

Florida Rural Household Travel Survey Mobile App

presented by

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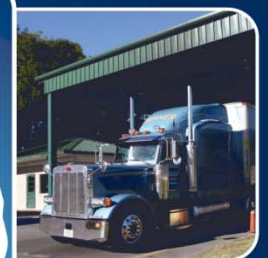
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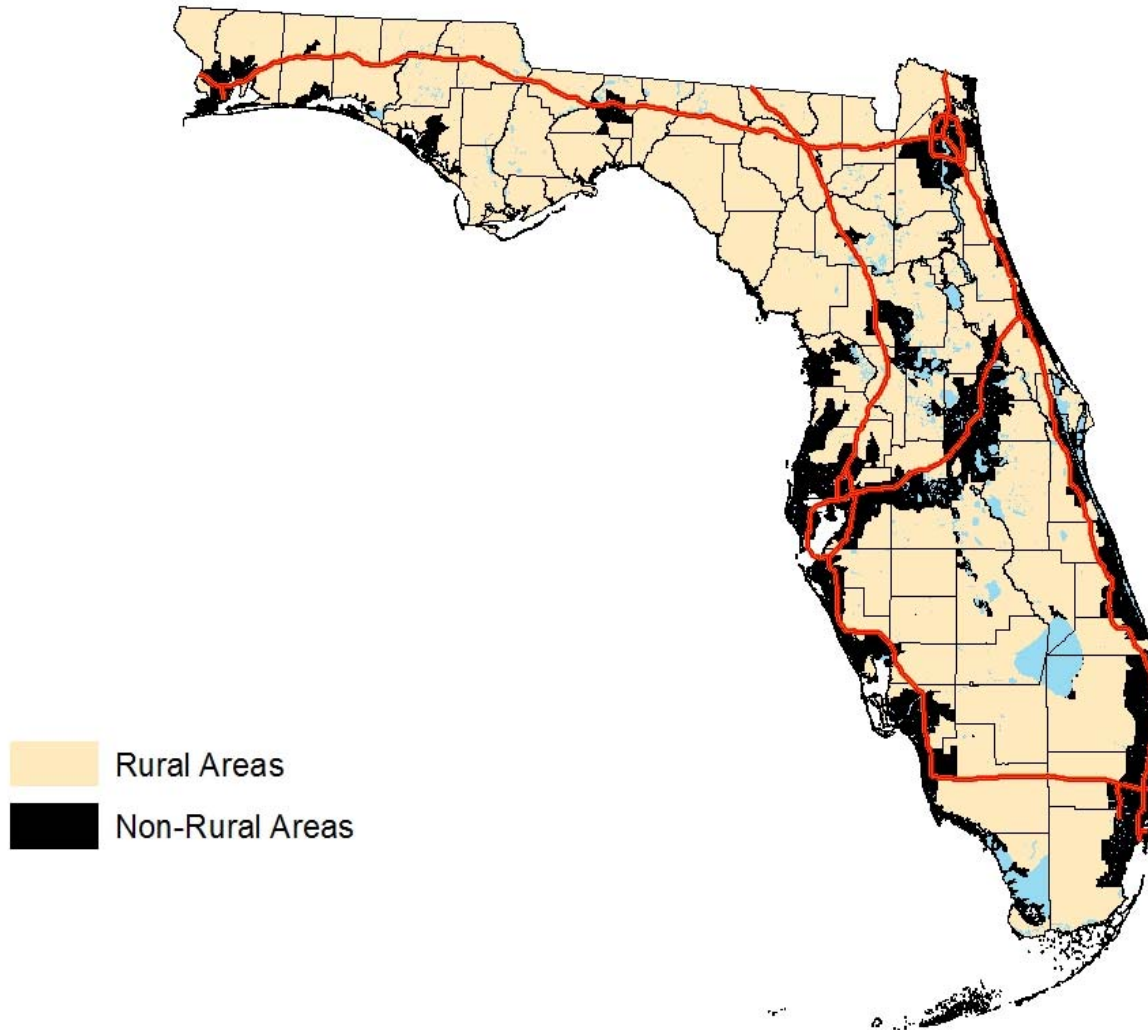


Purpose



- Model Task Force 2014 requested Central Office fund and lead household travel survey and data collection efforts in the rural areas.
- FDOT would like to conduct the rural area household travel survey via a mobile app.

