigation 	<ul style="list-style-type: none"> - no way to step back to a previous screen - doesn't leave room for enticing graphics - no help menu

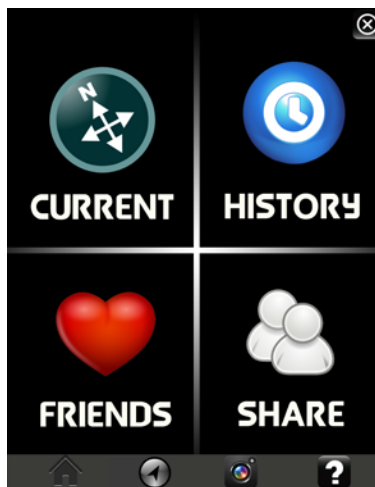
Model 2

This conceptual model is derived from the need for intuitive use that will allow a user with no prior experience to complete the tasks required for a successful trip. Using clean iconography and large text, user is able to identify the appropriate function at a glance.



Home Screen (new trip)

The home screen allows the user to choose from the four major function groups; creation of a new trip, trip history, friends, and the “King of the Road” community at large.



Home Screen (current trip)

The home screen allows the user to choose from the four major function groups; creation of a current trip, trip history, friends, and the “King of the Road” community at large.



Local Finder

Allows the user to find products and services in their immediate vicinity to fulfill their needs as indicated by the title and icon.



Static functions

The static menu appears on each page of the app to allow the user quick access to system resources (camera and map) as well as app specific tools (home and help).



App Access

The application is displayed on the iPhone prominently with a crown (King of the Road).

PROS	CONS
<ul style="list-style-type: none"> • Intuitive use. • Consistency between pages. • Access to critical functions across all pages. 	<ul style="list-style-type: none"> • No access to immediately preceding selection. • The “close” button appears on each screen lending itself to accidental closure.

Contributions

Team Member	Contribution
Elizabeth Keyes	<ul style="list-style-type: none">• Use Case: Start a Trip• Use Case: Budgeting• Compiling and editing final document
Agnes Pura	<ul style="list-style-type: none">• Use Case: Look up Stops• Use Case: Track Mileage
Irma Rodela	<ul style="list-style-type: none">• Executive Summary• Use Case: Sharing• Conceptual Model 1• Created final document
Eric VanHorn	<ul style="list-style-type: none">• Usability Goals• Conceptual Model 2