

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Project Plan

## Catastrophic Claims Unit Mobilization

### The Capstone Experience

Team Auto Owners

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*From Students...  
...to Professionals*

# Functional Specifications

- Interactive web page that displays policies and statistics
- Determine high and low damage weather areas
- Determine centralized location for Mobile Claims Unit Bus
- Complete preprinted loss form on mobile application
- Filter and search policies on both platforms
- Data searches in limited to non-existent internet environments



# Design Specifications

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- Web and Mobile application that will support Mobile Claims Unit
- Web application used to organize claims team before deployment
- Visualizes weather data using map overlays
- Mobile application functions with and without internet services



# Screen Mockup: Web Log-In



***Auto-Owners Insurance***  
Life Home Car Business  
*The "No Problem" People®*

Username  Password



# Screen Mockup: Map Display

The screen mockup features the Auto-Owners Insurance logo at the top left, with the tagline "Life Home Car Business" and "The No Problem People®". A navigation bar at the top contains buttons for "Map Display", "Policy Display", and "Statistics Page", along with a search input field labeled "Enter a Keyword" and a "Find" button. The main area is a Google Maps interface showing a map of East Lansing, Michigan, with a red location pin placed on the "College of Engineering". A search bar at the top left of the map area contains the text "Search Google Maps". At the bottom of the interface, there is a thumbnail of a satellite map, followed by four dropdown menus labeled "Policy Type", "Policy Size", "Status", and "Agencies", and a prominent green "Sync" button.

# Screen Mockup: Policy Display

The mockup displays the Auto-Owners Insurance interface. At the top left is the logo with the tagline "Life Home Car Business" and "The No Problem People®". To the right are navigation tabs for "Map Display", "Policy Display" (which is active), and "Statistics Page". A search bar contains the text "Enter a Keyword" and a "Find" button.

Below the navigation is a "Disaster..." dropdown menu. The main content area features a 3x3 grid of policy cards. Each card displays "Name: Bob Sherman" and "Address: 1234 Liberty Way." with a small icon representing the policy type: a house for home policy and a car for auto policy. The icons alternate in a checkerboard pattern across the grid.

At the bottom of the interface is a control bar. On the left is a small map thumbnail. To its right are four dropdown menus labeled "Policy Type", "Policy Size", "Status", and "Agencies". A prominent green "Sync" button is located on the far right of this bar.



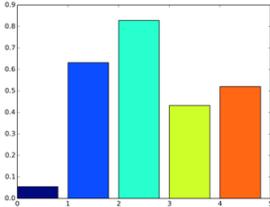
# Screen Mockup: Statistics Display



Auto-Owners Insurance  
Life Home Car Business  
*The "No Problem" People®*

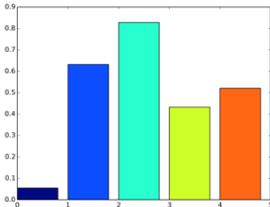
Map Display | Policy Display | **Statistics Page**

### Claims per Agency



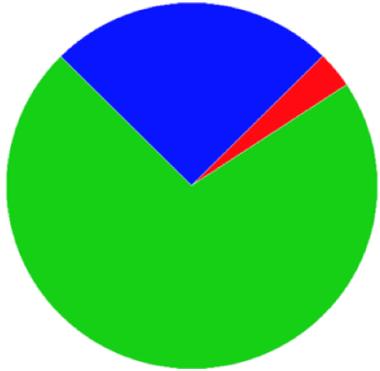
Agency	Claims
1	0.05
2	0.62
3	0.82
4	0.43
5	0.52

