HITMAN: ANDROID

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Team

Kevin: Server (Django/Celery)

Pete: Client (Android)
Problem / Opportunity

- Assassins is a fun & popular real-world RPG
- Versions of it as a mobile app have been done before
  - Gameplay mechanics based on GPS & camera (photo of target) used for kill
- Potential for more sensors to be used and in conjunction with each other
  - Location can be more than just a lat/long point on a map
- We envision playing Assassins using a fusion of real-world + computer game play mechanics
**Idea:** Innovative use of sensors and technology to enhance traditional gameplay

- **Location hints** based on location data, velocity data, and reverse geocoding
  - e.g. "target just walked past *<some building>"*

- **picture-taking** mechanic
  - Players in the game can act as “informants” for others
  - Players are prompted to take a photo when near another player’s target
  - Photos forwarded to assassin – it’s up to them to determine if it’s a valuable clue or totally irrelevant

- **kill** mechanic
  - Random generated kill codes
  - Allows for flexibility in gameplay rules while still maintaining the benefits of computerized tracking
Background

• Kaos (previous class project)
  - 'ping' mechanic that allows assassins to obtain their target's compass direction
  - novel picture-taking mechanism for 'kill' mechanic with 3rd-party verification

• assassins.appspot.com (vaporware)
  - each assassin has a 'deadly range' based on GPS location
  - in-game currency system

• "Making friends by killing them: using location-based urban gaming to expand personal networks", Coe and Chen, 2010
Made Possible By...

- **Android thin client**
  - Background service sends location data to server periodically
  - GCM listener service to process incoming game events

- **Server**
  - Django + PostGIS backend + Celery/RabbitMQ task queue
  - Exposes a REST API to the client
  - Keeps track of game state
  - Analyze and aggregate sensor data so that push notifications/events/warnings can be sent to targets and assassins

- **Sensor accuracy, connection bandwidth/latency/reliability** are not critical; since periodic updates from the client are aggregated, a constant stream of sensor data is not required
Demonstration
Creating a game
When the game starts, the server assigns targets and generates kill codes for each player.
Each assassin receives location information about their target periodically.
Players are prompted to take pictures if they are close to another player's target.
Players must give up their kill code when killed
https://github.com/vilterp/hitman
https://github.com/whitehat2k9/hitman-android-server
Questions?