Auto-Owners Insurance

Life Home Car Business

The "No Problem" People®

24-Hour Road Service Mobile Apps

User-Admin Manual

Fall 2011

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Contents

1. User Manual

This manual is designed to show how to use both the smartphone applications and the website. The sections tend to be grouped as tasks that a user can accomplish.

2. Smartphone Applications

The following sections show the different screens that comprise the applications. In these sections each figure is comprised of a screenshot from the iPhone on the left and a screenshot from the Android on the right.

The smartphone applications have three primary functions, requesting road trouble service, viewing insurance information, and finding nearby locations. These functions are accessed through the main screen after logging in. In the following sections it is shown how to use each of the functions and the login and main screens.

2.1 Logging In

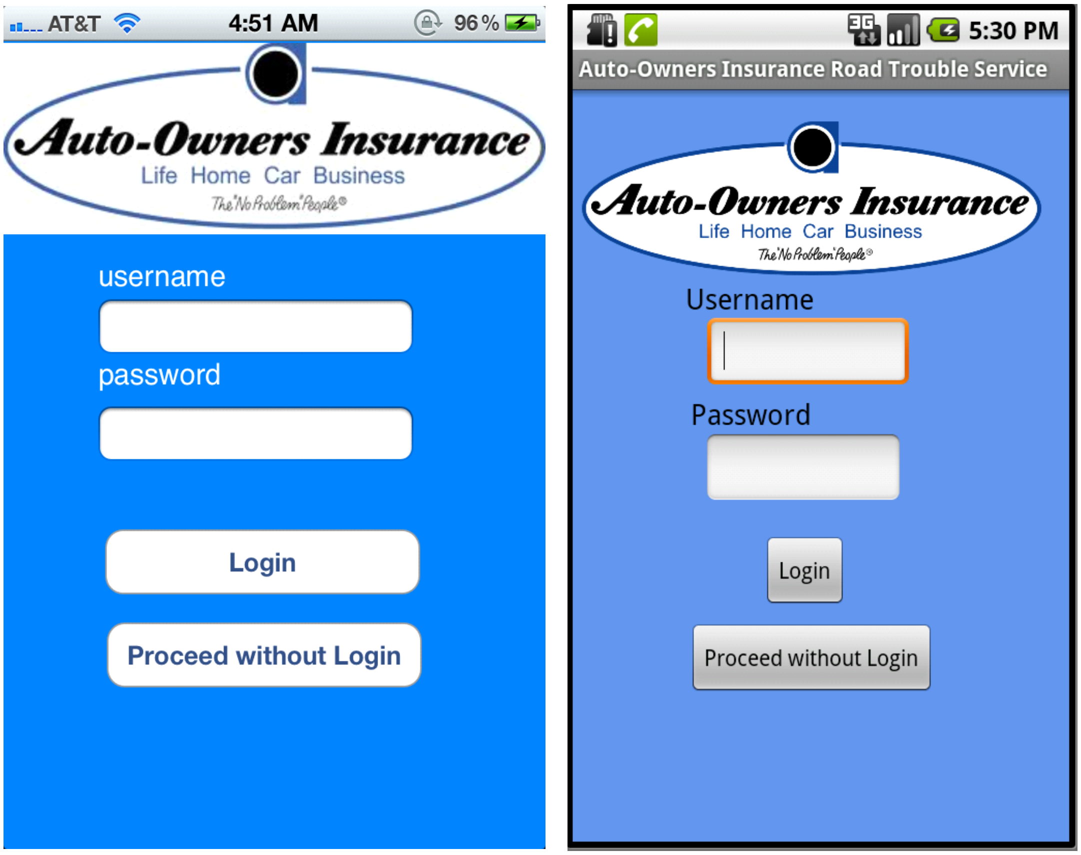


Figure 2.1 Login Screen

The login screen allows the user to input their Auto-Owners Insurance information. This information is conveyed to a web service that will authenticate the information with the Auto-Owners Insurance database. On successful authentication, user insurance data will be downloaded to the phone and stored in a local database. On this screen the user has the following two options

- **Login:** The user can login with their Auto-Owners Insurance username and password.
- **Skip:** If the user is not currently an Auto-Owners Insurance member, the user can skip login to search for nearby places, or use the call functionality of the application.

2.2 Main Screen

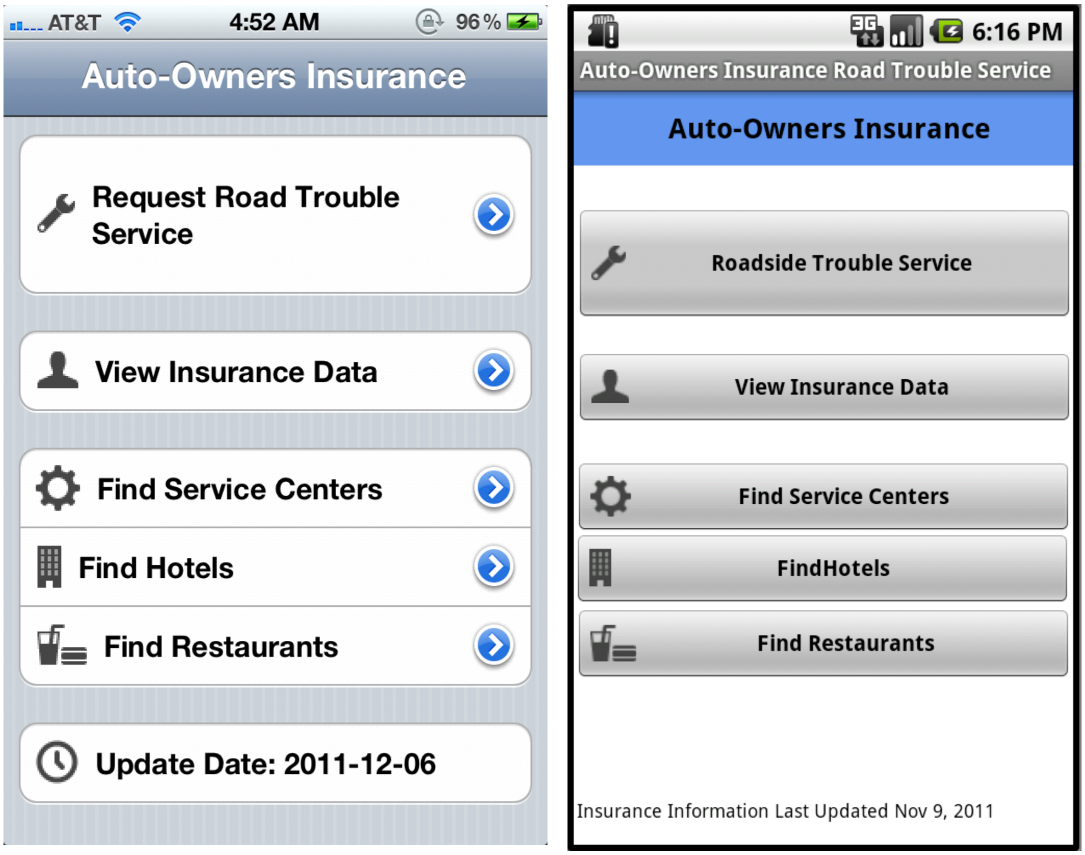


Figure 2.2 Main Screen

If a user has logged in before, the main screen will be the first screen to show up. From here the user can make a variety of selections. If the user does not have an internet connection the “Find” feature will be disabled.