### Claim Count per 10 Days



Agency	Claim Count
1	0.05
2	0.62
3	0.82
4	0.43
5	0.52

Policy Type ▼

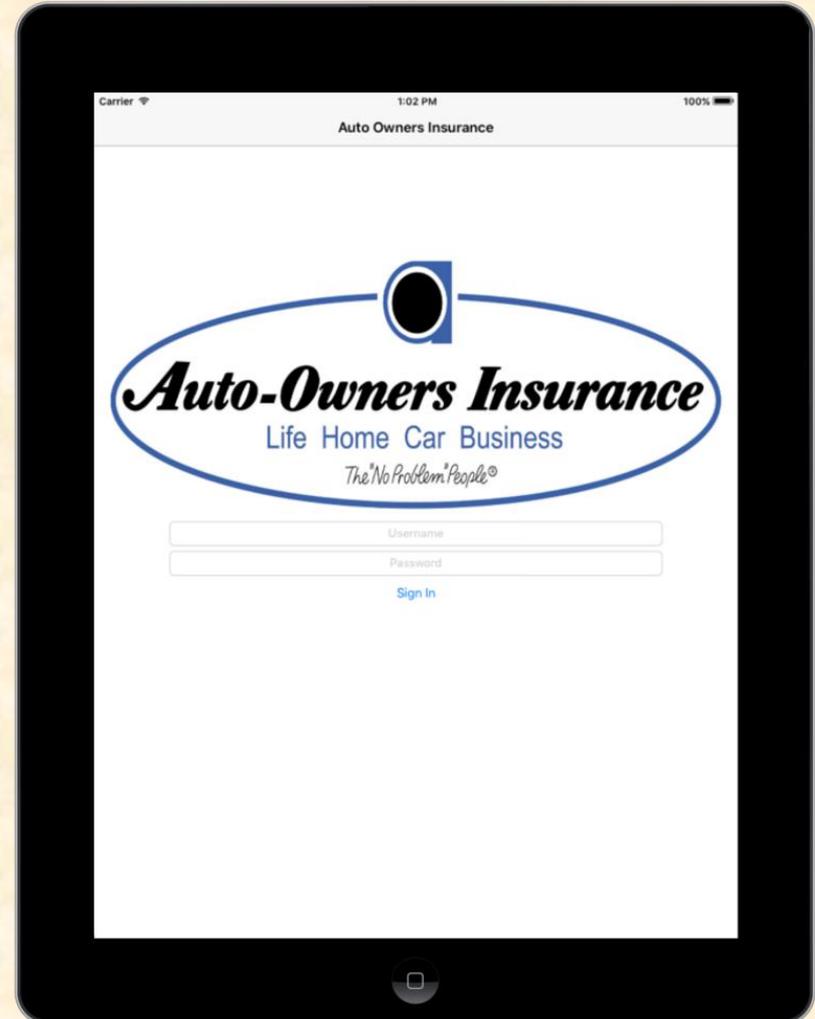
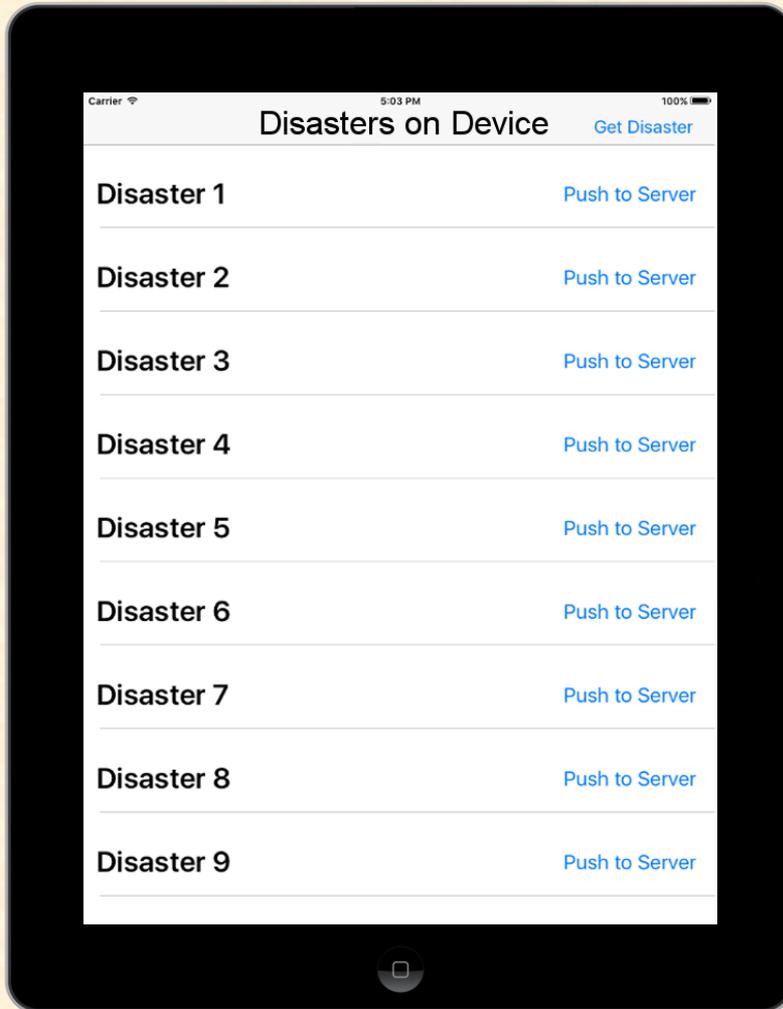




