

MOBILE Q&A FOR ENHANCED COMMUNICATION

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WHAT IS IT?

- Question & answer communication using mobile phones (in the situation)
- Question sent by one person to another, or to multiple people
- Possibility for location detection, rich interaction, and customizability
- Not just text messaging: data is centrally stored, can contact people you don't know, rich interaction, etc.
- “Polling”

WHY MOBILE Q&A?

- Crowdsourcing
- Q&A works
- Conducive to mobile phones
 - Simple
 - Need info out and about
 - Features of mobile
- Specific applications

WHAT'S INTERESTING ABOUT IT?

- How can polling be used for different applications?
- What kinds of features and frameworks are necessary and desired?
- How will people use a mobile polling application?
- Will people find it useful and/or fun?

RELATED WORK

■ Mobile information needs

- Trivia, directions, point of interest, friend info, etc.
- Often triggered by context

■ Q&A Apps

- Yahoo! Answers, Formspring, etc.



■ Studies on Q&A Apps

- Answer quality, motivation, etc.



■ Studies on “social search”

- Used for recommendations, opinions, factual knowledge, etc.
- Reasons for use: trust, subjective Q's, desire to connect socially, etc.
- Motivations for answering: altruism, social capital, etc.

APPROACH

- **Developed a cross-platform application**
 - **Primarily intended for mobile, but non-mobile works too**
 - **Meant to be general enough to apply to different uses**
- **Created versions for two use cases**
- **Performed exploratory, informal study**

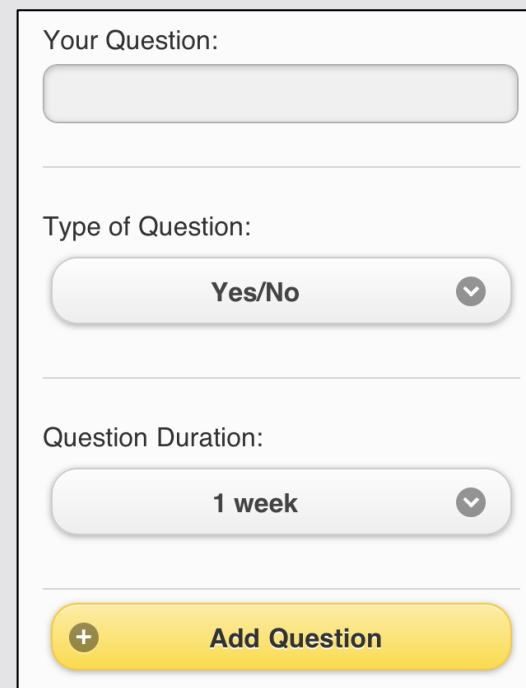
GTMOB

- Cross-platform mobile widget portal for Georgia Tech
- HTML5-based
- PHP, Javascript, CSS, SQL
- jQuery Mobile UI library
- Provides login, API functions, campus visibility
- Code could be transferred elsewhere if necessary
- Focus on crowdsourcing



BASIC POLLING FUNCTIONALITY

- **Create a poll**
 - Yes/No, Agree/Disagree, Multiple choice (multiple answer or not), Open-ended
 - Choose duration
- **Respond to a poll**
- **Browse polls**
- **View responses**
- **Asynchronous**

