**Introduction**

- The project
  - Cooperation
  - Ericsson Research
  - Green IT People
- Goal
  - Develop prototypes of location-based games
  - Perform an evaluation of Ericsson’s IMS
  - Test location-based games in the real world
  - Develop games using IMS
  - Ericsson and Ericsson IMS
  - Demonstrate way/s to take advantage of IMS

**Concept**

- Use the game as a tool in the real world
  - Receive directions, quests or missions
  - Bring the game to the real world
- Use the real world as a tool in games
  - Control the game by moving physically
  - Input real world data into the game
  - Interact with players nearby
  - Force player interaction

**The team**

- 12 computer science students
- Scrum
  - Three scrum teams
  - Interaction between teams
  - Client and server groups

**Technologies**

- Software and technologies
  - IP Multimedia System (IMS)
  - Java 2 Mobile Edition (J2ME)
  - Java 2 Enterprise Edition (J2EE)
  - Eclipse and Service Development Studio (SDS)
  - Wireless Tool Kit (WTK)
  - Develop only for Sony Ericsson C702
  - Global Positioning System (GPS)
  - Easier to develop for a specific phone
  - SIP and Location API for J2ME

**Achievements so far**

- Researched and experimented with IMS
- Learned the required software and technologies
- Generated ideas for games
- Made test versions of the prototypes
**Plan**
- Finish the prototypes
- Make 3-6 additional prototypes
- Testing
- Fine tune and make variations

**Minigames**
- Vision
  - Supply small but entertaining games
  - Playable anywhere and anytime
  - Can be part of a bigger game
- Current project
  - Making music by taking pictures

**Minigames**
- Presentation of the music making game
**Minigames**
- Progress
  - Server that can communicate with IMS
  - Store music on the server
  - Take pictures with the camera and import them
  - Play midi sounds on the phone
  - Send and receive messages on a client

**RPG**
- Vision
  - Role Playing Games (RPG)
  - Interaction with other players based on location
  - Use the real world as the game world
- Current project
  - Simple RPG game
    - Can be played anywhere
    - Use GPS to find enemies
    - Bring the game to the real world
    - "Walk around in the dark."

**RPG**
- Progress
  - Can be played everywhere
  - Walk around in the real world finding monsters
  - Battle system

**Urban exploration**
- Vision
  - Games based on urban exploration concept
    - Find a place based on some given information
    - Race to a point on the map
    - Short games, contest games
- Current project
  - Tourist guide

**Urban exploration**
- Choose from a number of available tours based on current location
- See description of every location in the text
Urban exploration

- Visit a point on the tour and receive information about it

Urban exploration

- Get a map of the selected tour
- Receive a recommended path to take
- When a point is visited, a description of the location appears

Urban exploration

- Progress
  - Server on IMSInnovation with database for locations
  - Protocol for communication between client and server
  - Draw paths and locations on a satellite map
  - Choose available tours from the server
  - Display information of locations as you get to them

Challenges

- GPS
  - Accuracy and precision
  - Unavailable from time to time
  - Emulator differs from the phone
- Applications
  - Dependency requirements
  - Eclipse and plugins

Why we use IMS

- A set of functionality from the start
  - Registration/authentication
  - Session handling
  - Profiles
  - Messaging
  - Focus on game development
    - Differences from PDI project
    - Connecting players from different platforms
Application server

How we use IMS
- Sprint goal: get something to run
- Using IMS Innovation
  - Deployment
  - Interaction with a real phone
  - Support
- Client/Server communication
  - Instant Messaging
- Fetching media
  - Pictures

Challenges so far with IMS
- Lack of documentation/tutorials
- Communication with Ericsson
  - Email
  - Teams
- Meeting
- Development environment
- Compatibility issues
- IMS Innovation
  - Unexplained crashes of Sailfin
  - Bug reports

Future usage of IMS
- Use presence
  - Know the state of (other) players
    - Initiation requests from game
- Different ways of interaction
  - Himx through different media
  - Player to player initiated by game
  - Extending games on several platforms
    - Different roles

Questions
- Questions?