



# Mobile Application Development for IMSC's iCampus

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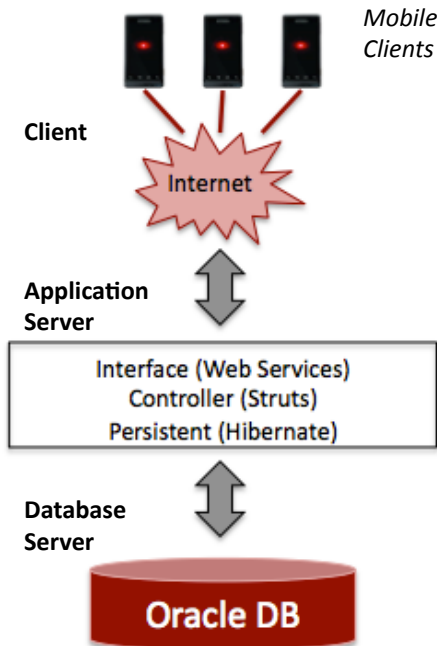
## Department of Computer Science



### Introduction

As the popularity of Smartphones such as iPhones and Androids and tablets such as the iPad continues to increase, there is a growing interest in investigating the coexistence of spatial, temporal, security, and social issues involving these mobile devices. Preliminary research challenges revolve around bringing these notions closer by collecting various mobile data from users. iCampus focuses on geospatial social networking for the USC community through "crowd-sourcing." Available participatory data from users including photographs, videos, and location-based data serves as the main motivation for developing a strong mobile platform. Collecting such data makes it possible to develop exciting, relevant, and personalized applications for users in the USC community.

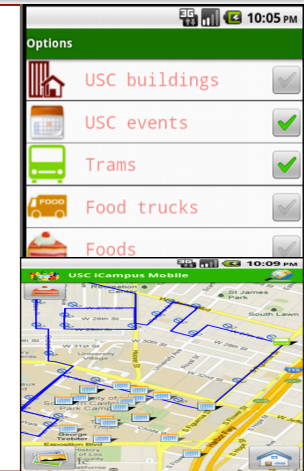
### Technology/Software Architecture



iCampus uses Google's Android API, a 3-tier architecture system and is written in JAVA. The client layer communicates with the application sever through the internet (i.e. wifi), which then stores and retrieves data from the database server. Three included in the mobile application platform are data, personalization, and social networking. iCampus uses public data from third party databases to access locations of trams and food trucks and private databases to access geo-tags of USC buildings and food photographs. iCampus allows users to personalize their application (i.e. specifying which tram or event is of interest), so that appropriate tram routes and event details are loaded upon launch. iCampus integrates Facebook to suggest users' Friends to use iCampus.

### Results

iCampus mobile application now includes a variety of options to ensure relevance for the user. USC Buildings allows individuals to choose a spot on campus and see the corresponding path to that point on a map. Food truck and tram locations are also displayed on the map using public databases. USC Events queries USC's services and extracts events based on the users' interests. Food Services supports special querying and uploading of different sized images to share and search for food and restaurant information. Utilizing mobile data in creating useful, customizable applications has proved meaningful through this project.



### Future Work

It is the goal of USC's Integrated Media System Center to further improve the current mobile application by ensuring that all bugs are removed. Additionally, it is the team's intent to obtain a larger user group. Once iCampus is completed, IMSC will be focusing on another project, iWatch, which uses geo-tagged and time-tagged surveillance data to create useful applications.