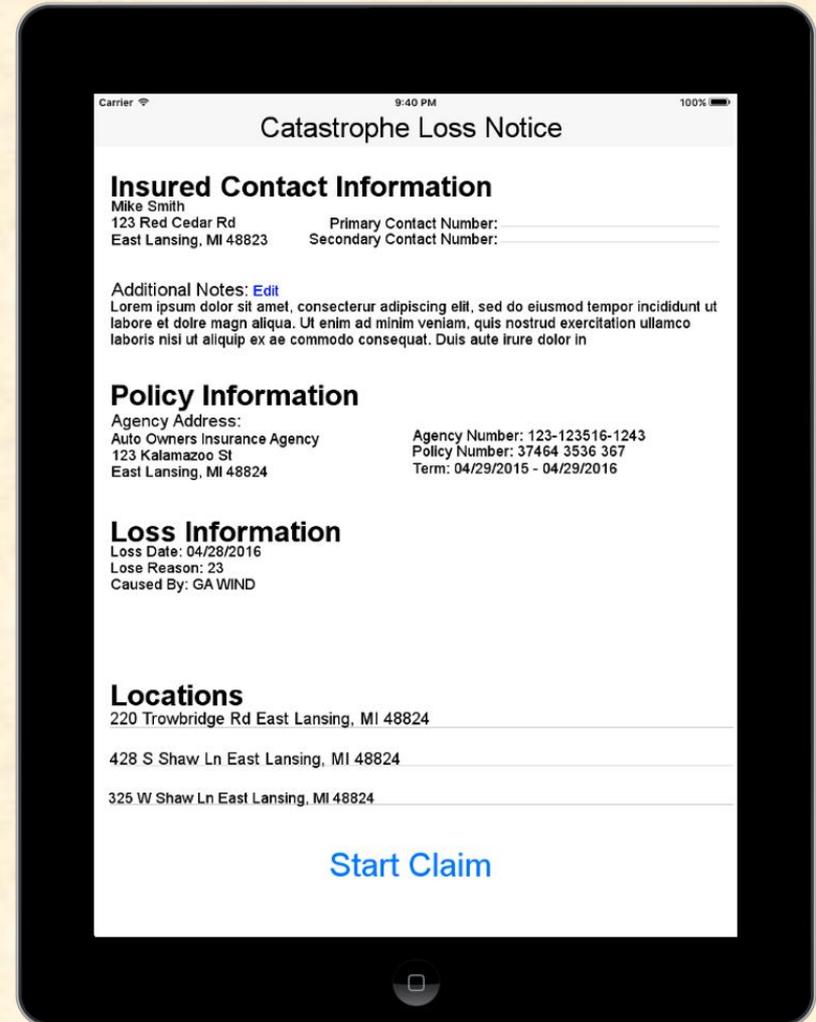
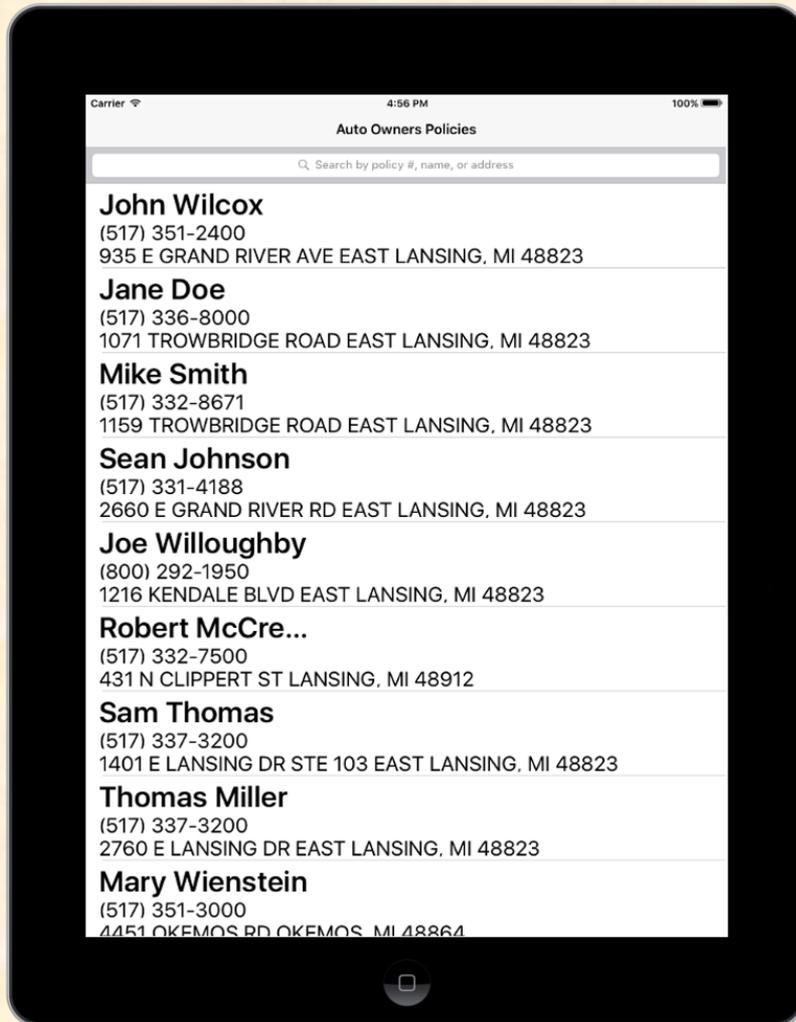
Policy Type ▼ | Policy Size ▼ | Status ▼ | Agencies ▼ |