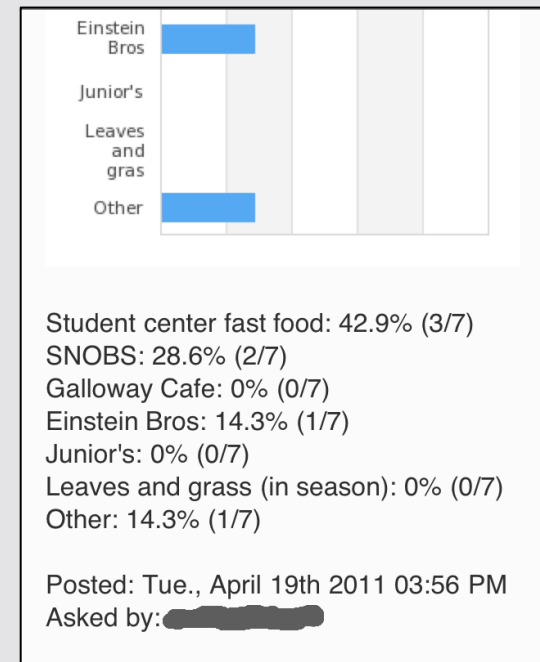


The image shows a user interface for creating a poll. It consists of several sections separated by horizontal lines:

- Your Question:** A text input field with a light gray border and rounded corners.
- Type of Question:** A dropdown menu with a rounded rectangular button containing the text "Yes/No" and a small downward-pointing arrow on the right.
- Question Duration:** A dropdown menu with a rounded rectangular button containing the text "1 week" and a small downward-pointing arrow on the right.
- Add Question:** A prominent yellow rounded rectangular button with a white plus sign on the left and the text "Add Question" in the center.

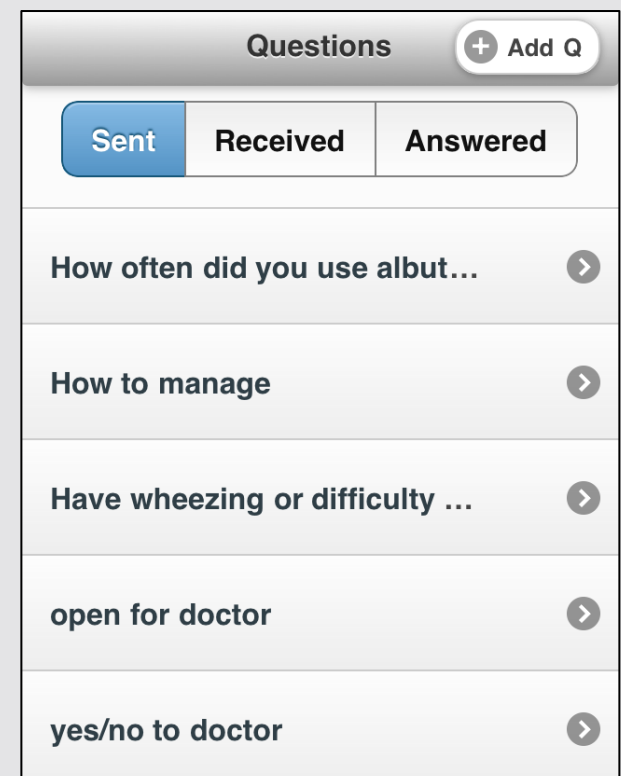
FEATURES

- Sorting by my Q's, unanswered Q's, answered Q's
- Bar graph (for multiple choice) + text results
- Targeting individuals, groups, or everyone
- Groups
- Associations
- Location detection & recording
- Anonymity



USE CASE 1: ASTHMA APPLICATION

- Working with PhD student (TJ Yun)
 - Will pass on the code to him
- For pediatric asthma patients, caregivers, and healthcare providers
 - Ask each other questions
 - Receive and view responses



GOALS

- Improve physicians', patients', and caregivers' awareness about and management of patients' conditions
- Facilitate information exchange & healing relationships
- Give doctors more frequent updates about their patients
 - Improve their understanding and thus treatment
 - Save time in appointments (alleviate recall, etc.)
- Provide data for a web-based dashboard
- Possibility for finding trends among groups of patients