Florida Rural Areas



Why use a Mobile App?



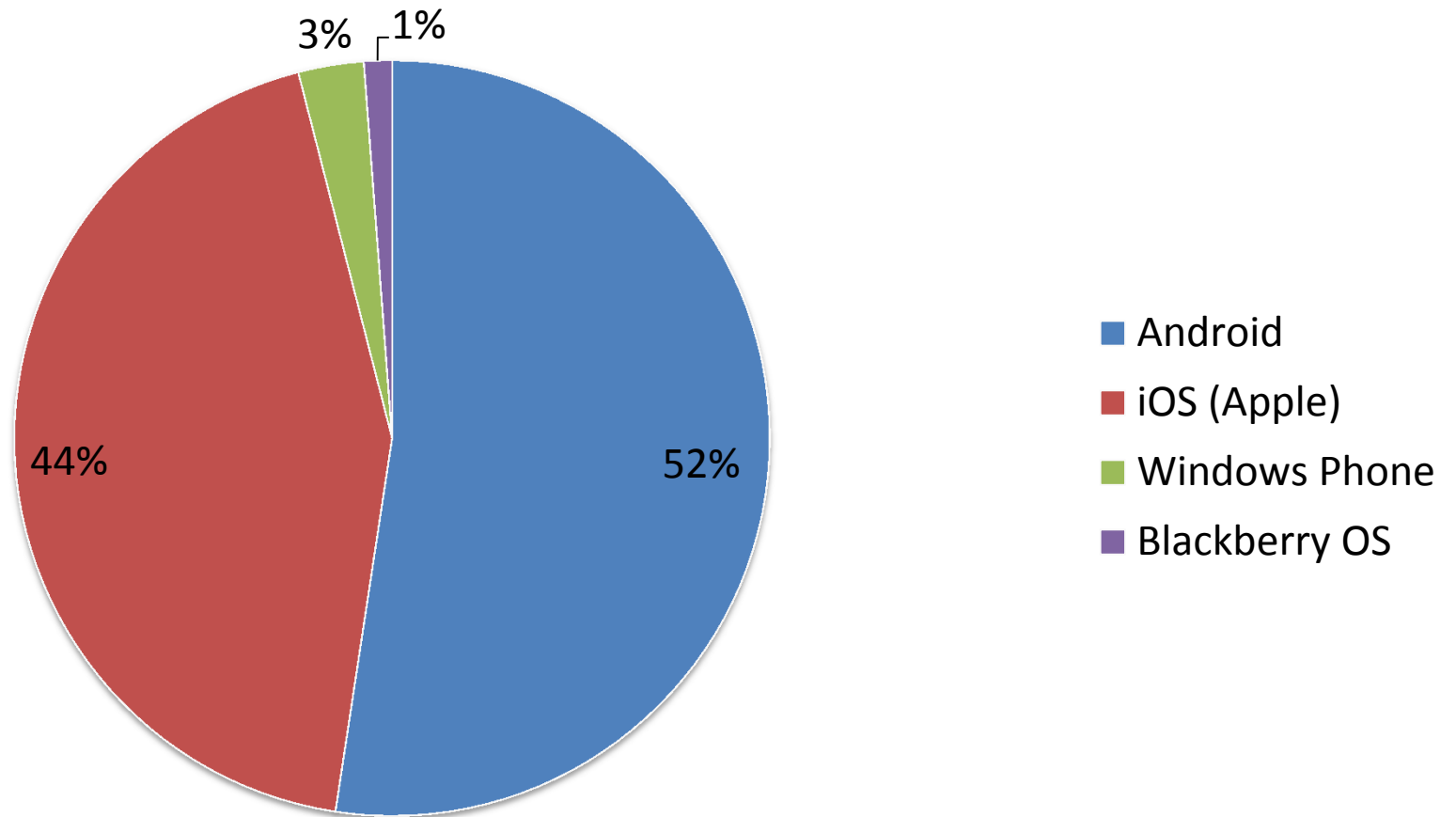
- Convenient
- Efficient
- More accurate
- Captures more information
- Cost savings
- Using 21st century technology



Smartphone Market Share



Top US Smartphone Operating Systems by Market Share



Nielsen Q4, 2014



Modeling Concerns



- Need 10,851 surveys
- Use the data to support the statewide model, a trip-based model
- Collect as much detailed rural area trip data as possible in case the statewide model changes