# Screen Mockup: Mobile Layout



# Screen Mockup: Mobile Layout



# Screen Mockup: Mobile Layout

Carrier 12:18 AM 100%

[Go Back](#) 220 Trowbridge Rd East Lansing, MI 48824 [Save](#)

**Dwelling Damage**  
 None  Light  Medium  Heavy  Total Loss

**Other Structure Damage**  
 None  Light  Medium  Heavy  Total Loss

**Contents Damage**  
 None  Light  Medium  Heavy  Total Loss

**Property Information**

**Property Coverage** +

Coverage Type	Desc	Amount
A or H	Dwelling or Condominium	\$40,500
D	Loss of Rents	\$4,050

**Subject to Form Numbers:**  
15180(07-97), 15168(07-97), 15122(02-07), 15260(03-07), 15003(07-97)

**Deductibles:**  
All Perils: \$1500  
Hurricane Only: \$10,000

**Mortgagee:**  
Wells Fargo Bank NA 708  
ISAOA  
PO BOX 5708  
Springfield, OH 45501-5708

Does the insured have flood insurance?  Yes  No  
Flood Insurer \_\_\_\_\_

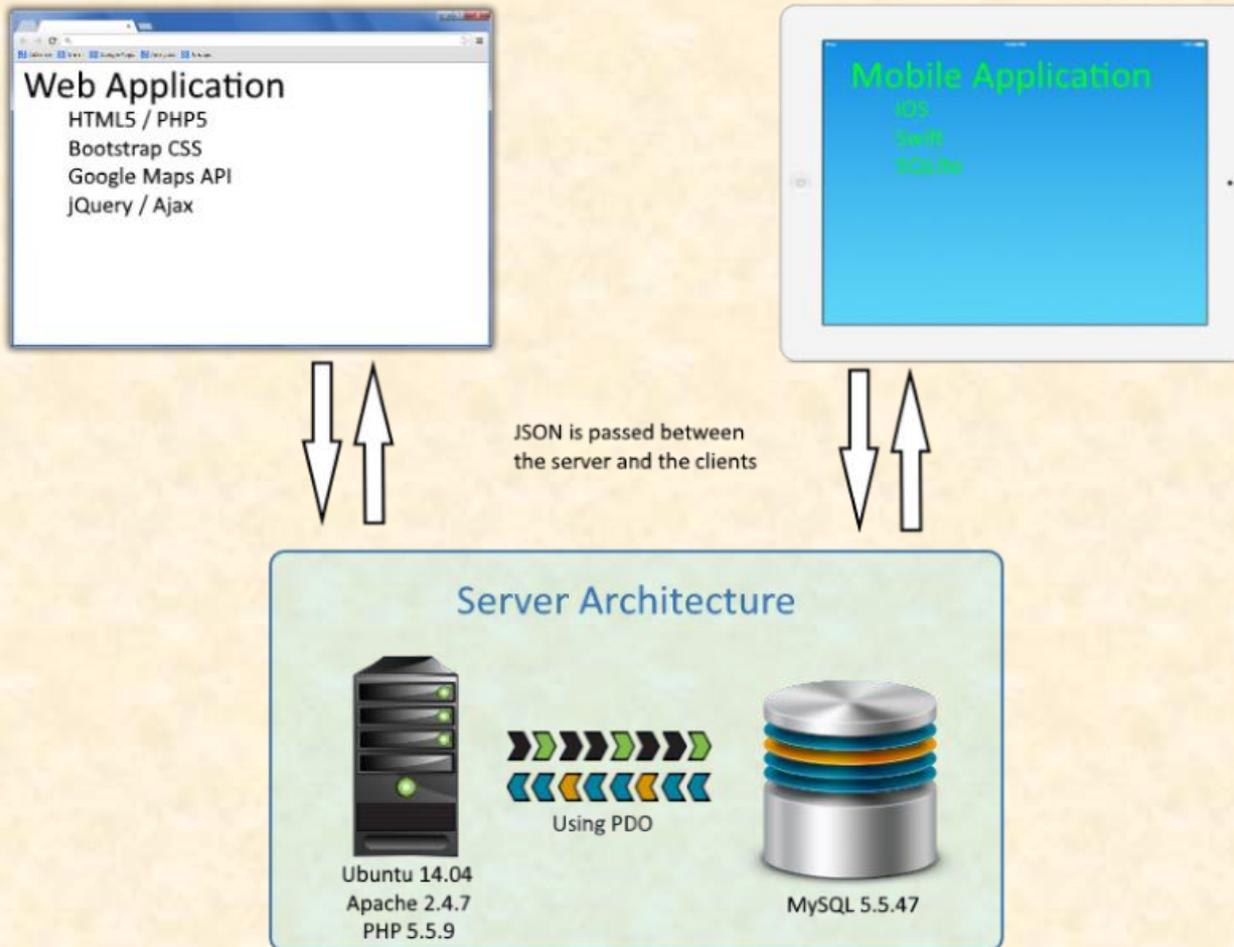
Additional Comments: [Edit](#)  
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua

# Technical Specifications

- Web Application communicates with MySQL database through PDO
- Google Maps overlays created with API from Open Weather Map
- Address for policy row in database translated to GPS coordinates with Geo-location API
- Mobile application talks to PHP scripts on server when connected to internet
- Stores policy and claims data on internal SQLite instance
- Uploads modified claims data to server database



# System Architecture



# System Components

- Hardware Platforms
  - iOS iPad
  - Dell PowerEdge R210 Server
