

# Ubiquitous and Mobile Computing

## CS 4518: *Bulletin*

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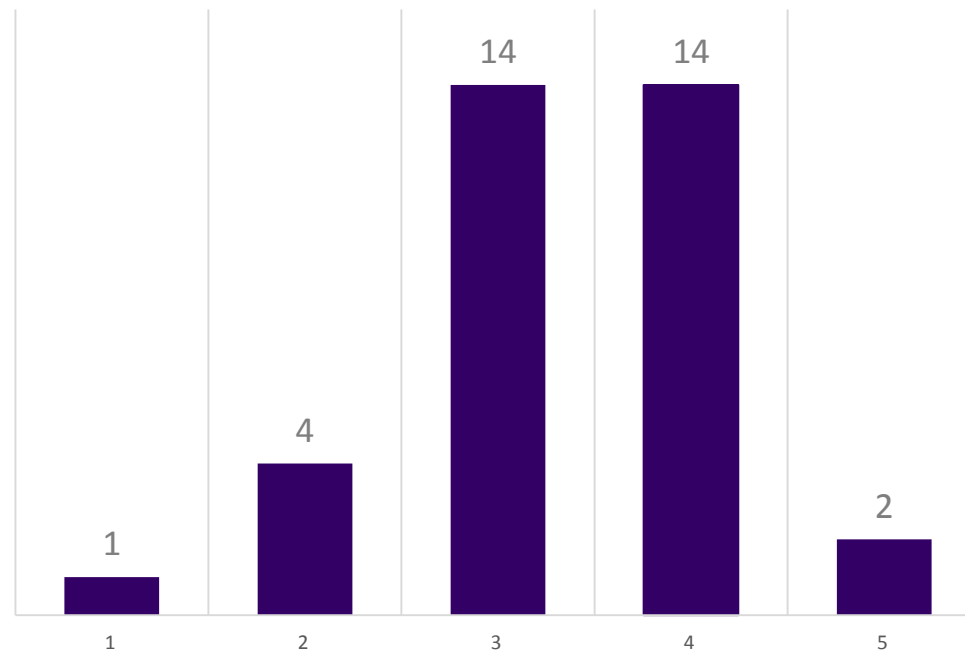




# Problem Statement

- A study of 36 WPI students revealed that they read **26%** of their emails

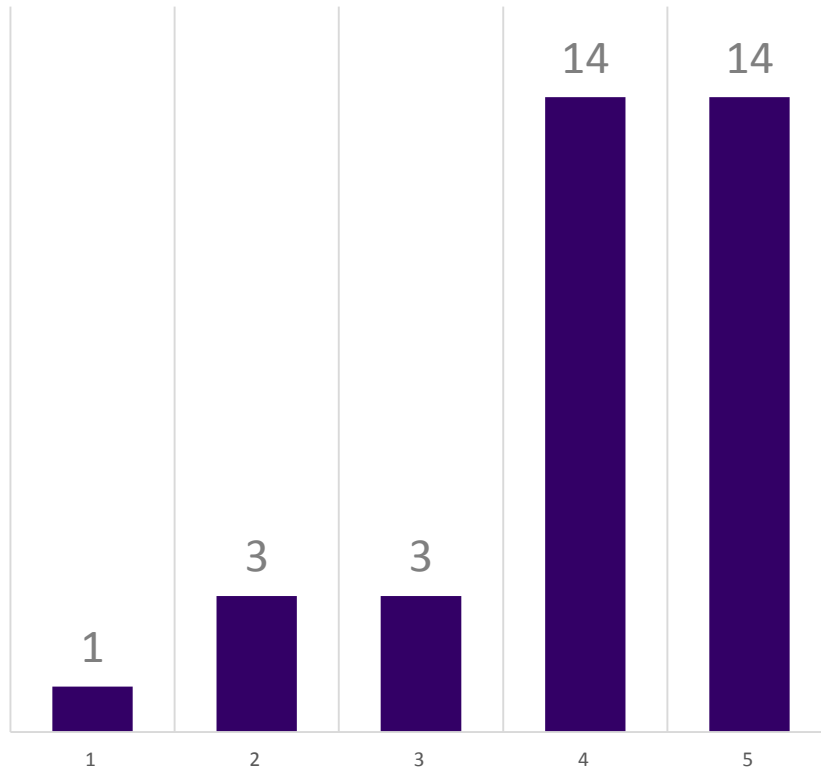
HOW BIG OF A PROBLEM ARE EMAILS?