Household Travel Survey Questions



Questions are divided into two parts:

- Household (how many members, working vehicles, household income, residency)
- Household member (gender, age, employment status, trip-making patterns using the trip log)

Mobile App



Focuses on household member

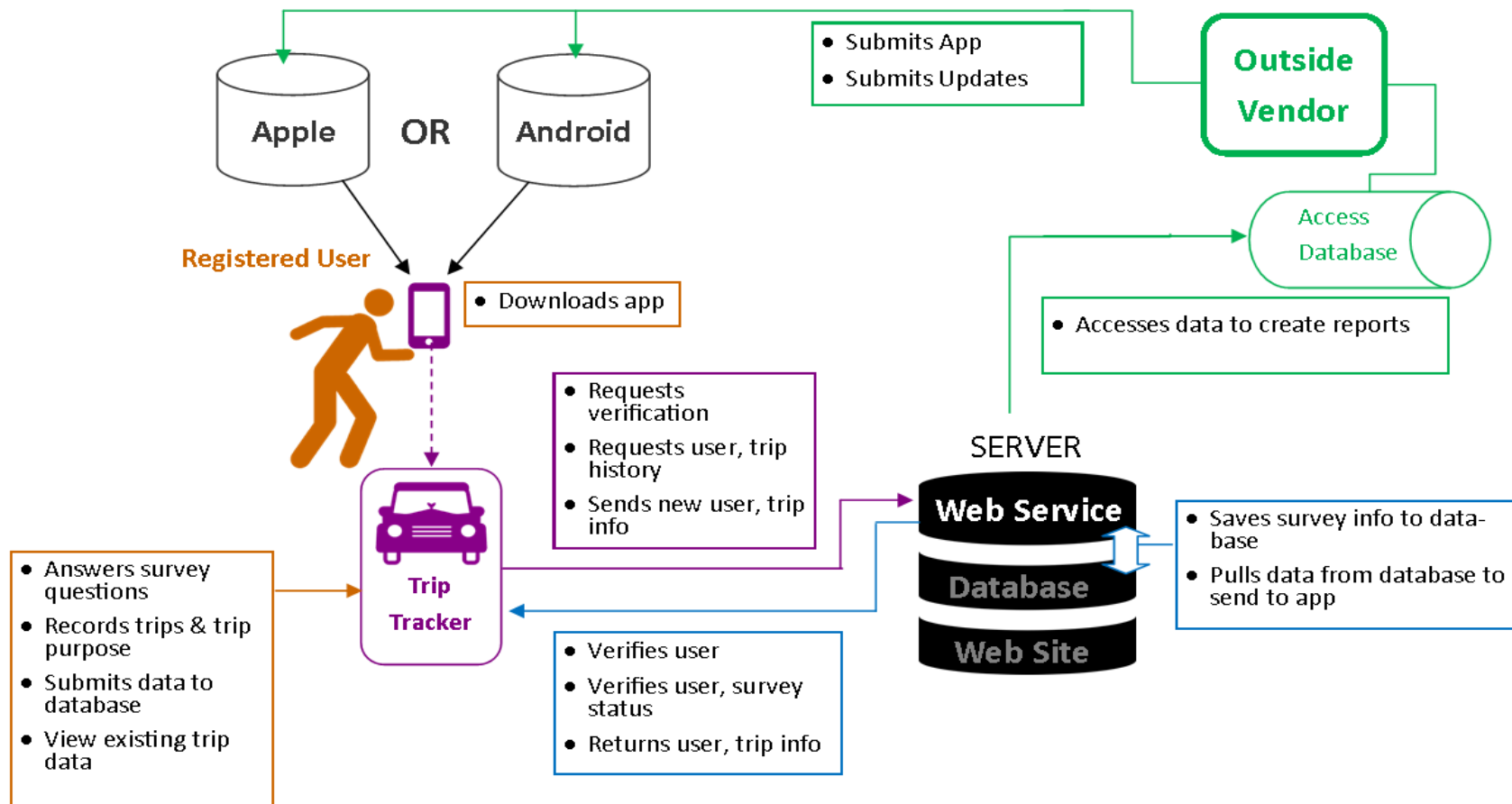
- One-time questions (gender, age, employment, etc.)
- What is the purpose of your stop?
- Mode of transportation
- How many household members traveled with you?
- How many traveled with you who are not household members?
- Did you encounter any delays associated with an accident or road construction?
- Did you pay a toll for this trip?
- Do you pay for parking on this trip?
- How much was your fare if you used a city/public bus/shuttle?

