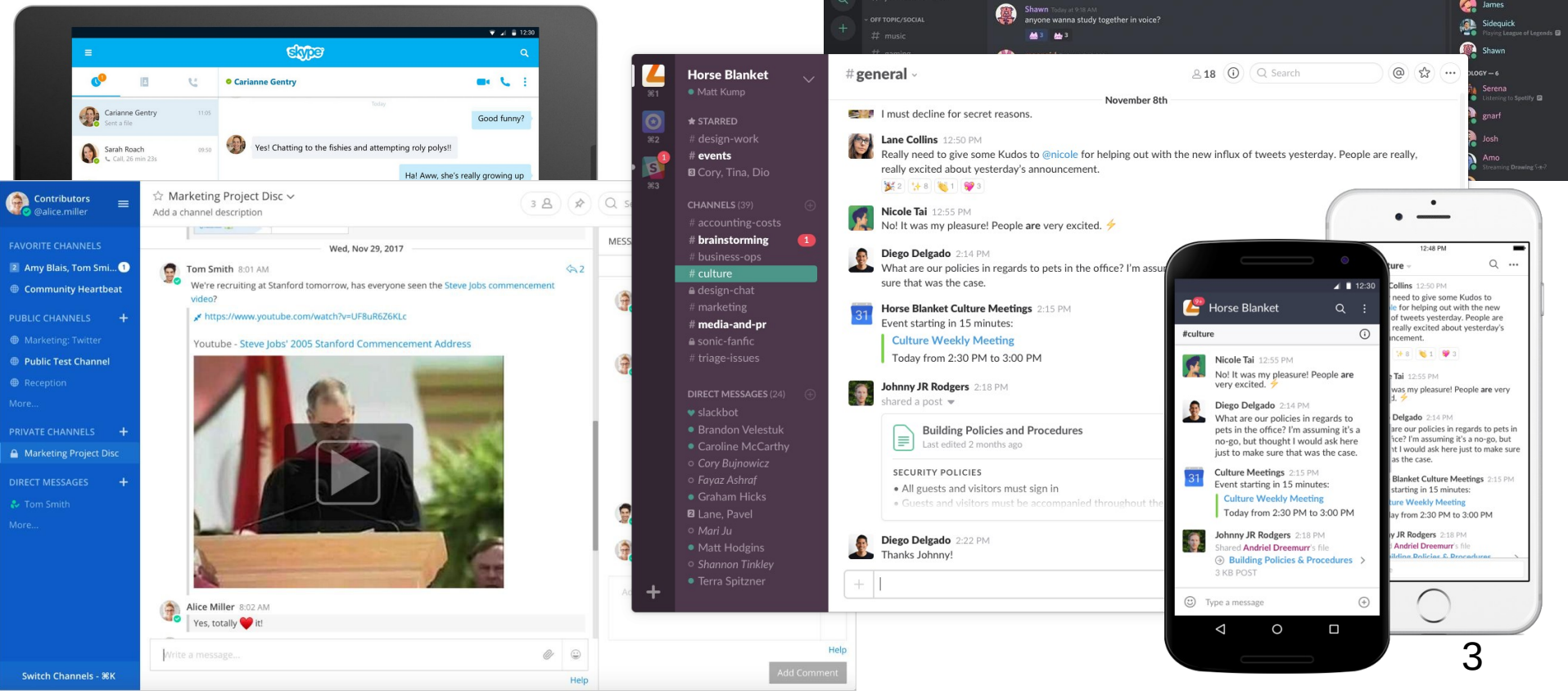# ConversationalIST

Prof. Luis D. Pedrosa

Mobile and Ubiquitous Computing – 4th Quarter, 2022
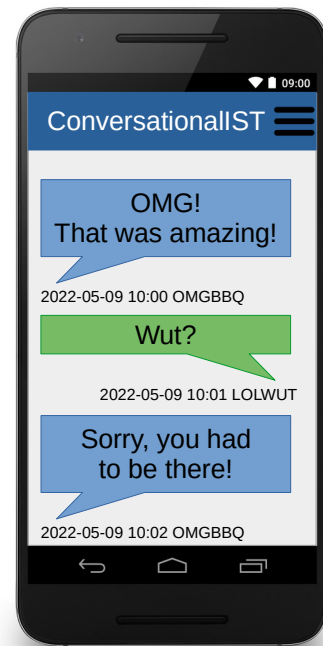
Purpose

- Build your first non-trivial Android App

- Learn about key aspects in mobile apps

    – Location/Context awareness

    – Resource frugality

    – Social behavior

- Build a context-aware chat application!

Inspiration

ConversationalIST

- Typical chat application

    - Users pick username

    - Create/join/post to chatrooms
        - Public – Anyone can search/join/see
        - Private – Share by App Link
        - Geo-fenced – Restricted by location

    - Chatroom as perpetual append-only document

    - Messages: text, photos, geo-locations, etc.

4

Mandatory + Additional Parts

- Mandatory [75%]
    - Basic chat features with easy to use UI
    - Chatrooms: public, private, geo-fenced
    - Messages: text, photos, locations
    - Back-end
    - Network-aware data usage
    - Caching

Mandatory + Additional Parts

- Additional [25%+]

  - Securing Comms [5%]

  - Meta Moderation [10%]

  - User Accounts [10%]

  - New Media: Files [10%]

  - New Media: Polls [10%]

  - Sharing → Apps [5%]

  - Sharing ← Apps [5%]

  - L10n [5%]

  - UI Adaptability: Rotation [5%]

  - Light/Dark Theme [5%]

  - Recommendations [10%]

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Grading & Milestones

- Grading

  ✓ Implement features correctly/completely

  ✓ Use resources efficiently

  ✓ Justify design choices and trade-offs

  ✓ Build responsive/intuitive/useful UI

  ✗ Build fancy UI with elaborate graphics

Grading & Milestones

- Checkpoint: 2022-06-03
  - Just feedback, not graded
  - Try to have most mandatory features implemented
  - Prepare:
    - Plan for additional components
    - Activity Wireframe
    - List of questions

- Final Submission: 2022-06-24
  - Submit code & short report on Fénix

Advice: Back-end Server

- Not important for this class, but necessary to work

- Suggestions:
  - RESTful API server, JSON data transfer
  - Java RMI, object serialization data transfer
  - Google gRPC server, Protobuf data transfer
  - SOAP XML-RPC
  - Firebase / Heroku / etc.

Advice: Recommendations

- ## When joining chatroom
  - Pair-up new chatroom with all already joined
  - Crowd-source matrix, counting each pairing

- ## When searching for chatrooms
  - For channels not joined, count users in common with channels joined
  - Sort by count
  - Propose top X to user

	1	2	3	4
1: MEIC	-	-	-	-
2: METI	0	-	-	-
3: IST-Tagus	4	8	-	-
4: IST-Alameda	5	0	0	-

Advice: Icons & Graphics

- This is not a graphic design class

  – Don't invest too much time in eye candy

- Feel free to use @android:drawable/*

- Consider using Unicode/Emoji to draw basic icons

  – 👍- U+1F44D, 👎- U+1F44E, 🔒- U+1F512,   - U+1F6A9

Final Thoughts

- Get a head start

- Use the checkpoint wisely

  - Prepare before hand to focus discussion

- Bring your questions to class & Discord