# Motivation



HOW INTERESTED ARE YOU IN A  
MOBILE SOLUTION TO THIS  
PROBLEM?



A majority  
of emails  
are read on  
mobile<sup>1</sup>



# Bulletin Vision

- An app that allows students to
  - Create, like, and comment on posts
  - View events
  - Create and share private events
  - ... **based on their location (academic building)**



# Related Work

- Trigger – Task Launcher
  - Show users predefined notifications based on area
- Yik Yak – anonymous posting by Location / University
- WPI
  - Post events using TVs
  - Creating and sharing events on Facebook



# Bulletin Methodology

- Bulletin will...
  - Constantly query users location
  - Show users posts and events that are in their location
    - Allow users to create posts, comment on and like others
  - Allow users to create and share private events via NFC bump

# Value Proposition



STUDENTS

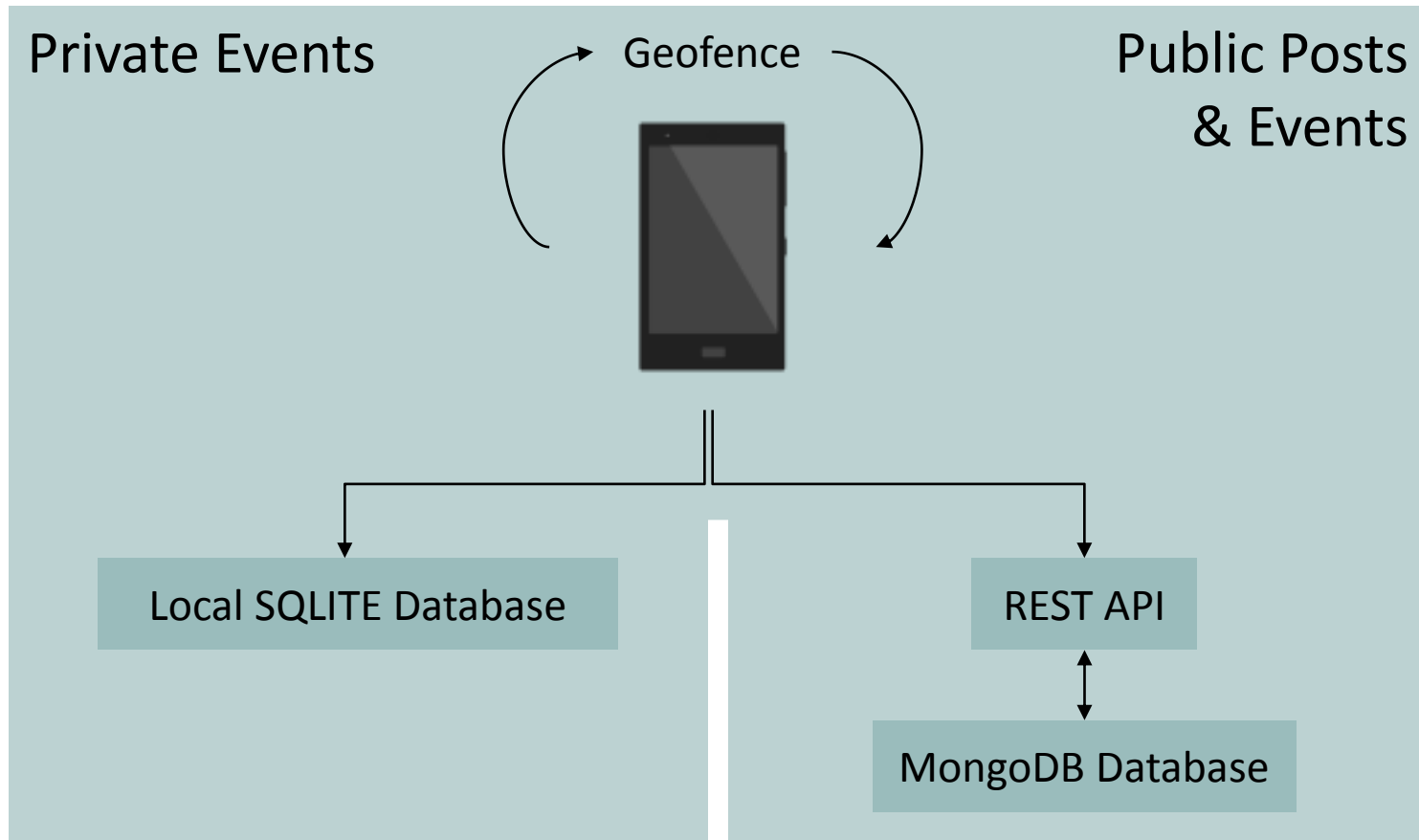
provide  
**content** that is  
**relevant** to  
them