- **Request Road Trouble Service:** The user can click this button to begin the request for service. From here they will proceed to the Service Request Screens shown in section 2.3.

- **View Insurance Data:** This button will take the user to a screen showing their login information. This is shown in section 2.4.

- **Find Service Centers:** The user can click this button to find nearby service centers. This functionality is explained in section 2.5.

- **Find Hotels:** The user can click this button to find nearby hotels. This functionality is explained in section 2.5.

- **Find Restaurants:** The user can click this button to find nearby restaurants. This functionality is explained in section 2.5.

2.3 Requesting Road Trouble Service

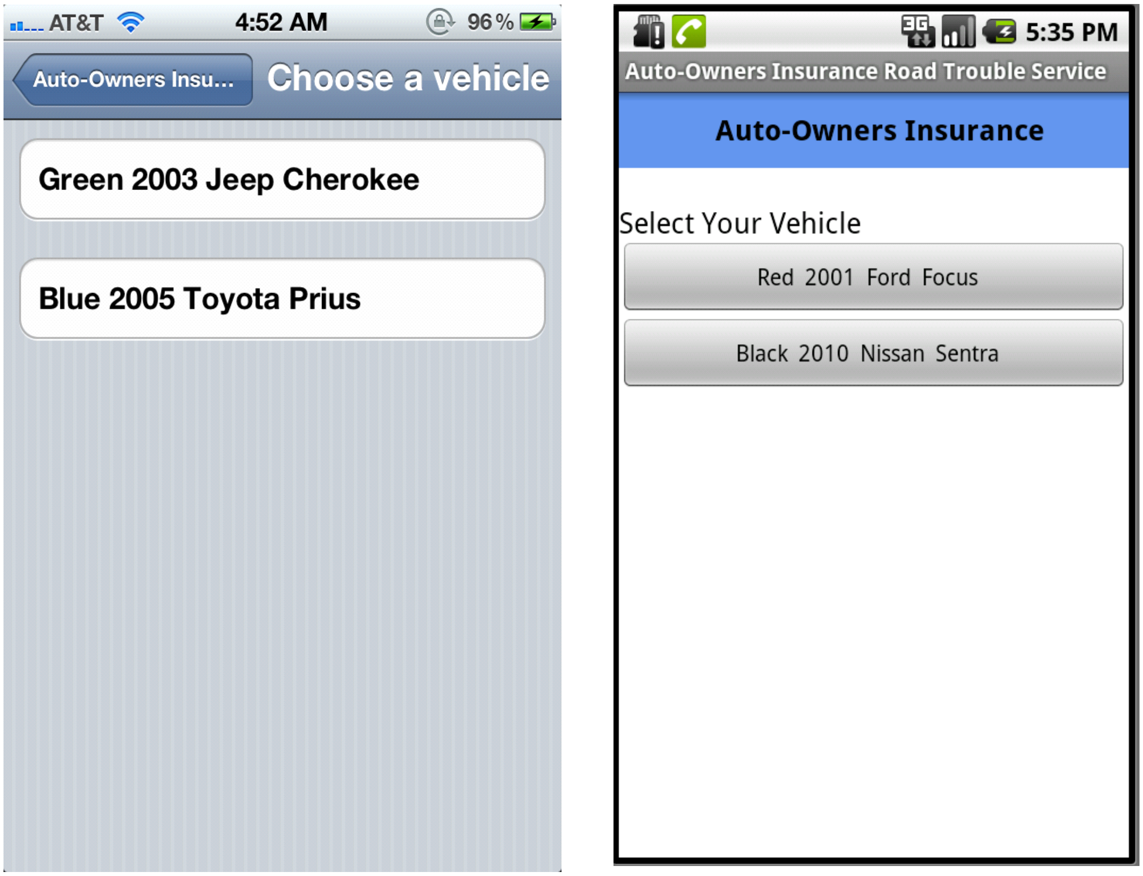
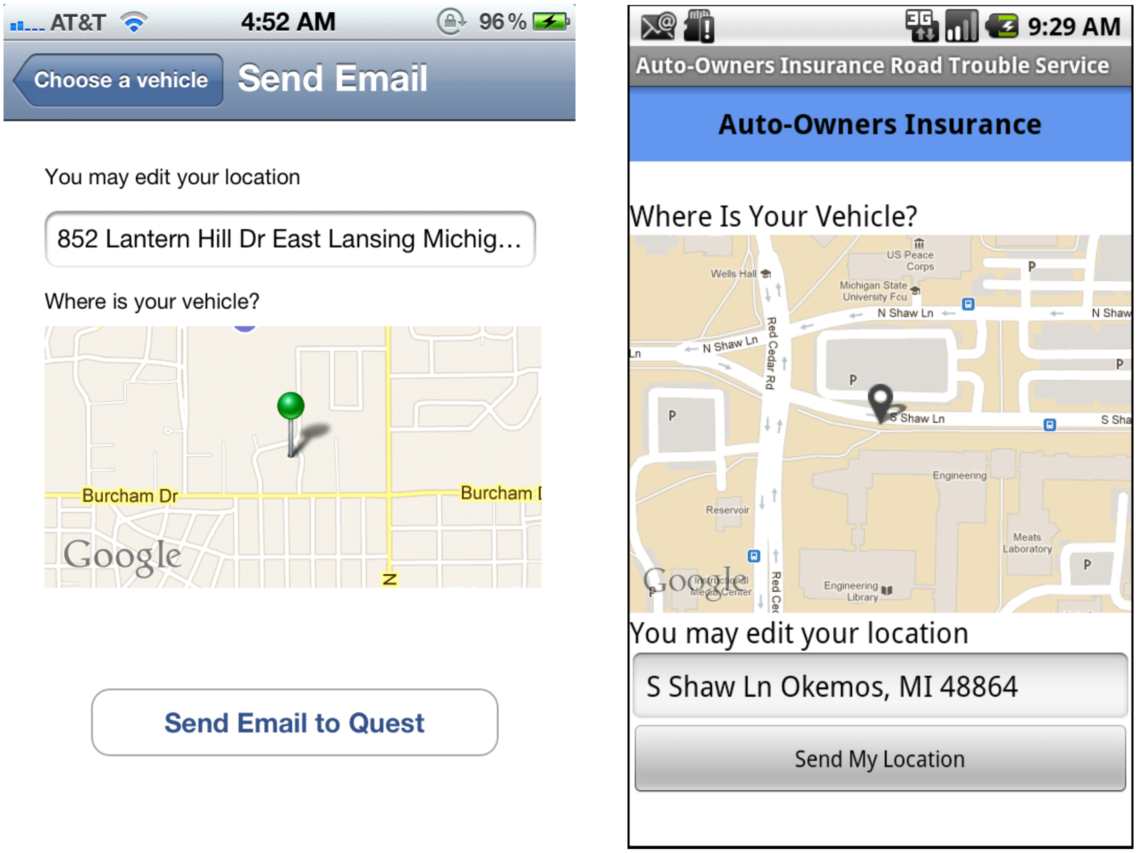


Figure 2.3.1 Vehicle Selection Screen

This series of screens guide the user through the steps to acquire service. The first screen displays a list of vehicles insured under the user's policy. The user selects the vehicle that needs service.

