



# Distributed Systems 2014 – Open Project

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Three green Android robots are positioned on a wooden surface. The robot in the center is upright and facing forward, with its head slightly tilted. It has two small antennae on its head and two black circular eyes. To its left, another robot is lying on its back, and to its right, a third robot is lying on its side. The lighting is warm, casting soft shadows on the wood.

# Open Project

# Project

- Find a partner group  
Team up with up to **6 students**
- Choose your own topic
  - **Constraints:** Distributed component & Android
- Submission
  - Submit: code, slides, and report
  - 1-minute madness



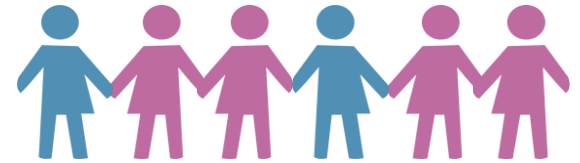
# Submission deadline



- Presentation slides
  - Deadline: 18<sup>th</sup> December 2014, 18:00 PM
  - By e-mail: [mihai.bace@inf.ethz.ch](mailto:mihai.bace@inf.ethz.ch)
  - E-mail subject: “[2014] Distributed systems - <group\_leader\_nethz>”
  - PDF format (e.g., “*vs-nethz-presentation.pdf*”)
- Code, report
  - Deadline: 19<sup>th</sup> December 2014, 9:00 AM
  - Submission system
  - Naming conventions: “*code.zip*”, “*report.pdf*”
- Late submissions will not be considered!

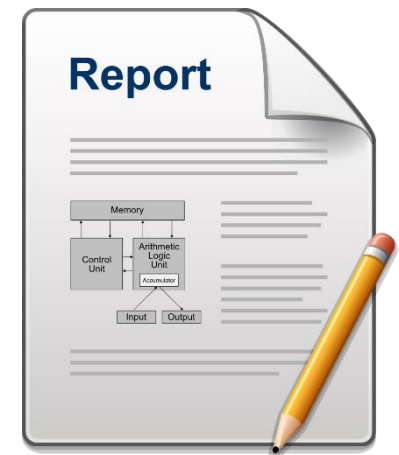
# Register your team

- Form groups of up to 6 students each
- Via the submission system
  - Create a new group
  - Add members
  - Submit project deliverables (code and report)



# Project report

- Only one report per project team (3 – 4 pages)
- Focus on technical description of your work
  - Problem statement
  - Requirements
  - Architecture
  - Implementation
  - Usage
  - Testing and evaluation
- Only LaTeX allowed! (template provided)



# Report tips

- Technical report
  - Try to avoid: “Over the course of the semester we learned a great deal, both directly from our professors ...”
  - Formal language style (e.g., no contractions)
- Abstract
  - Summary of the project
  - Focus on the results and the novelty elements
- Use meaningful section names
- Avoid code in the report, unless very important
  - Use pseudocode (easier to follow and read)
- Any figures/tables must be referenced from text

# Abstract example

- Bad abstract

## ABSTRACT

Throughout this project a Samsung Galaxy S2 with API 16 was used.

## ABSTRACT

We used the Samsung Galaxy Nexus (running Android 4.3), the Asus Nexus 7 (running Android 4.4) as well as the Sony Xperia Tipo Dual (running Android 4.0) to build a 2D artillery game.

- Good abstract

## ABSTRACT

We present a cross-platform game called Tronium that allows up to eight players to play together via local network, or alternatively allows single-player matches against AI opponents. Tronium is inspired by the "light cycle" scene from the 1982 film "Tron" and is implemented using the Unity<sup>®</sup> engine, which is a high-level framework for game development. The game supports Windows, Mac OS and Linux on x86/x86\_64 and Android<sup>™</sup> with potential for easy ports to other platforms thanks to the cross platform capabilities of the Unity engine.