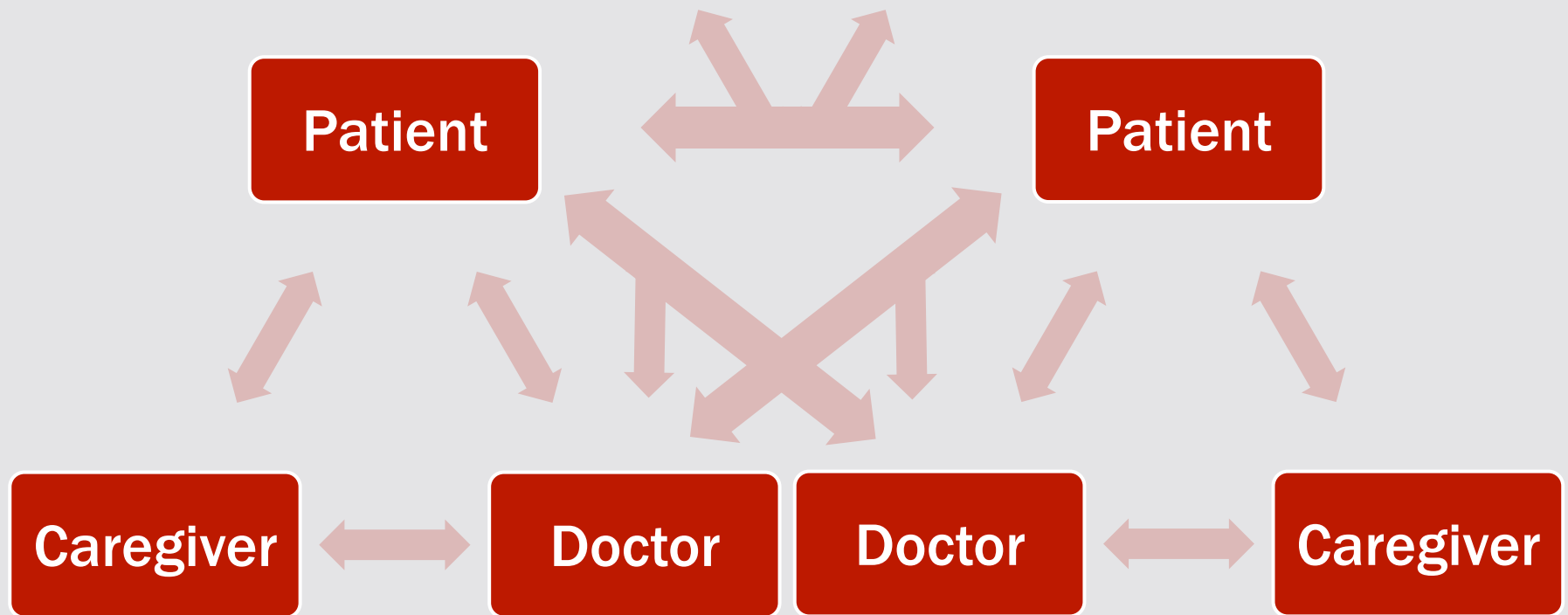
CONSIDERATIONS

- **Interface must be friendly for both children and adults**
 - Different terminology
- **Will be used out-and-about**
 - Keep interface simple
 - Prolonged use cannot be expected
- **Shouldn't be intrusive**
- **Must provide sufficient incentive to users**
 - Ex. should minimize physician's workload, not increase it

RELATED WORK

- **Mobile Technology for Health**
 - Positive behavioral trends
- **Mobile Technology for Asthma**
 - Self-management, diagnosis
 - Physicians', patients', and caregivers' receptiveness
 - Peak flow readings, questionnaires

COMMUNICATION DIAGRAM



EXAMPLES

- **Doctor to patient**

- “How many times did you use Albuterol for quick relief today?”

- **Patient to other patients**

- “Does your asthma get worse when it’s cold outside like mine?”

ASTHMA APPLICATION

- **Groups**
 - Doctors, patients
- **Targeting**
 - Patient can ask his doctor, all doctors, or all patients
 - Doctor can ask any of his patients
- **Associations**
 - User A is doctor of User B and User C
- **Anonymous group questions**
- **Non-anonymous individual questions**

The screenshot shows a mobile application interface for creating a question. It features three dropdown menus and a final action button. The first dropdown, labeled 'Question Duration:', is set to '1 week'. The second dropdown, labeled 'Select', is open, showing three options: 'doctor01' (highlighted in blue), 'All the doctors', and 'All friends like me'. The third dropdown, labeled 'Delivery:', is set to 'Instant'. At the bottom, there is a yellow button with a plus sign and the text 'Add Question'.