- **Any Vehicle:** The user clicks a button corresponding to the vehicle that requires service.



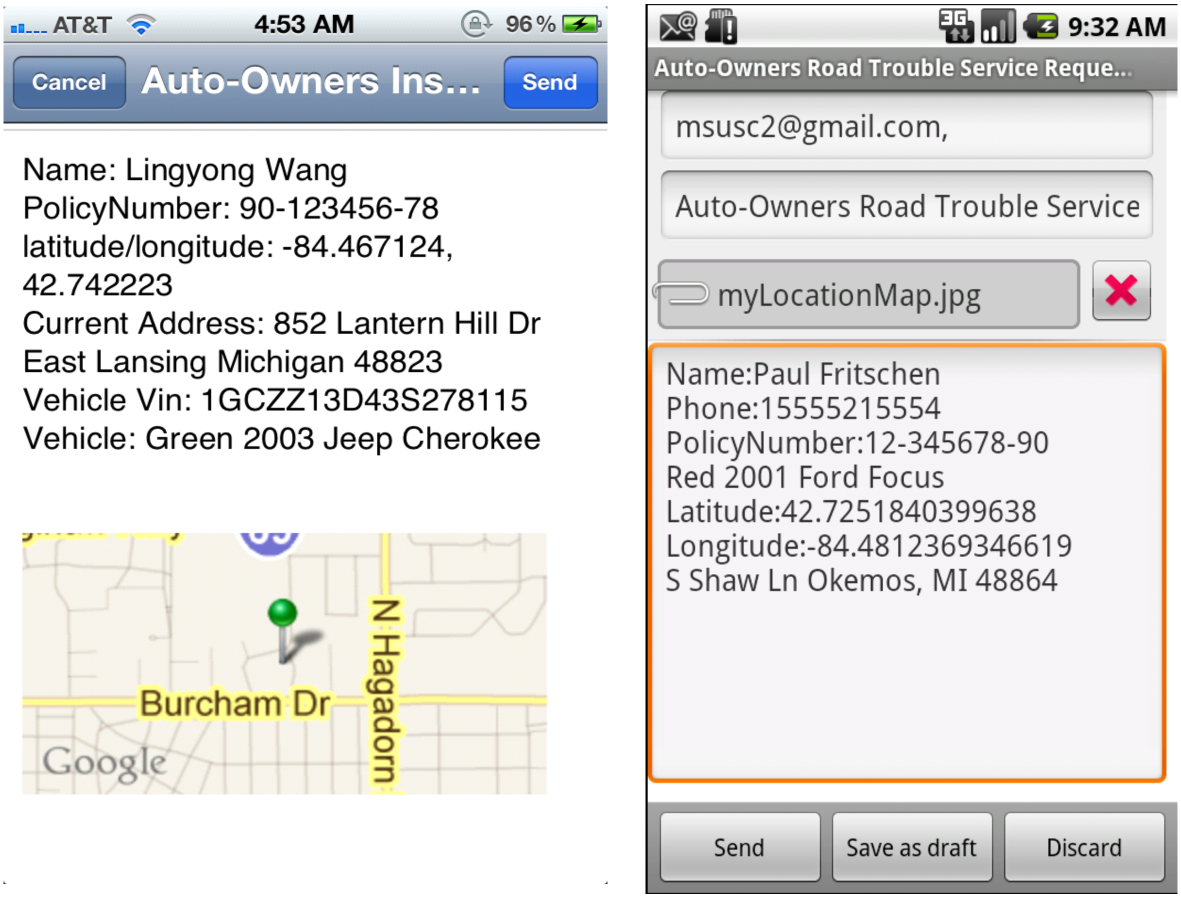
852 Lantern Hill Dr East Lansing Michig…

S Shaw Ln Okemos, MI 48864

Figure 2.3.2 Edit Location Screen

The map and address seen in the above screen are both automatically populated based on the smartphone’s GPS location. If this location does not accurately represent the vehicles location the user can edit the textbox to include a correct address or some other description of the area.

- **Send Email to Quest/Send My Location:** This user should select this button if the map and address correspond to their vehicles location. If it is not correct the user should first edit the address.



Name: Lingyong Wang
PolicyNumber: 90-123456-78
latitude/longitude: -84.467124, 42.742223
Current Address: 852 Lantern Hill Dr East Lansing Michigan 48823
Vehicle Vin: 1GCZZ13D43S278115
Vehicle: Green 2003 Jeep Cherokee