Mobile App

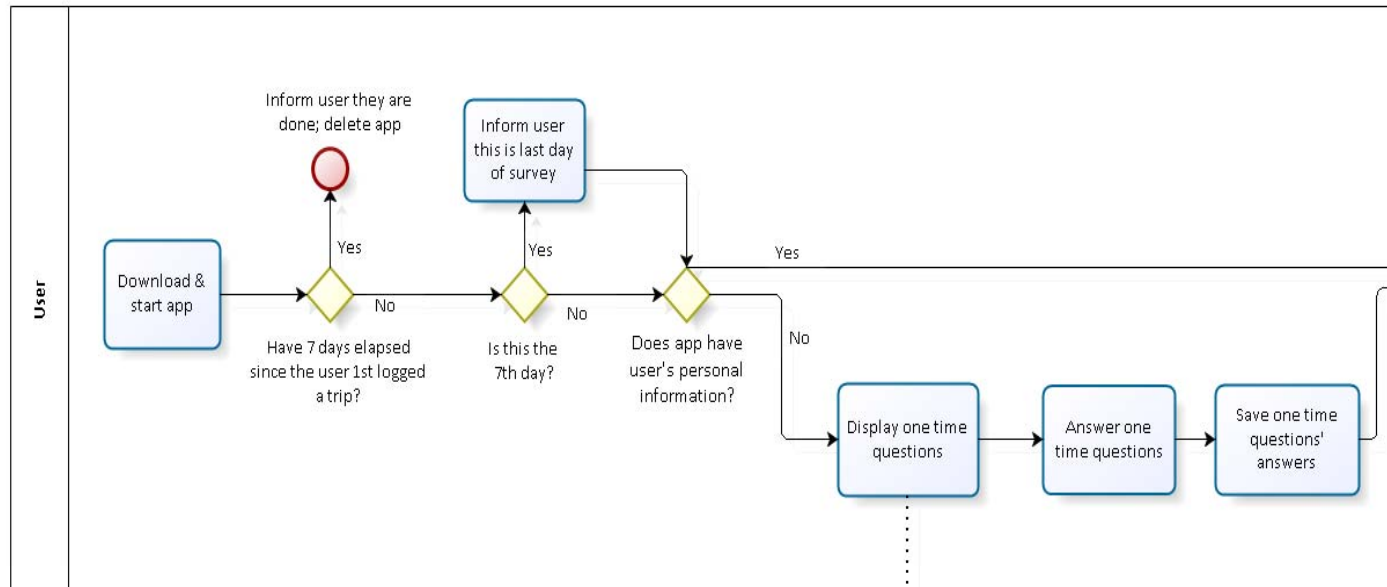


- Designed to collect data for the statewide model
- Open source code, so MPOs and Districts can recode it for their needs
- Code must remain open source

