



MP3 proposal



Template

- ▶ Title
- ▶ Your group name and group members
- ▶ Application overview
- ▶ Main functions
- ▶ Detail description
- ▶ Timeline and task assignment

- ▶ **Proposal Discussion with Instructor/TA**
 - ▶ **During Oct. 26 ~28**
- ▶ Length of Proposal 1-2 pages – provide sufficient information to provide you with meaningful feedback





Sampled Projects



Locating group member

- ▶ Look up calendar for meeting schedule
- ▶ Find your group member in proximity
 - ▶ Calendar info
 - ▶ Location info
 - ▶ GPS
 - ▶ WiFi
- ▶ Chat with your group member



Real-time indoor localization

- ▶ WiFi signal strength scanning
- ▶ Report to location server @ gateway
- ▶ Server analyzes the location of each peer
- ▶ Server notifies location map of all peers to all the phones
- ▶ Phone shows each peer' location inside building



SVN: collaborative editing

- ▶ File sharing with version info
- ▶ Phone can modify files
 - ▶ Insert, delete, modify
- ▶ Synchronize different version of files in phones



P2P application utilizing the hardware feature of Mobile Phones

- ▶ WiFi, Bluetooth, accelerometers, compass, cameras, voice
- ▶ Use multiple wireless interfaces and allow ad hoc Bluetooth communication and file sharing among peers very close to each other and switch to WiFi if you are out of range of Bluetooth to exchange files
 - ▶ For example, you could download a large file via WiFi from the class website and then share it via Bluetooth peer-to-peer communication
- ▶ Monitor direction of your position and/or movement via compass and accelerometer and exchange information with your peers about your movements



Class Quiz System

- ▶ Lecture annotation dissemination
 - ▶ Filtering; scoring,
- ▶ In-class quiz taking by students
- ▶ Immediate collecting quiz results by instructor
- ▶ Draw histogram
- ▶ Attendance checking
- ▶ Credits



Chat with the TA during the class

- ▶ Expand chat application to direct communication between students and the TA sitting in class asking questions and getting just-in-time answers if something is not clear
- ▶ Give TA tool on the cell-phone to group questions of similar nature to respond (multicast) to students of similar questions with the same answer



Anonymization of logging information

- ▶ Collect event (metadata) information of the chat application
- ▶ If you collect history of events on the cell phone (events that happen on the cell-phones) and plan to move the log of events on a central server, do not send the cell-phone identification as it is, do anonymize the log data
- ▶ Anonymize the cell-phone identifier such as IP address, e.g., replace the IP address with “peer A” or other anonymous peer id information under which the events on the cell-phone
- ▶ Store messages you exchange in chat, anonymize what key information the messages include, e.g., parse through your chat messages and keep a log of keywords that occur most frequently (or keywords that are important for you). Then store the statistics of the keywords in the logs.



Distributed grep

- ▶ Let us assume that you have logs of various events stored on each cell-phone
- ▶ Allow “grep” of ‘keywords’ from all peers’ logs that are registered, it means a query will be sent to all peers, each peer searches through its log, finds the record with the searched keyword and returns the record from each peer that has the record with that keyword.



Enable multi-group chat

- ▶ Divide participating peers into subgroups (adjust your membership service)
- ▶ Allow chat or P2P file exchange within a subgroup only. It means that if somebody asks for a file or if somebody wants to chat with you and he/she is not part of the subgroup, he/she should not be able to get files from you or should not be able to chat with you.



Newsgroup on cell-phones

- ▶ allow posting a question on “csYYY newsgroup” and anybody can respond.
- ▶ This means that the question will be broadcast to all peers that are currently registered to “csYYY newsgroup” application, and any peer that has ‘csYYYnewsgroup’ open can respond to the question.
- ▶ The answer will be again sent back not only to the person asking the question, but also to all other group members.