msusc2@gmail.com,

Auto-Owners Road Trouble Service

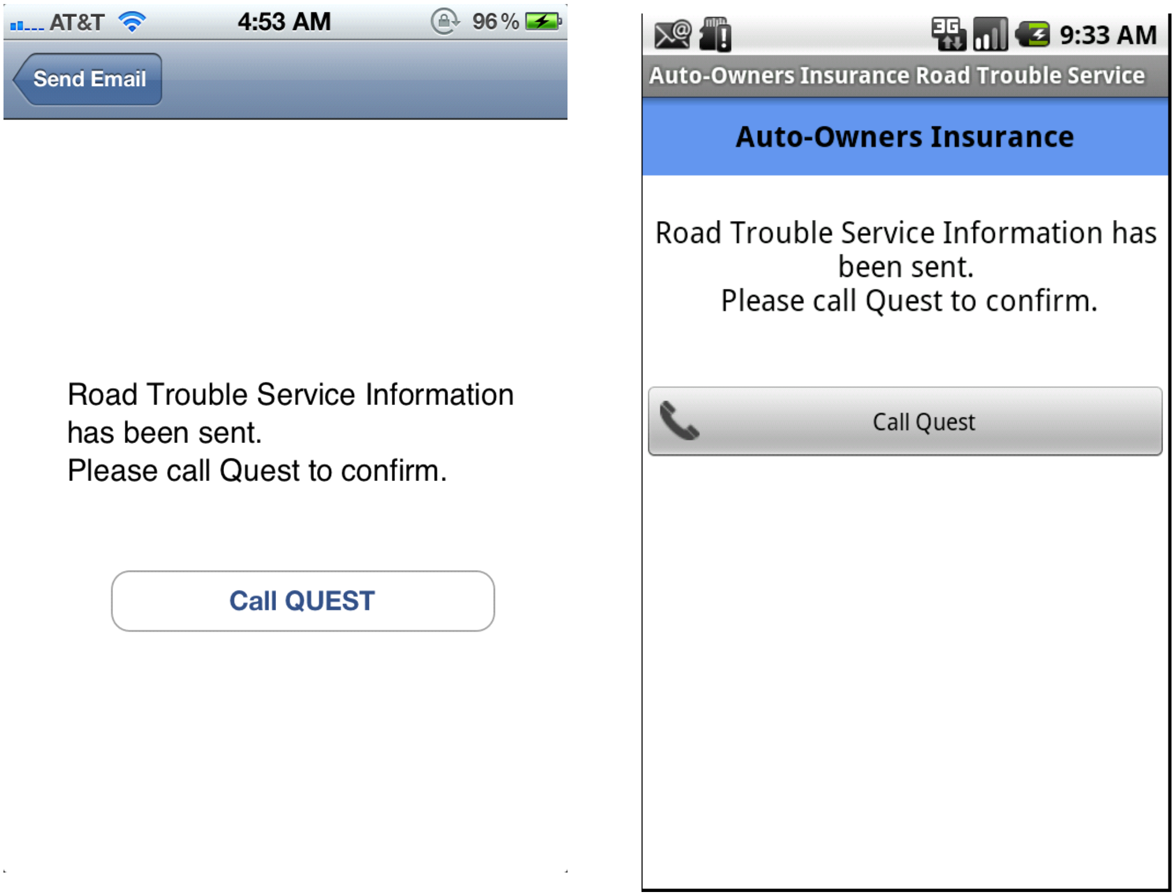
myLocationMap.jpg

Name:Paul Fritschen
Phone:15555215554
PolicyNumber:12-345678-90
Red 2001 Ford Focus
Latitude:42.7251840399638
Longitude:-84.4812369346619
S Shaw Ln Okemos, MI 48864

Figure 2.3.3 Send Email Screen

The user is taken to the phones native email client. The email address for Quest as well as all the information contained with the body of the email is automatically populated. Pressing send continues the process.

- **Send:** The user will select this button if they are ready to email a service request to Quest. The user will be taken to the call screen shown in the next figure.
- **Cancel/Discard:** This user should select this button if they do not wish to request service.



Road Trouble Service Information has been sent.
Please call Quest to confirm.

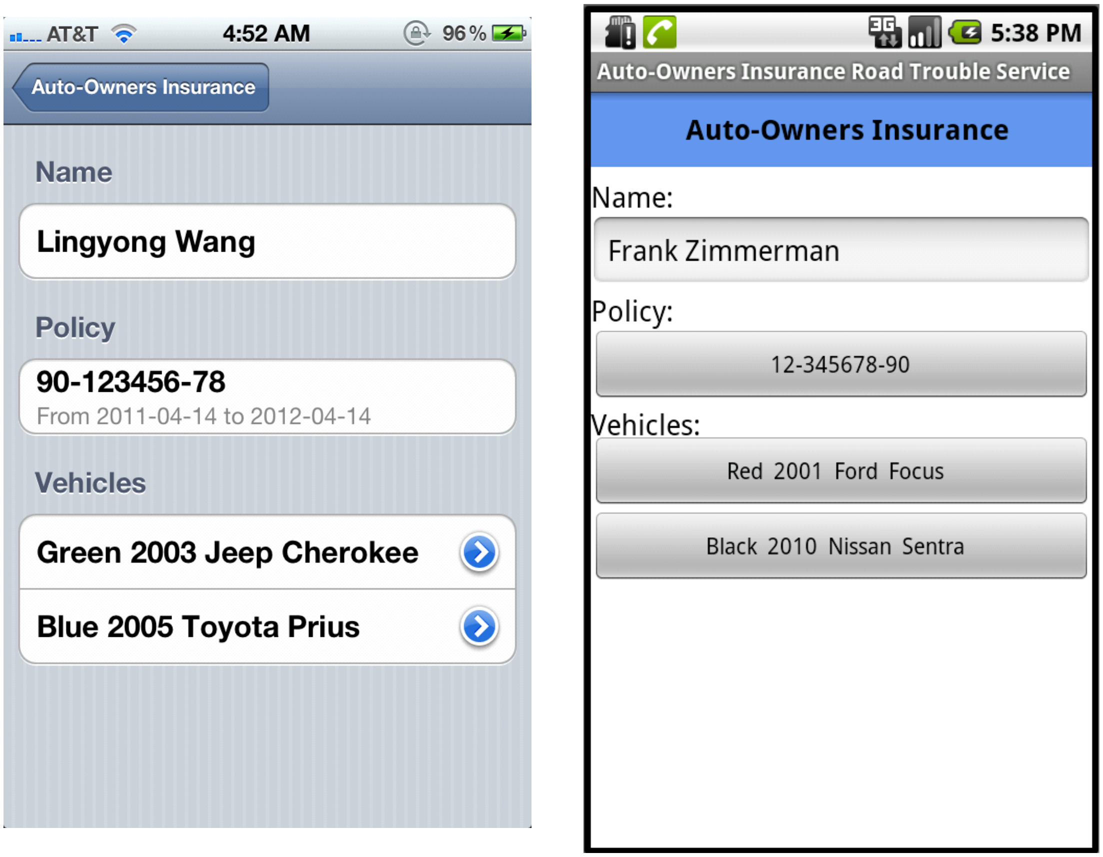
Road Trouble Service Information has been sent.
Please call Quest to confirm.

Figure 2.3.4 Call Screen

After the email is sent this user is prompted to call Quest. They should ask to make sure that their email has been received and that service will be provided.

- **Call Quest:** The user will select this button to make a confirmation call to Quest.

2.4 Viewing Insurance Information



Name

Lingyong Wang

Policy

90-123456-78
From 2011-04-14 to 2012-04-14

Vehicles

Green 2003 Jeep Cherokee

Blue 2005 Toyota Prius

Name:

Frank Zimmerman

Policy:

12-345678-90

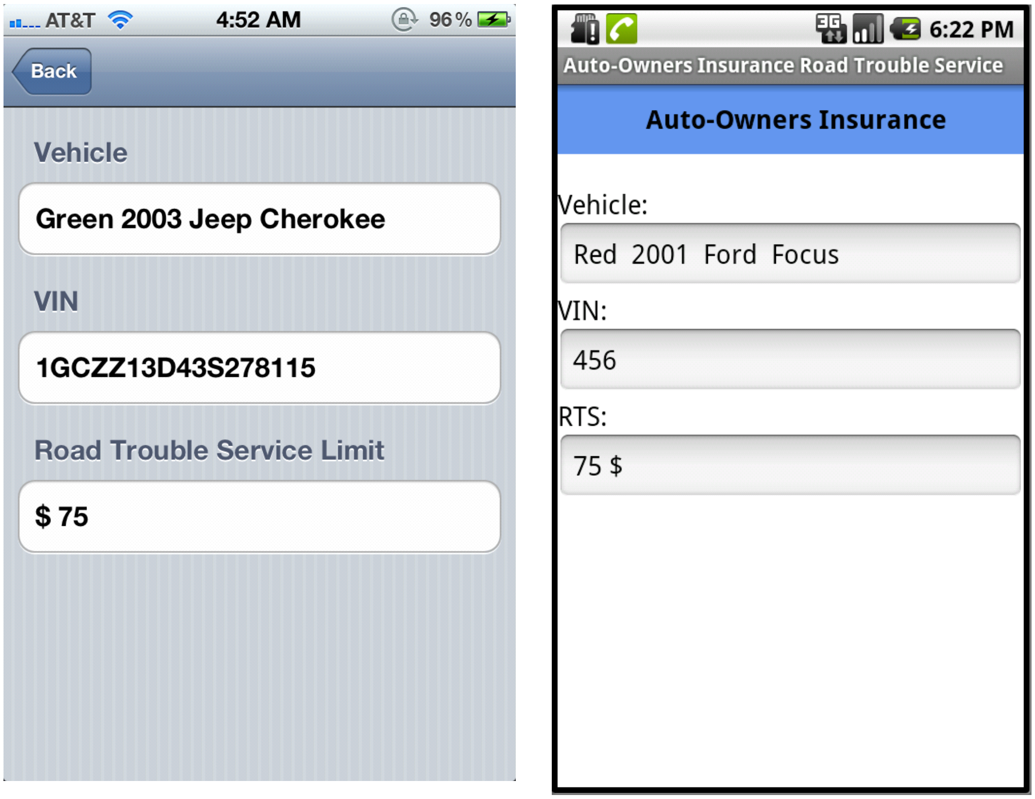
Vehicles:

Red 2001 Ford Focus

Black 2010 Nissan Sentra

Figure 2.4.1 View Insurance Screen

Clicking the View Insurance button on the main screen brings the user here. The user's name, policy number, and list of insured vehicles are displayed. Clicking on a vehicle displays the vehicle color, year, make, and model, as well as its VIN, and Roadside Trouble Service Limit. This is shown in the following figure.



Vehicle

Green 2003 Jeep Cherokee

VIN

1GCZZ13D43S278115

Road Trouble Service Limit

$ 75

Vehicle:

Red 2001 Ford Focus

VIN:

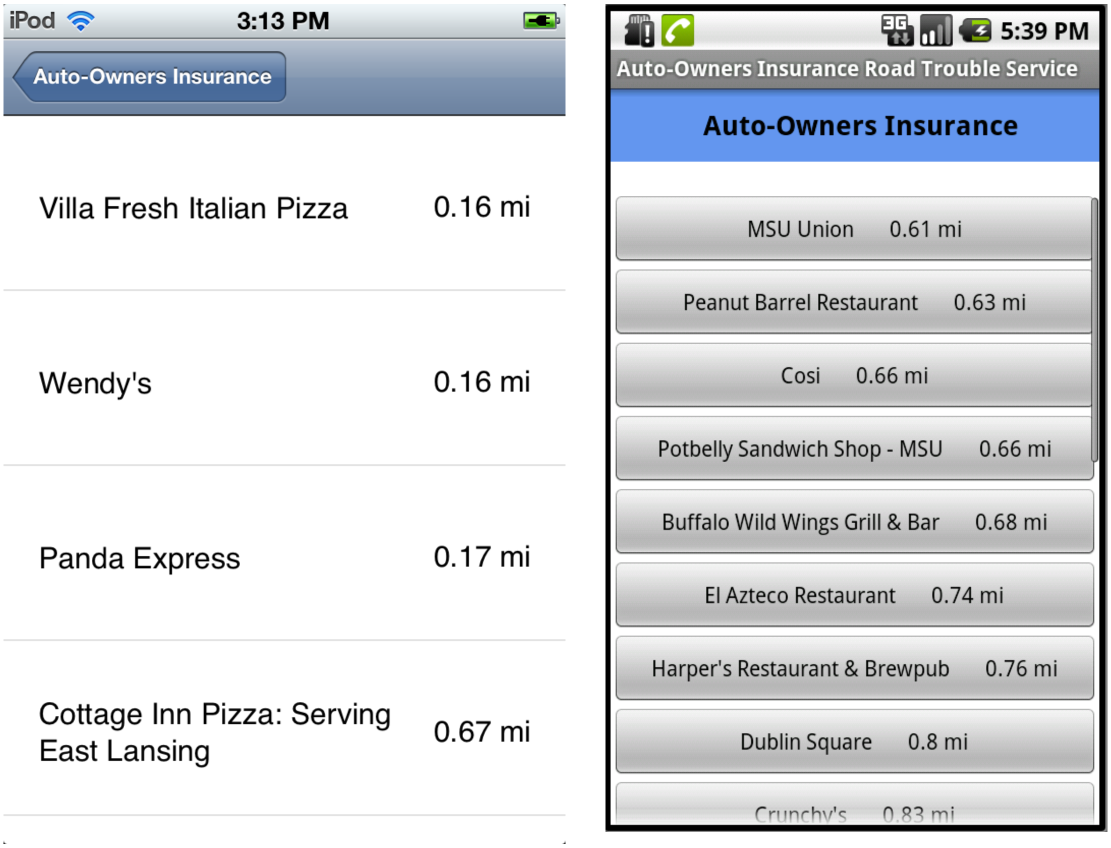
456

RTS:

75 $

Figure 2.4.2 View Vehicle Screen

2.5 Finding Nearby Places



Villa Fresh Italian Pizza	0.16 mi
Wendy's	0.16 mi
Panda Express	0.17 mi
Cottage Inn Pizza: Serving East Lansing	0.67 mi

MSU Union	0.61 mi
Peanut Barrel Restaurant	0.63 mi
Cosi	0.66 mi
Potbelly Sandwich Shop - MSU	0.66 mi
Buffalo Wild Wings Grill & Bar	0.68 mi
El Azteco Restaurant	0.74 mi
Harper's Restaurant & Brewpub	0.76 mi
Dublin Square	0.8 mi
Crunchy's	0.83 mi

Figure 2.5.1 View Vehicle Screen

By clicking on one of the find features from the main menu the user can find nearby hotels, restaurants or service centers. This brings them to the above screen. Locations are arranged with the closest one at the top of the list. Clicking on a location opens the phone's GoogleMaps application and will display a map to the desired location. This is shown in the figure below.