Florida Trip Tracker Flowchart I



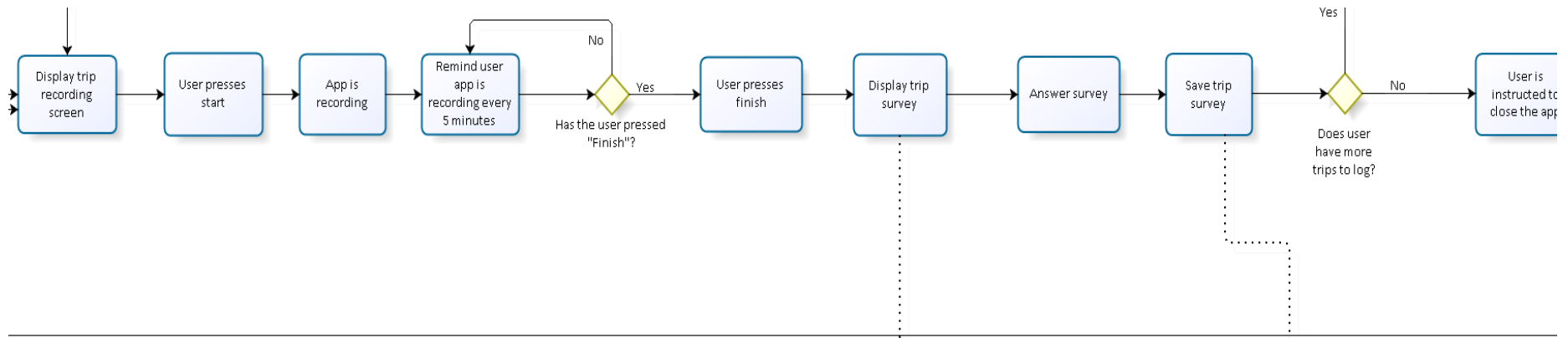
Florida Trip Tracker Flowchart II



One Time Questions

1. Gender
2. Age (select one)
3. Employment Status
4. If you are employed, how many days per week do you make your work trips?
5. Are you a student?
6. (Only asked if #5 is 'Yes') If you are a student, what level?
7. Do you have a valid personal driver's license?
8. Do you own a transit pass?
9. Do you own a disabled parking pass?

Florida Trip Tracker Flowchart II



Questions For Each Stop

1. What is the purpose of your stop?
 - My home
 - My work (including volunteer work)
 - Recreation (personal sports, gym)
 - Shopping/Errands
 - Friend's or relative's home
 - Meal/Dining Out
 - Daycare
 - School (Elementary, Middle, and High)
 - College
 - Other (please specify) _____
2. I traveled by:
 - Car, truck, van or motorcycle
 - City/public bus/shuttle—routes, transfers, boarding/alighting locations
 - School bus
 - Walk
 - Bicycle
 - Carpool
 - Other
3. How many household members traveled with you?
4. How many traveled with you who are NOT household members?
5. Did you encounter any delays associated with an accident or road construction?
6. Did you pay a toll for this trip?
 - If 'Yes' enter amount
7. Did you pay for parking for this trip?

- Trip Coordinates
- Answers to Trip Survey

Website



- Will function also as a mobile website
- Will contain multiple webpages
- A separate page will present the following:
 - New user registration
 - Terms and conditions
 - Frequently asked questions (FAQs)
 - Comment box
 - App instructions
 - User information



Web Service



- Created programmatically and resides on the server
- Listens for app requests
- Accepts app data when the user presses “Save”
- Processes each “Save” request and stores the data in the database on the server

Web Service



- Any interaction between the app and database occurs through the web service
- At a specific date or when data collection is completed, the app will expire and will collect no more data
- The user can uninstall the app

Database



- An SQL Server database has been created on the server and stores data
- Reads data from the web service and writes the tables
- The tables are structured to directly support data analysis
- Database can be exported any time to monitor the progress and statistics of the survey

Privacy Issue



- Users' whereabouts will be known because the app uses the smartphone GPS
- While FDOT will not use the data for nefarious purposes, others are not precluded from asking and using the data



Battery Usage Issue



- The app will not work if the battery is below 10 percent
- Using the smartphone GPS is notorious for battery drainage after a long time



Respondent's Burden Issue



- The success of the travel survey depends on the user to accurately and diligently answer questions at every stop.
- Users may forget the app or remember it in the middle of a trip which would not supply good data.
- Daily reminders will be helpful.



Grr...I forgot again!

Complete Household Issue

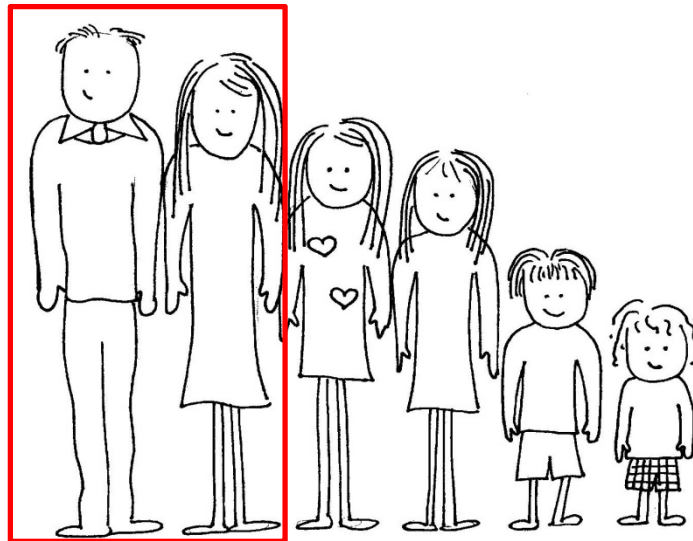


- How do you go from individual members to a household?
- Are the data from individual members sufficient for the trip-based statewide model?
- Activity-based and destination-choice models rely on the interaction of *all* household members.