ORGANIZATIONS

help them  
**improve their**  
**reach** to target  
students

# Bulletin Implementation





# Bulletin



EVENTS

FORUM

PRIVATE

## Breakfast Bonanza!

10 AM 02/03/2017

Join everyone for a morning of pancakes and cereal.

## Finals Crunch

5 PM 02/03/2017

Homework party in each of the common rooms. Food will be included!

## Movie Madness

9 PM 02/03/2017

For those done with finals...enjoy a movie and popcorn on us.

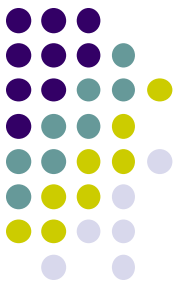




# Technology

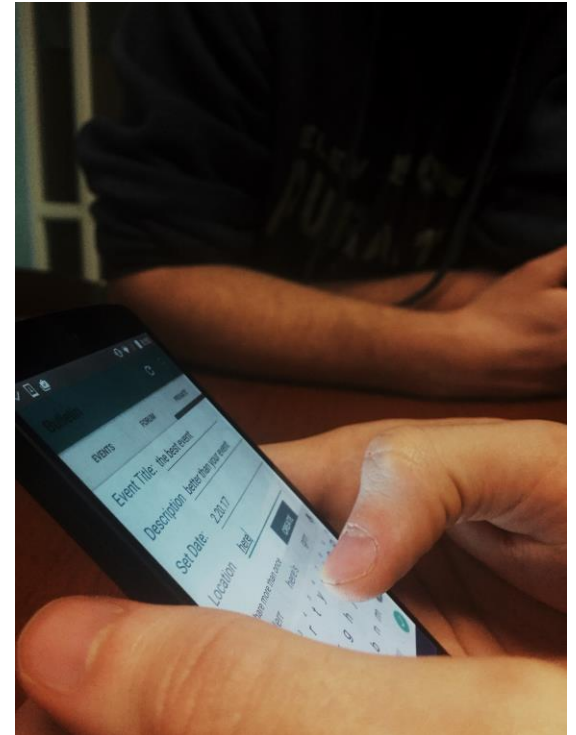
- User Interface
  - PagerSlidingTabStrip
- Geofence
- NFC
- REST API
  - Built using:
    - Express
    - Mongoose
- MongoDB





# Results & Evaluation

- We did a one hour focus group with three WPI students, the main takeaways are:
  - All three students would use the app
  - Use WPI CAS to validate users
  - Calendar Integration
  - Be able to look at other buildings
  - Verified user's posts stand out
  - Filter and sort for events



# Discussion



- Our preliminary research indicates this is a problem students place great importance on
- Our solution provides value to multiple target groups
- Comments from user study were technology based, not criticisms of the idea
  - Our group reaffirmed the sentiment that they miss emails due to filtering them out



# Future Work Technical

- Write an email crawler to get events and their locations and display them in appropriate geofences
- Build interface for validated organizations to post events
  - Web application
- Implement machine learning techniques to learn what posts and events individuals are interested in and show them those first

# Future Work Outreach



- Work with WPI for partnership
- Implement Bulletin at WPI by using an ambassador program
- Begin *stop hitting send, start bulletin™* marketing program



**QUESTIONS?**



# References

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2. Coleridge Apps LLC. (2017). Trigger - Task Launcher (Version 9.3.1) [Mobile Application Software]. Retrieved from <https://play.google.com>.
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