# Project presentation

- Prepare slides for 1-minute madness
- Focus on selling your idea
  - Make clear what your app does, why someone would need it and what's nice about it
  - Motivation, general idea, interesting technical aspects, results, ...
- Include a live demo whenever suitable
- 1-minute madness will take place on 19<sup>th</sup> December, 2014



# Demo session

- Demo session will follow the 1-minute madness
- Similar to an exhibition booth
- Possibility to discuss with others
- Answer questions that were raised by the 1-minute madness

Selected projects from previous years

# Examples





# djCrowd – Interactive distributed music player

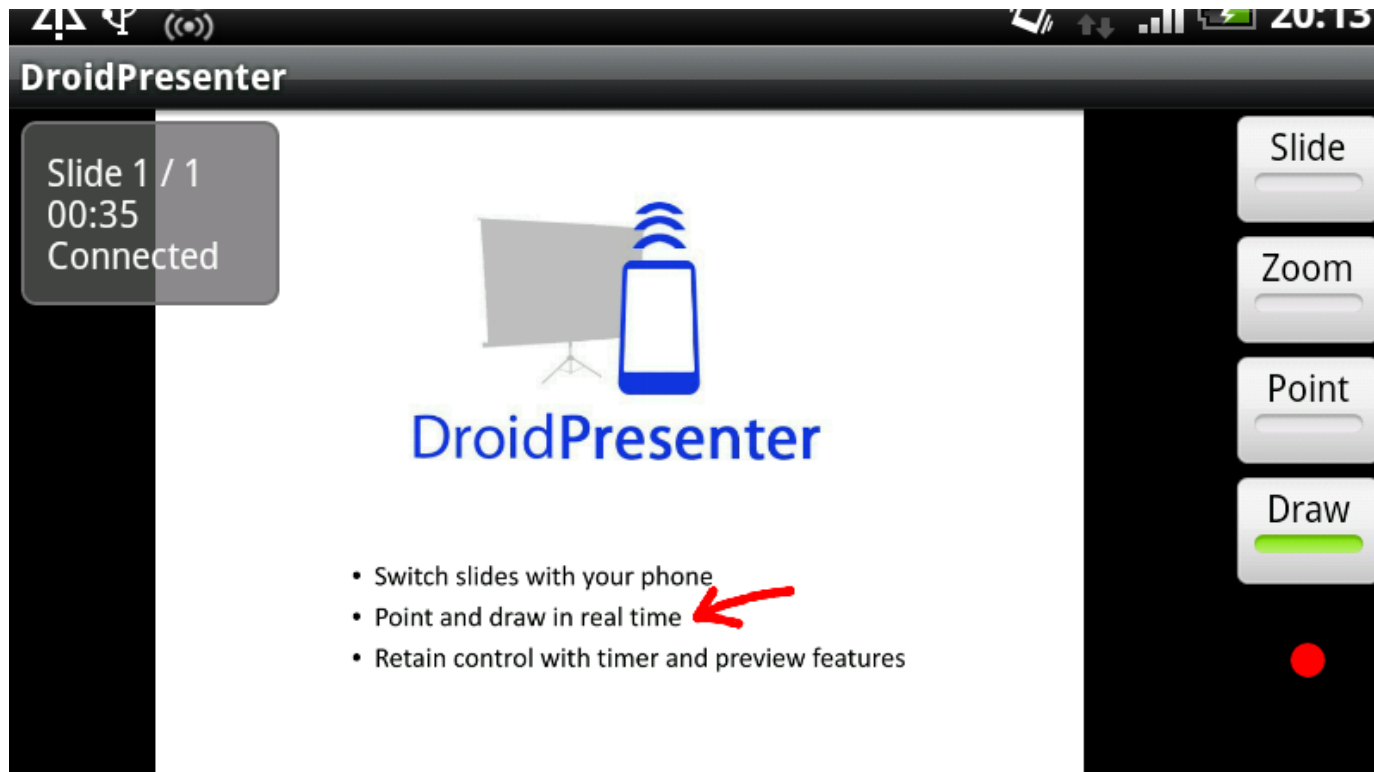
HS10: Luchin Doblies, Alexander Grest, Moritz Hoffmann, Jost Joller, Philipp Schmid, David Stolz

- Start up one phone as server  
(connected to hi-fi system)
  - Your friends can connect to the server
    - Check the song that is currently playing
    - See upcoming songs in the playlist
    - Modify playlist by voting for their preferences
    - Upload songs from their phones
- + Web interface to provide access for non-Android devices



# DroidPresenter – Presentations remote control

HS10: Andreas Tschofen, Leonhard Helminger, Mathias Buerki, Damian Karrer



DroidPresenter allows you to draw in, point at, zoom in/out and control your presentation through you smartphone