Complete Household Issue



National Household Travel Survey defines a complete household as **50 percent** or more of adults within a household who completed the person interview, which incorporates travel information and trip diaries.



Suggestion Discussed



Companion Website

Respondents can complete the household travel survey online for children or other household members who do not own their own smartphone.

Suggestion Discussed



Editable Trip Log

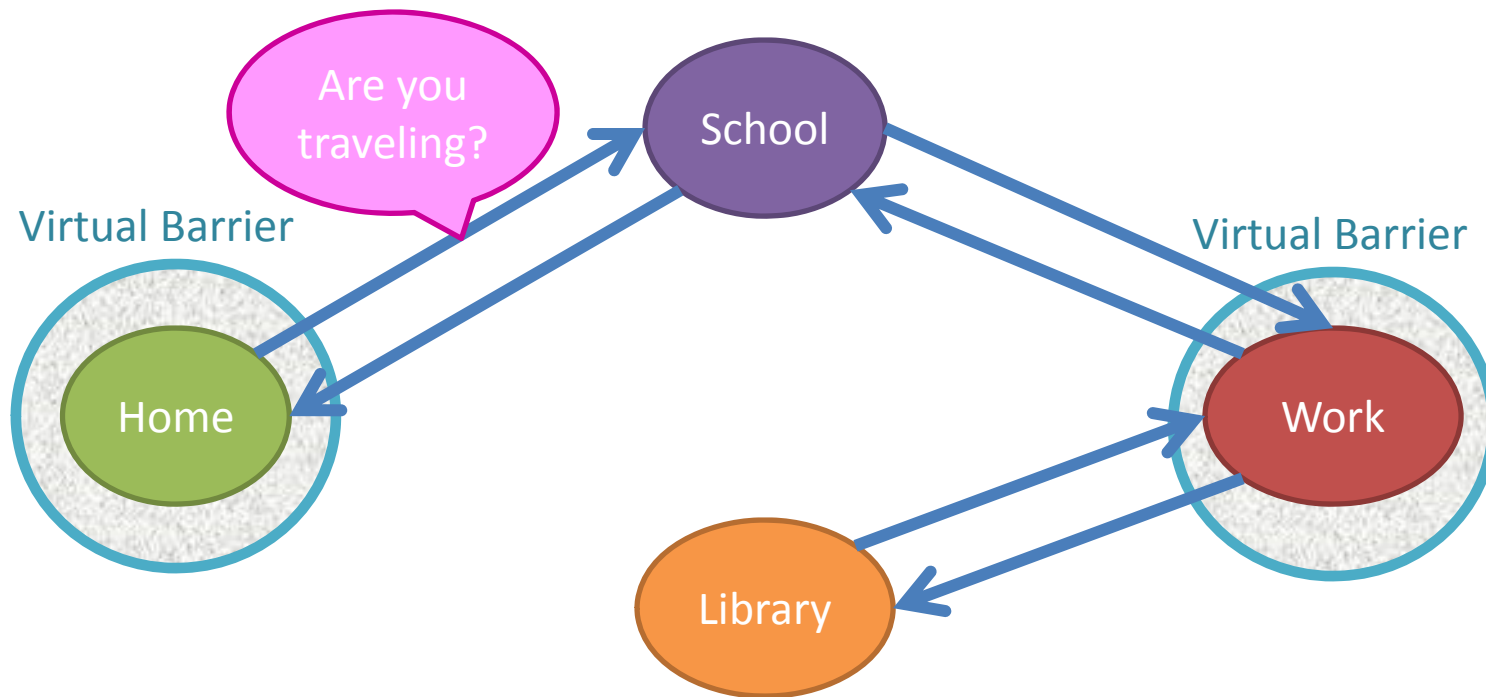
Currently, the app allows users to only view the trip log.

Users could edit their stops on a smartphone.