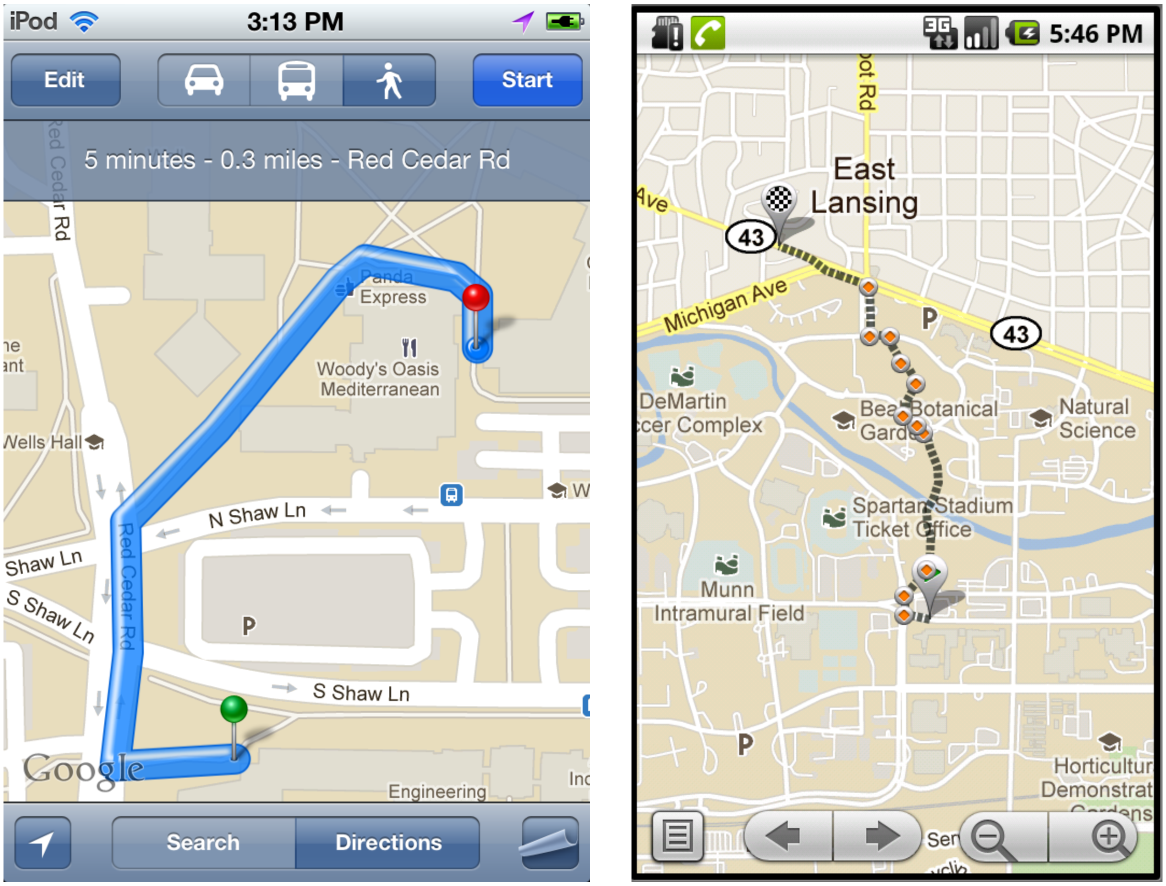
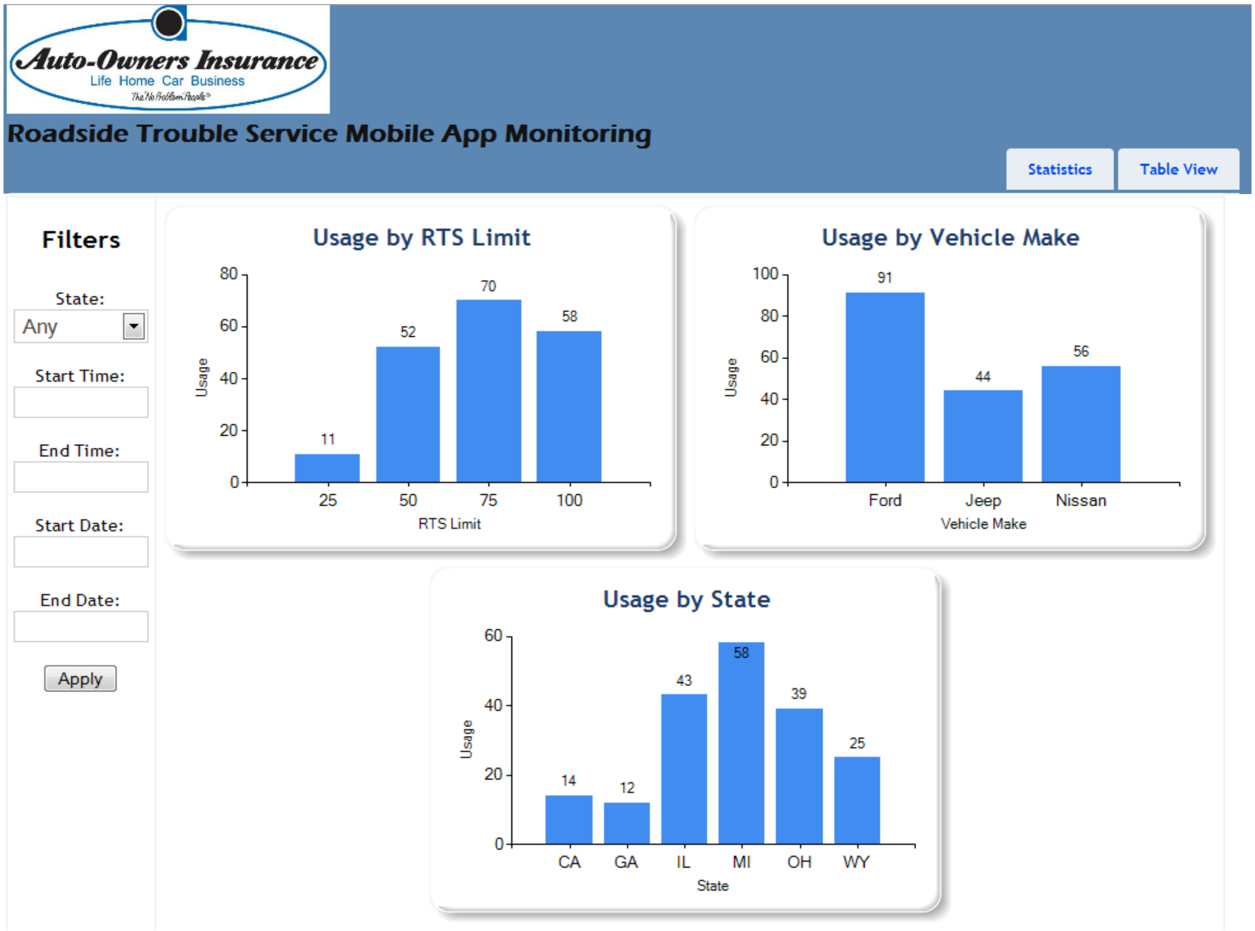


Figure 2.5.2 GoogleMaps Directions Screen

3. Administrative Website

The Administrative Website pulls information about service requests from a logging database. This website enables access to various graphs and tables based on the logging data.

Figure 3.1 shows the statistics view. This view holds three charts depicting usage by Road Trouble Service Limit (RTS Limit), Vehicle Make, and the state that the request took place in. There are filtering options available for these charts. They include state, start and end time, and start and end date.



State: Any

Start Time:

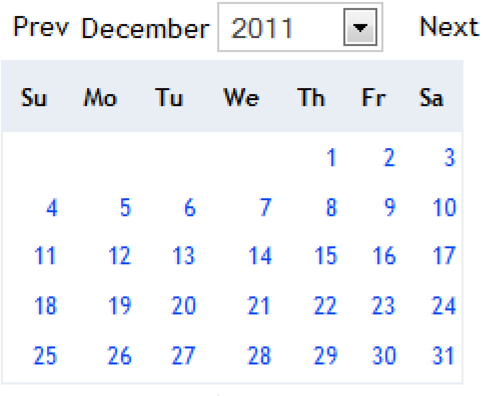
End Time:

Start Date:

End Date:

Figure 3.1 Statistics View

Figure 3.2 shows the drop down calendar that will appear when clicking one of the date fields. The Prev and Next buttons are used to change the month, and there is a drop down box to select the year.

