**Award No:**
0453463

**Project Title:**
Location-based Picture Messaging

**Investigators:**
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**Institution:**
University of South Florida

**Website:**
N/A

**Description of Graphic Image:**
The graph shows the system architecture that enables position-based, two way, community-oriented mobile services. The figure shows the main four components of the architecture: the user side, the cellular network, the Internet and the server side.

**Project Description and Outcome**

**Ideas:**
In this project an architecture for position-based, two way, community-oriented applications was implemented and tested. The user side allows the user to interact with the application, obtain the position of the user and send and receive messages with text and pictures attached. The cellular network and the Internet are transport networks utilized to transfer the messages from the user to the system and vice versa. The server side of the architecture contains databases and several other functions to implement specific applications.

Two prototype applications using the proposed architecture were also developed: the Evacuation Zone Finder (EZ-Finder), and the Safety Security System (Wi-Via). The EZ-Finder was developed to assist communities during hurricanes and/or flooding events. Upon request, it sends users the specific flood zone they are currently located in. The Wi-Via application was developed to aid citizens, such as neighborhood watches, in reporting incidents, suspicious individuals, or responses to Amber alerts to the proper authorities.

**Tools:**
N/A

**People:**
N/A
**Additional Graphic Images**

<table>
<thead>
<tr>
<th>Wi-Via Web Interface</th>
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<td><img src="image1.png" alt="Wi-Via Web Interface Graphic" /></td>
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<th>EZ-finder Evacuation Zones</th>
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<td><img src="image2.png" alt="EZ-finder Evacuation Zones Graphic" /></td>
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**Description of Graphic Images:**

The graph on the left shows the user interface of the Wi-Via application. Users reporting events utilize their cellular telephones to send emails with pictures to a central reporting station. Based on the position of the user, the system maps the user in a Google map and presents the email and the picture. The system also allows the officer at the central reporting station to send individual or group messages back to the users.

The graph on the right shows the evacuation zones of the Hillsborough county in Florida. The EZ-finder application utilizes these data and the position of the user to send a text message back with the evacuation zone corresponding to the current location of the user.