Suggestion Discussed



Geofencing/Regional Monitoring

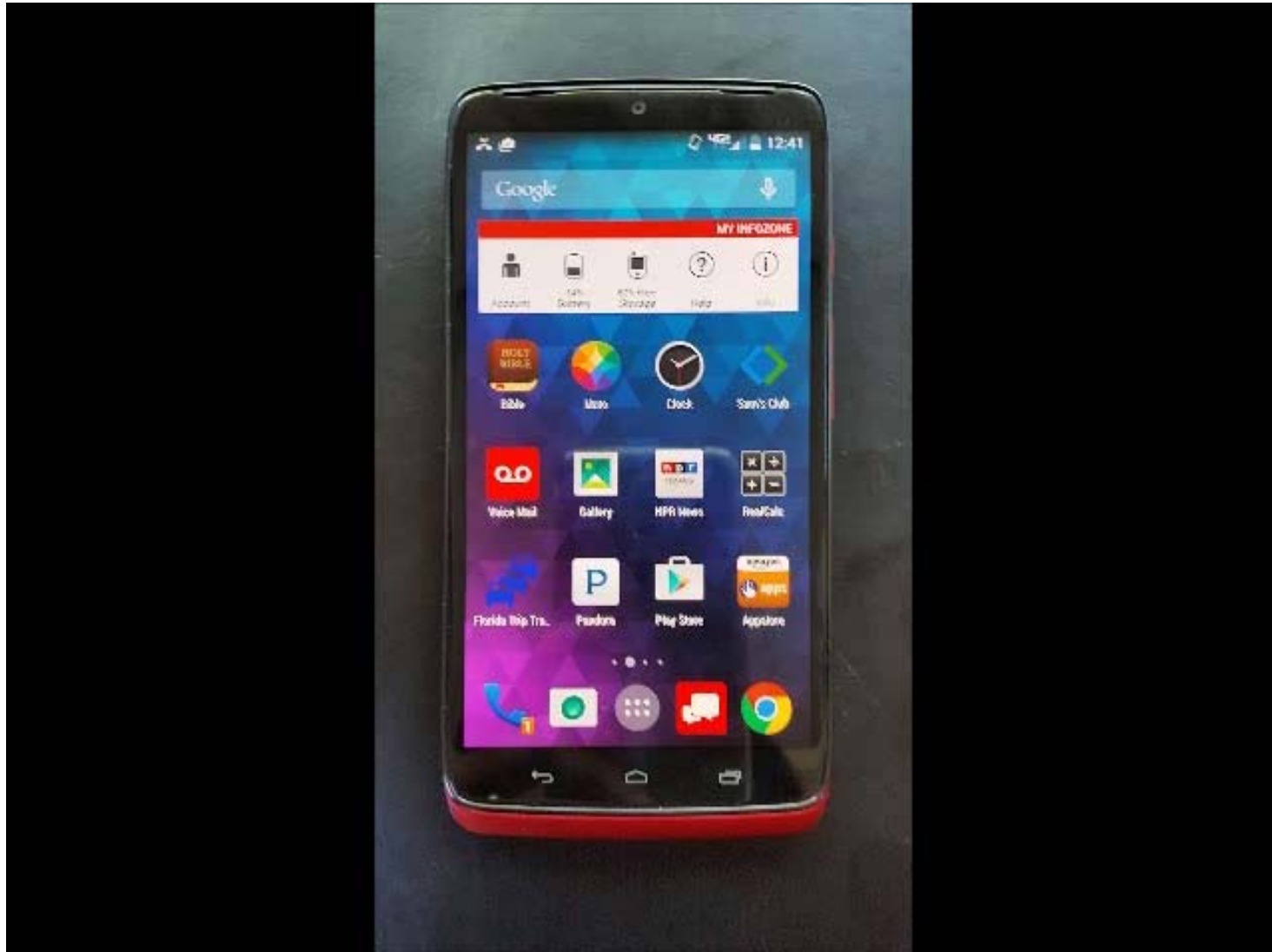


Suggestion Discussed



- It is possible to set up a geofence that triggers a reminder
- Alarms will not work if the iOS (Apple) device is turned off
- Virtual barriers are not always accurate

Mobile App Video



Mobile App Results



Results

Would You Like to Try the App?



Florida Trip Tracker App is available in Google Play and Apple App stores

Search “florida trip tracker” to install

Send your feedback to

FloridaTripTracker@aecocom.com



Questions?



We will be delighted to answer your questions.