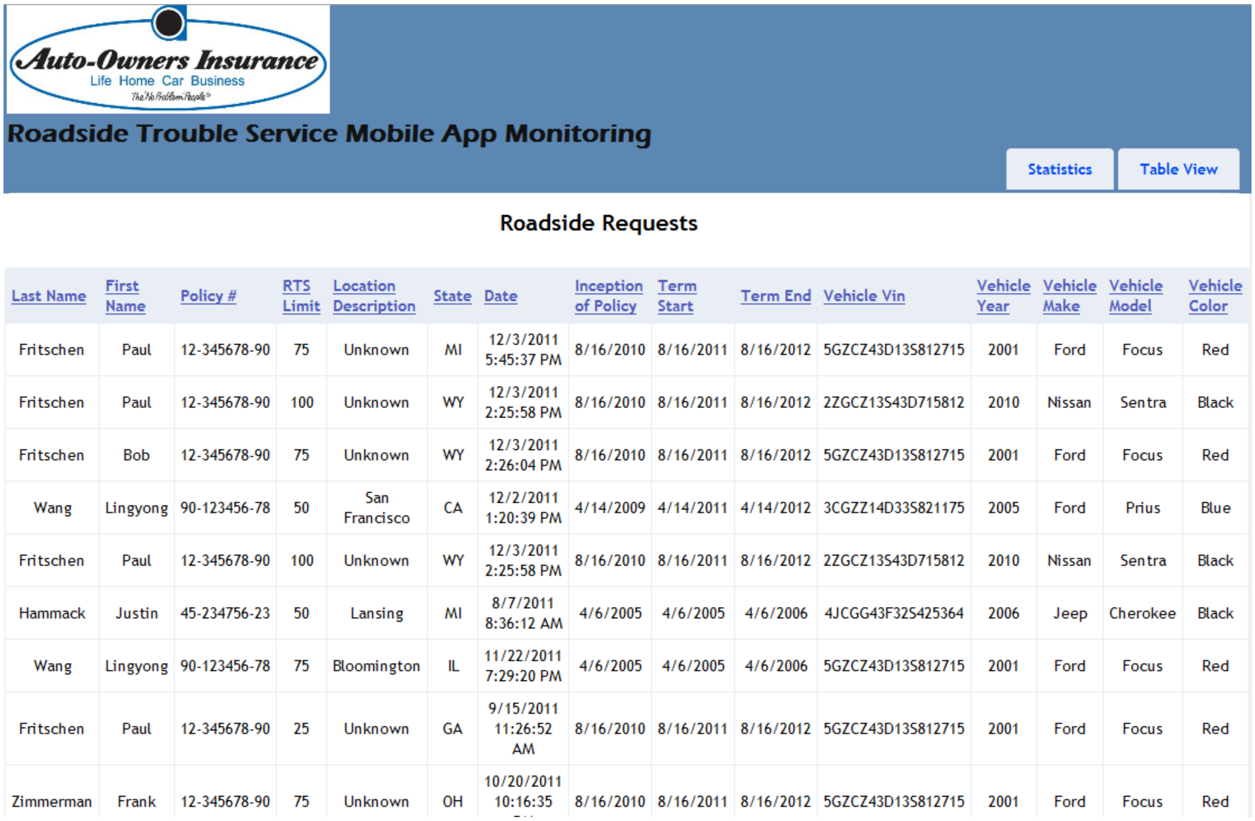


Prev December 2011 Next

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Figure 3.2 Calendar Select

The website has a table view for viewing all transactions at once. This is depicted in figure 3.3. This table will sort by any column that the user clicks.



Roadside Trouble Service Mobile App Monitoring

Roadside Requests

Last Name	First Name	Policy #	RTS Limit	Location Description	State	Date	Inception of Policy	Term Start	Term End	Vehicle Vin	Vehicle Year	Vehicle Make	Vehicle Model	Vehicle Color
Fritschen	Paul	12-345678-90	75	Unknown	MI	12/3/2011 5:45:37 PM	8/16/2010	8/16/2011	8/16/2012	5GZCZ43D13S812715	2001	Ford	Focus	Red
Fritschen	Paul	12-345678-90	100	Unknown	WY	12/3/2011 2:25:58 PM	8/16/2010	8/16/2011	8/16/2012	2ZGCZ13S43D715812	2010	Nissan	Sentra	Black
Fritschen	Bob	12-345678-90	75	Unknown	WY	12/3/2011 2:26:04 PM	8/16/2010	8/16/2011	8/16/2012	5GZCZ43D13S812715	2001	Ford	Focus	Red
Wang	Lingyong	90-123456-78	50	San Francisco	CA	12/2/2011 1:20:39 PM	4/14/2009	4/14/2011	4/14/2012	3CGZZ14D33S821175	2005	Ford	Prius	Blue
Fritschen	Paul	12-345678-90	100	Unknown	WY	12/3/2011 2:25:58 PM	8/16/2010	8/16/2011	8/16/2012	2ZGCZ13S43D715812	2010	Nissan	Sentra	Black
Hammack	Justin	45-234756-23	50	Lansing	MI	8/7/2011 8:36:12 AM	4/6/2005	4/6/2005	4/6/2006	4JCGG43F32S425364	2006	Jeep	Cherokee	Black
Wang	Lingyong	90-123456-78	75	Bloomington	IL	11/22/2011 7:29:20 PM	4/6/2005	4/6/2005	4/6/2006	5GZCZ43D13S812715	2001	Ford	Focus	Red
Fritschen	Paul	12-345678-90	25	Unknown	GA	9/15/2011 11:26:52 AM	8/16/2010	8/16/2011	8/16/2012	5GZCZ43D13S812715	2001	Ford	Focus	Red
Zimmerman	Frank	12-345678-90	75	Unknown	OH	10/20/2011 10:16:35	8/16/2010	8/16/2011	8/16/2012	5GZCZ43D13S812715	2001	Ford	Focus	Red

Figure 3.3 Table View

4. Administrator Manual

The Administrator manual is designed to assist with setting up the web service and demonstrating how to use it to push and pull information.

4.1 Web service

4.1.1 Setting up the web service

The web service is ready to run in Eclipse on a Windows Server 2008 R2 with JRE 1.7 installed. By default the web service will use port number 8888. This can be changed in Servers/Tomcat v6.0 Server at localhost-config/server.xml. The IP address used by the web service will have to be changed to the IP address of the server. This is in Auto-Owners/build.xml. The web service returns json formatted strings.

4.1.2 Using the API

There are two available APIs for use by the applications.

1. http://35.9.22.108:8888/autoowners/user.do
   This API has three different functions depending on the arguments passed. They are as follows:
   a. user.do
   This will retrieve all transactions in the database. An example return value is provided below.