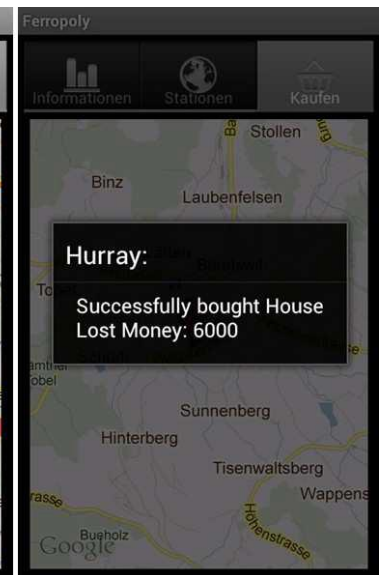
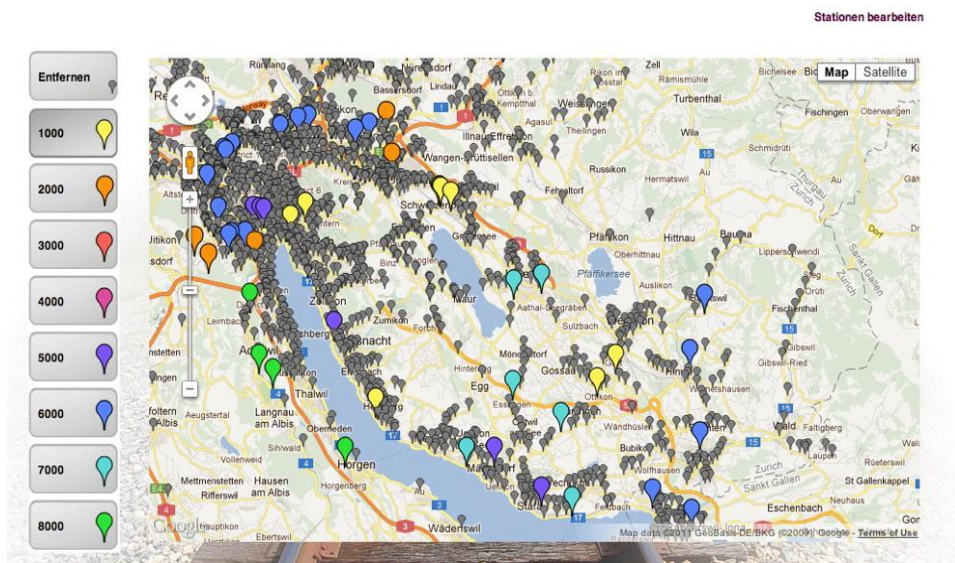
# Ferropoly – Monopoly in the real field

HS11: Ameri Michael, Aras Ersan, Marti, Messmer Stefan

**FERROPOLY**



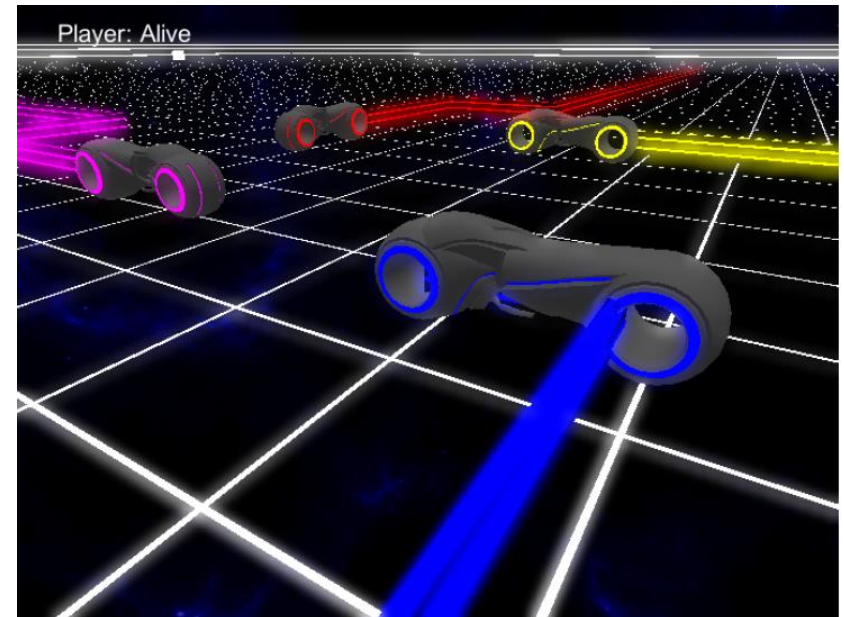
- Emulate Monopoly in the real word
  - Travel across Switzerland and buy train stations
  - Ruby on Rails server
  - REST services with JSON interface