- Software Platforms / Technologies
  - HTML5/PHP 5.5.9/jQuery-Ajax/Bootstrap CSS
  - MySQL 5.5.47/phpMyAdmin/PDO
  - Ubuntu 14.04/Apache 2.4.7/PHP 5.5.9/JSON
  - iOS 9 Mobile/Swift/SQLite
  - Google Maps API & Open Weather Map API



# Testing Web Application

- Basic map functionality and displaying policy markers
- Capturing policies through polygon drawing functionality
- Displaying NOAA weather data overlay on map
- Filtering policy sets using multiple choice drop downs
- Creating and managing disaster datasets
- Displaying disaster datasets and individual policy holder information
- Generating and displaying statistics for disaster datasets



# Testing iOS Mobile Application

- Apple Developer License for iPad testing
- Internet service functionality
  - Pulling down disaster datasets to mobile application
  - Syncing up mobile application data to server
- No internet service
  - Pulling up policy data and preprinted loss statement
  - Storing claim data on individual mobile device



# Risks

- **Map overlays from NOAA onto Google maps**
  - Finding and pulling past and present NOAA maps and merging them onto Google Maps.
  - Mitigation: Researching map overlays and synchronization.
- **iOS Swift programming fundamentals**
  - No practical knowledge base on swift development
  - Mitigation: Research swift and iOS development
- **Synching database to mobile app and ability to run offline**
  - Creating a mobile app that can run offline without cell service
  - Mitigation: Researching self-contained databases