{"results":[{"transactionKey":"004824a2-8123-4b74-a221-06fe66a94e87","lastName":"Fritschen","firstName":"Paul","policyNumber":"12-345678-90","rtsLimit":"75","locationDescription":"null","state":"Michigan","date":"2011-12-03 17:45:37.0","inceptionOfPolicy":"2010-08-16","termStart":"2011-08-16","termEnd":"2012-08-16","vehicleVin":"5GZCZ43D13S812715","vehicleYear":"2001","vehicleMake":"Ford","vehicleModel":"Focus","vehicleColor":"Red"},{"transactionKey":"00ccdabc-90be-4442-8cb5-e6e5677bbebb","lastName":"Fritschen","firstName":"Paul","policyNumber":"12-345678-90","rtsLimit":"100","locationDescription":"null","state":"null","date":"2011-12-03 14:25:58.0","inceptionOfPolicy":"2010-08-16","termStart":"2011-08-16","termEnd":"2012-08-16","vehicleVin":"2ZGCZ13S43D715812","vehicleYear":"2010","vehicleMake":"Nissan","vehicleModel":"Sentra","vehicleColor":"Black"}] }

   b. user.do?username=user&password=pass
   This will attempt to find an insurance key based on the given username and password. If the username and password are found, the insurance key is returned, otherwise “fail” is returned.

c. user.do?insuredKey=123456

This will attempt to find an insurance record based on the passed insured key. If the record is found, the insured record along with any insured vehicles is returned, otherwise an empty json set is returned. An example value return and empty json set are provided below.

{"results":{"insuredKey":"abcd","lastName":"Fritschen","firstName":"Paul","policyNumber":"12-345678-90","inceptionOfPolicy":"2010-08-16","termStart":"2011-08-16","termEnd":"2012-08-16","vehicles":[{"vehicleKey":"2222","vehicleVin":"5GZCZ43D13S812715","rtsLimit":75,"vehicleYear":2001,"vehicleMake":"Ford","vehicleModel":"Focus","vehicleColor":"Red"},{"vehicleKey":"2323","vehicleVin":"2ZGCZ13S43D715812","rtsLimit":100,"vehicleYear":2010,"vehicleMake":"Nissan","vehicleModel":"Sentra","vehicleColor":"Black"}]}}

{"results":{"vehicles":[]}}

2. http://35.9.22.108:8888/autoowners/userAdd.do?lastName=Hammack&firstName=Justin&policyNumber=123-4567&rtsLimit=50&locationDescription=Lansing&state=MI&date=2005-04-0615:32:30&inceptionOfPolicy=2005-04-06&termStart=2005-04-06&termEnd=2005-04-06&vehicleVin=212121&vehicleYear=2001&vehicleMake=Ford&vehicleModel=Focus&vehicleColor=Red

   This will add a service request transaction to the logging database. The call will return “success” or “fail”

4.2 iPhone

The following demonstrates how to set up the phones database and how to use the web service.

Setup database:

```
[DatabaseManager copyDatabseIfNeeded];
```

Reset database (usually used for debug reason):

```
[DatabaseManager resetDatabase];
```

Communicate with database:

If you want to add or read data from database, you just implement the functions in the DatabaseManager, examples for add and get user info from database.

```
- (void) addUser:(User *)user {
```

```
                        const char * sql = "insert into userinfo (insuredkey) values (?)";
                        sqlite3_stmt *insert_statement = nil;
                        sqlite3_prepare_v2(database, sql, -1, &insert_statement, NULL);
                        sqlite3_bind_text(insert_statement, 1, [user.insuredKey UTF8String], -1,
                        SQLITE_TRANSIENT);
                        sqlite3_step(insert_statement);
                        sqlite3_finalize(insert_statement);
                        sqlite3_close(database);
        }

            - (User *) getUser {
                        const char *sql = "SELECT insuredkey FROM userinfo";
                        sqlite3_stmt *statement;
                        sqlite3_prepare_v2(database, sql, -1, &statement, NULL);
                        NSString *insuredKey = nil;
                        //get data and store data
                        while (sqlite3_step(statement) == SQLITE_ROW) {
//everything is array to make things easier
                        insuredKey = [NSString stringWithUTF8String:(char *)sqlite3_column_text(statement, 0)];
                        }
                        sqlite3_finalize(statement);
                        sqlite3_close(database);

                        return [[[User alloc] initWithInsuredKey:insuredKey] autorelease];
        }
```

Using DatabaseManager example (get insurance info):

```
 DatabaseManager *insuranceDetailDatamanager = [[DatabaseManager alloc] init];

User *userDetail= [insuranceDetailDatamanager getUser];

 [insuranceDetailDatamanager release];
```

Using Communicationmanager and API:

apiString is the API url string,

```
CommunicationManager *connection = [[CommunicationManager alloc] init];

 connection.delegate = self;

 [connection connectWithAPIString:apiString];

[connection release];
```

If you set the delegate to self, you have to implement the following function to use to process the received data. Data is the data returned from server, it can be Json or text depends on which API you are using

```
- (void) apiConnection:(CommunicationManager *)connection didReceiveData:(NSData *)data;
```

4.3 Android

The phone uses the web service to communicate with the AOI database and logging database.

4.3.1 Retrieving Insurance Info

To use to web service to retrieve information from the Auto-Owners Insurance database the following functions must be used.

```
String InsuranceData=comManager.getInsuranceInfo();
```

This uses an instance of the ConnectionManager to retrieve a String of the Insurance Data. This information must be parsed to be stored in the phones internal database. The following command parses the data and stores it in an array of ContentValues.

```
ContentValues[] data=parser.parseInsuranceInfo(InsuranceData);
```

To store this information in the database one must use the following call.

```
dbhelper.updateInsuranceInfo(data[0]);
```

Storing vehicles is done in a for loop for the size of the potential amount of vehicles. Current Implementation supports a maximum of 19 insured vehicles.

```
dbhelper.addVehicle(data[i];
```

4.3.2 Sending Logging Data

To send logging data to the logging database the web service must also be used. This is done by executing the following commands. An instance of the Parser class takes DatabaseManager object and the index to what vehicle was selected by the user on the vehicles screen and returns a string. This string is then sent to an instance of the CommunicationManager.

```
String sendString=parser.parseTransactionsSend(dbhelper, index);
String check=comManager.sendTransaction(sendString);
```

4.4 Website

The administrative website uses the web service to retrieve all of the service requests. The private variable URL in the file HomeController.cs (shown below) should be set to the IP address of the web service.

```
// URL for all web service requests
private const string URL = "http://35.9.22.108:8888/autoowners/user.do";
```

The function GetTransactions in the HomeController is where the http request is sent.

```
/// <summary>
/// Gets the service request transactions from the web service
/// </summary>
private void GetTransactions()
```

The JSON response from the web service is deserialized in the function GetTransactions in the file Transactions.cs under Models. The function takes a json string and returns a list of transactions. This list will be empty if there is an error deserializing the string. The Transaction model’s properties must match the columns in the transaction table.

```
public static List<Transaction> GetTransactions(string jsonString)
```