# Tronium – Cross platform game

HS13: Lukas Häfliger, Alexandra Maximova, Thomas Müller, Christian Vonrüti, Alexander Viand, Marko Živkovic

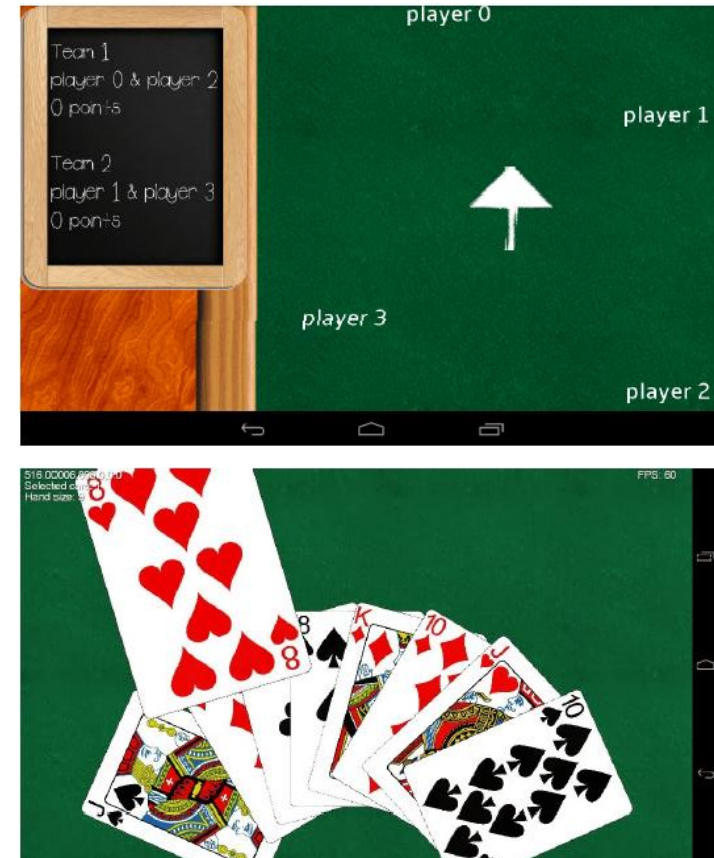
- Based on the Tron movie
- Up to 8 players
- Over local network
- AI players
- [Unity Game Engine](#)



# Jass card game

HS13: Fabian Stutz, Jannick Griner, Priska Pietra, Dejan Mircic, Michael Franz, Nicolas Forster

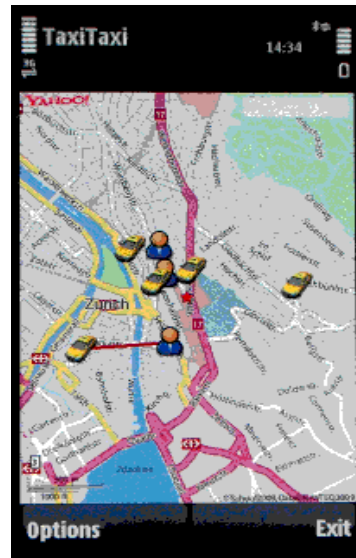
- Client-Server architecture
- Server = tablet
- Clients = mobile phones
- 3 main components to consider:
  - Networking
  - Game logic
  - GUI
- Similar approach for other card games





# Consensus-based Taxi

- Implementation for the consensus problem
- Distributed application to find the optimal cab





# Final remarks

- We recommend you to use Control Version Systems (e.g., Git, Mercurial or SVN)
  - Github: <https://github.com/>
  - Slides for the Git-tutorial <https://docs.google.com/presentation/d/1BbLSI-ef7dMi2m1JkWTn0fqjbXGo-il8sFQVr9LtUUc/edit#slide=id.p>
  - Introduction to Git: <http://git-scm.com/book>
  - VIS code host: <https://code.vis.ethz.ch/>
- Deliverables
  - Code (naming convention: “*code.zip*”)
  - Report (3 – 4 pages, “*report.pdf*”)
  - Slides for 1-minute madness (“*vs-nethz-presentation.pdf*”)
- Important Dates
  - 18<sup>th</sup> December 2014, 18:00 PM presentation
  - 19<sup>th</sup> December, 2014, 9:00 AM code & report
  - Your exact presentation slot will be announced after submission

## Update 03.12.2014

- Presence is mandatory for all members of the group for the final defense of the projects
- For special cases (illness, other exams) please contact us in advance

# Have Fun Programming!