Question Duration:

1 week

Select:

- doctor01
- All the doctors
- All friends like me

Delivery:

Instant

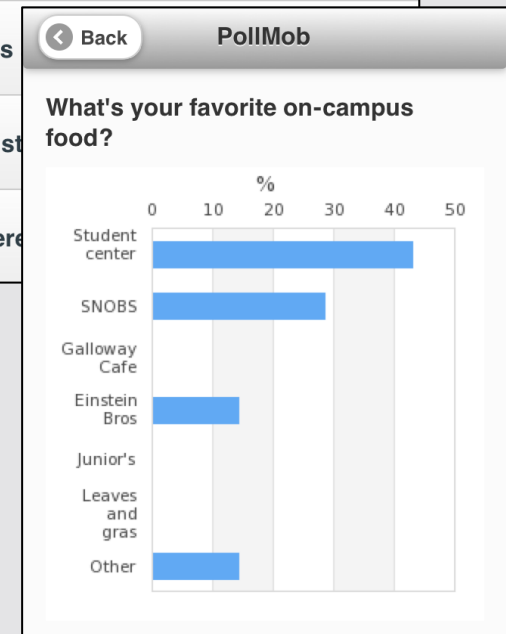
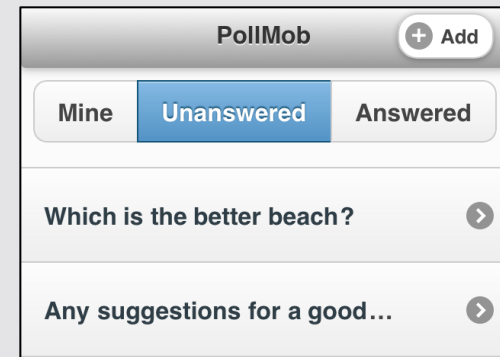
+ Add Question

ASTHMA APPLICATION FUTURE WORK

- **Notifications**
 - SMS (push not supported in web apps)
 - Pre-defined schedules
- **Pre-set questions (commonly asked)**
- **Physician dashboard**
- **Non-GT login or device-based identification**
- **Conversation threads**
- **Perform pilot study!**

USE CASE 2: GENERAL & LOCALIZED

- Intended for pilot study with small group, for a short period of time
- No complicated features like targeting, groups, or relationships
 - Could be integrated in future versions with more users
- Location recorded in database but not used in interface
- All questions seen by everyone
- Poll creators identified by GT usernames, responses anonymous



INFORMAL STUDY

- **9 participants**
 - All GT students
 - Most knew each other, at least vaguely
- **Mostly used their own devices**
 - Variety of platforms
- **7 days**

