The Capstone Experience

Team Auto-Owners Insurance

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Project Overview

• Smartphone apps that will assist in requesting roadside service
• Administrative Web Site to view usage data
Functional Specifications-Application

• Communicate with mock Auto-Owners Insurance databases
• Login feature for use on first setup of the application
• Daily information update
• Email positional and insurance data to quest
• Viewing of insurance information
• Locate nearby service centers, hotels, and restaurants
• Push usage data to a logging database
• UI that feels like the Auto-Owners website
Functional Specifications-Website

- Login feature for administrators
- Pulls data from logging database
- Graphs and tables to show usage statistics
- Ability to customize graph data
Design Specifications-Application

• Primary Functionality Use Case
  ▪ Vehicle breaks down
  ▪ Driver opens app
  ▪ Selects Email GPS and Insurance Data
  ▪ Prompted to call Quest
Design Specifications-Application

• Additional Functionality
  ▪ Can view insurance data (even while making a call)
  ▪ Map showing restaurants, hotels, service centers

• Modeled after a screen mockup by Auto-Owners Insurance and their website
Screen Mockups

Login Screen
Screen Mockups

Main Screen

Main Screen

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Team Auto-Owners Insurance Project Plan
Screen Mockups

Request Service Screen

Press send to email your positional and insurance data. You will then be prompted to call Quest to confirm service request.

Request Service Prompt

Email Sent!

Call
Screen Mockups

View Information Screen
Screen Mockups

Nearby Locations Screen

- Holiday Inn: 1.2 miles
- Super 8: 1.4 miles
- Days Inn: 2.0 miles

Nearby Location Map
Screen Mockups

Website Login Screen

Road Service Mobile App Monitoring
Screen Mockups

Road Service Mobile App Monitoring

Website Graph Screen
Technical Specifications

• MySQL database, tomcat server
• Calls to web service to:
  ▪ Return insurance data
  ▪ Push usage data (from the phone)
  ▪ Return usage data (to the website)
• Libraries for reverse-geocoding and interfacing with Google Maps
System Architecture

Client

Quest Email

Server

Restful Web Service

Insurance Data

Administrative Data

SQL

SQL

Administrative Website

Auto-Owners Insurance

Auto-Owners Insurance

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Team Auto-Owners Insurance Project Plan
Web service Architecture

HTTP Request → Web.xml → Parsed URL → Create, Read, Update, Delete → JDBC Connection and SQL query

HTTP Response → Formatted Data → SQL

Tomcat Server

Web service

Auto-Owners Insurance Project Plan
Database Schema
Database Schema

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</table>

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System Components

• Hardware Platforms
  ▪ Android
  ▪ iPhone

• Software Platforms / Technologies
  ▪ MySQL
  ▪ Eclipse, Tomcat, JDBC, ANT
  ▪ Java
  ▪ Xcode
  ▪ ASP.NET, MVC 3
Testing

• Website
  ▪ Builds and unit tests triggered after every check in

• Unit Testing
  ▪ Create a test for each feature as it is developed

• Testing for memory leaks
Risks

- **Database Communication**
  - need to connect applications and website
  - Working web service
- **GPS to Road**
  - How do we translate a GPS coordinate to a road and milemarker, or an address
  - Existing apps have the capability, reverse-geocoding
- **Administrative Tools**
  - Provide some sort of graphing for stored usage data
  - Researching graph methods
- **Daily Database Sync**
  - Want to update insurance data on phone in case accident happens outside of internet service
  - Researching existing apps, weather apps
- **Finding nearby points of interest**
  - Find restaurants, hotels, service centers
  - Researching existing apps