INFORMAL STUDY

■ Exploratory

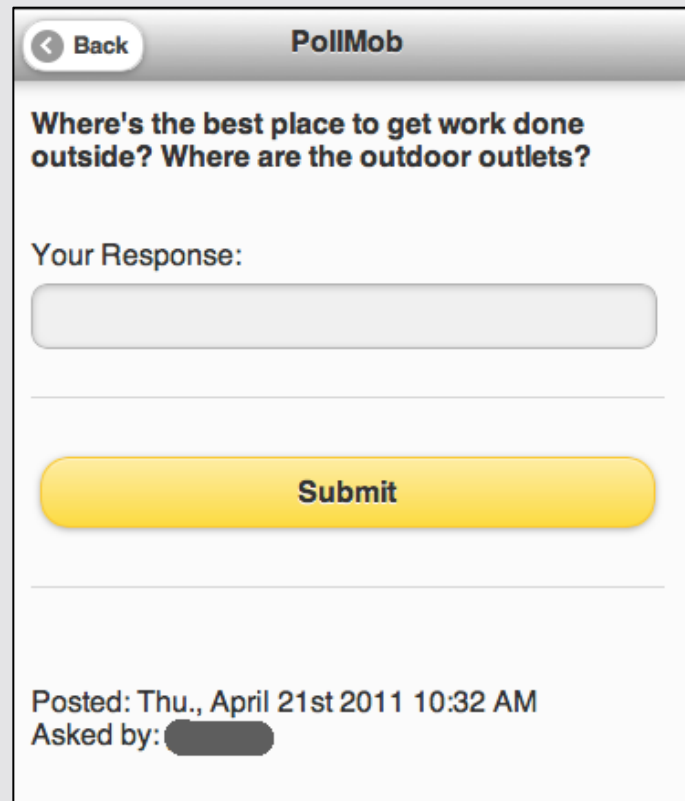
- How will people use this in a general context?
- What are their opinions about it?
- Not meant to produce definitive or quantitative findings
 - Group too small, study duration too short
- Interested in use and usability

■ Process

- Detailed email instructions & information
 - Told to ask & answer whenever they feel like it
- 7 days of app usage
- Post-study online survey

STUDY RESULTS

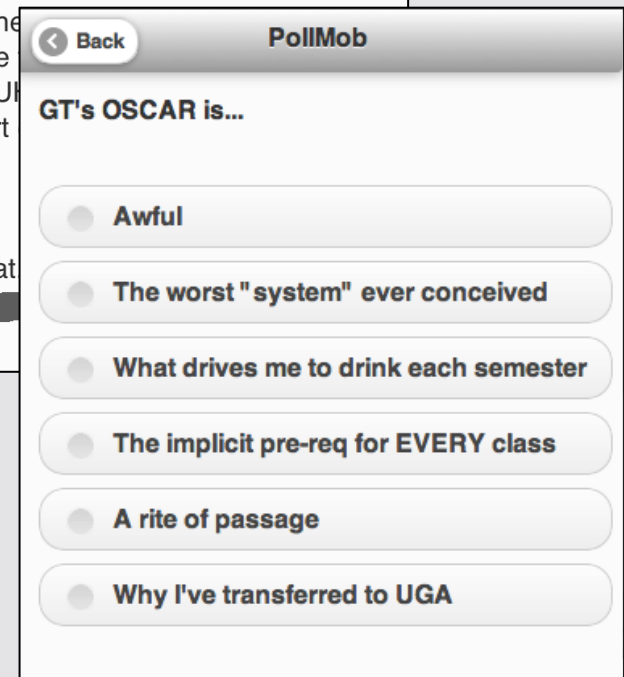
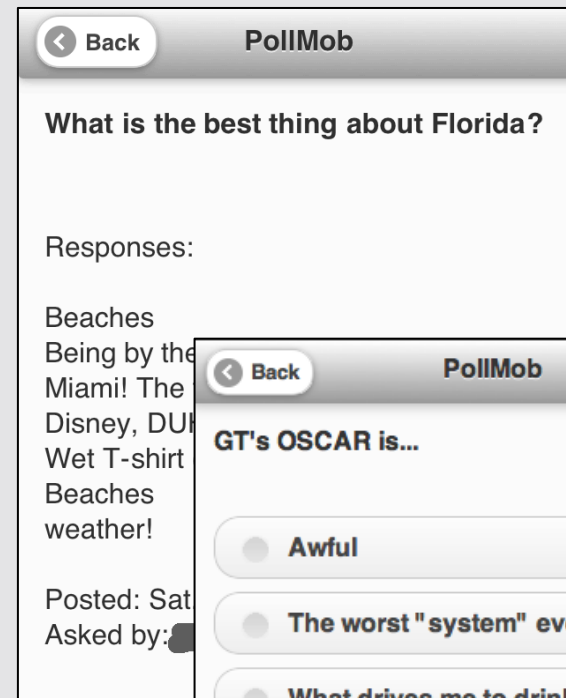
- 32 polls total
 - ~3 per person
- 218 responses total
- Poll types
 - 6 yes/no
 - 0 agree/disagree
 - 16 multiple choice
 - 2 multiple choice multiple answer
 - 8 open-ended



The screenshot shows a mobile application interface for PollMob. At the top, there is a navigation bar with a "Back" button on the left and the "PollMob" logo on the right. Below the navigation bar, the poll question is displayed: "Where's the best place to get work done outside? Where are the outdoor outlets?". Underneath the question, the text "Your Response:" is followed by a large, empty text input field. Below the input field is a prominent yellow "Submit" button. At the bottom of the screen, the posting information is visible: "Posted: Thu., April 21st 2011 10:32 AM" and "Asked by:" followed by a blurred profile picture.

EXAMPLE POLLS

- Does anyone actually care about the royal wedding?
- Constant iPhone tracking: big deal?
- What is the best hole-in-the-wall ATL restaurant?
- What's the deal with non-alcoholic beer?
- Which cat is cuter? [pictures included]
- Which of these social coupon sites do you use the most?



INTERESTING OBSERVATIONS

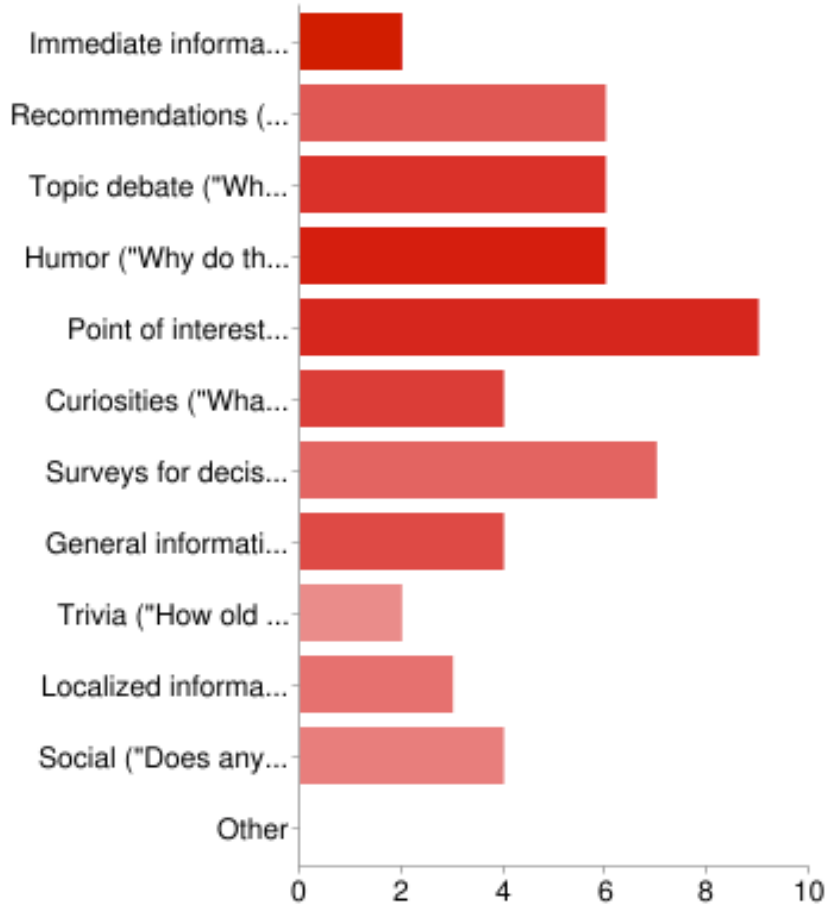
- More multiple choice than anything else
- Lots of humor and curiosity questions
- Several suggestion & point-of-interest questions
- No immediate information needs or trivia
- Fairly consistent usage throughout the week and day
- Collected location of less than half of polls
- Multiple choice enables asker to be funny, open-ended enables both asker & answerer

SURVEY RESULTS

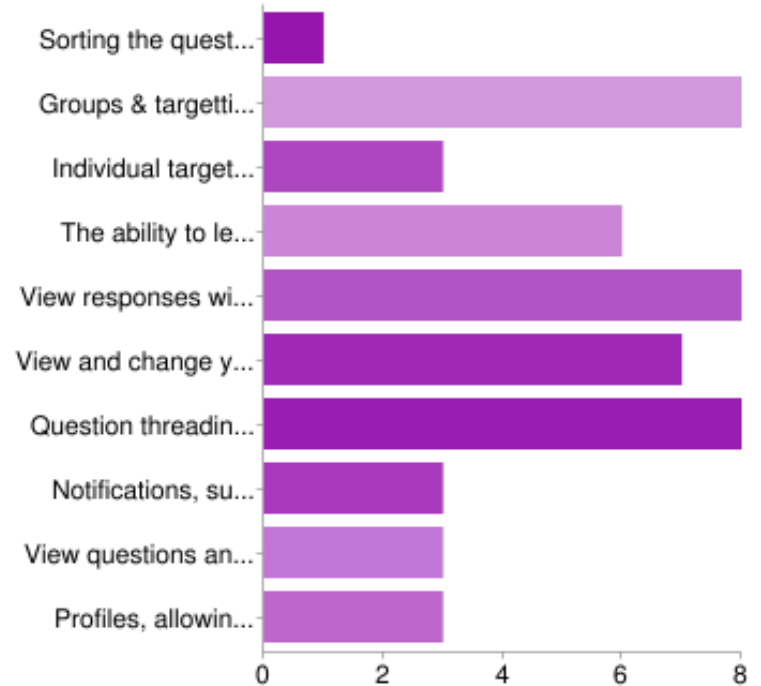
- Usage spread out between home, campus, out, and in transit
- Users most often opened the app when they were bored or had spare time
- Responded to questions for several reasons
- Disagreement about anonymity

SURVEY RESULTS

Which of the following could you see yourself using this app for?



Which of the following features would you find useful?



HOW DID YOU COME UP WITH Q'S?

- Being humorous or looking for humorous answers
 - Trying to meet tone of community
- Help with decision
- Local recommendations
- Aid in personal work
- Questions for friends or people like me
- Want informative answers

GENERAL THOUGHTS ABOUT THE APP?

- Fun!
- Potentially useful
- Enjoyed seeing questions and responses
- More people better
- Expertise could reduce response delay
- Groups, friends
- Fits mobile device well
- Perhaps not a trustworthy source of information

POSSIBLE USABILITY IMPROVEMENTS?

- Improve text display
- Indication of new activity
- Speed up loading times
- Ability to hide questions irrelevant to you

SUGGESTIONS FOR OTHER APPLICATIONS?

- Club or student group
- GT campus
- Tourists
- Health
- Workplace
- Task force



WHAT I LEARNED

- **Application can be used for diverse use cases**
 - Different features needed for each
- **Implications for further work**
 - Support opinions, point-of-interest, curiosities
 - Not the best method for immediate informational needs
 - Social aspects important
 - Humor
 - Users were affected by each other
 - Disagreement about anonymity, so giving a choice might be best
 - Groups/expertise and conversation threading desired
 - Positive feedback – worthwhile to pursue
- **Crowdsourcing for information is a possibility**

FUTURE WORK

- Keep improving interface & performance
- Location features
- Conversation threading
- Image & video embedding/attachment
- Sorting by categories
- Integrate polls into other applications
- Much more..
- Will deploy this for the GT community on GTmob in the next couple weeks
 - Re-add groups features
 - Talk to campus organizations

GENERAL LESSONS

- Ideas evolve a lot through course of work
- Plan far ahead when coding
 - Less headache when adding features later
- Longer study duration
- Come up with survey questions well ahead of time & think through them for a while
 - Later thought of questions I wish I had asked

THANKYOU

Questions?
Suggestions?
Comments?