

[CS408] 2017 Spring

Team #16

Transmitter Hunting

20090484 Seung-hwan Song

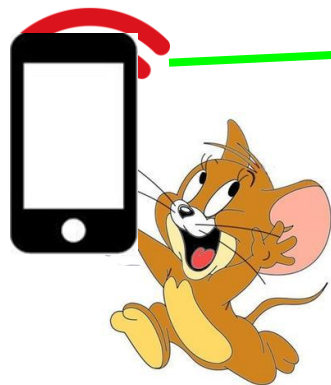
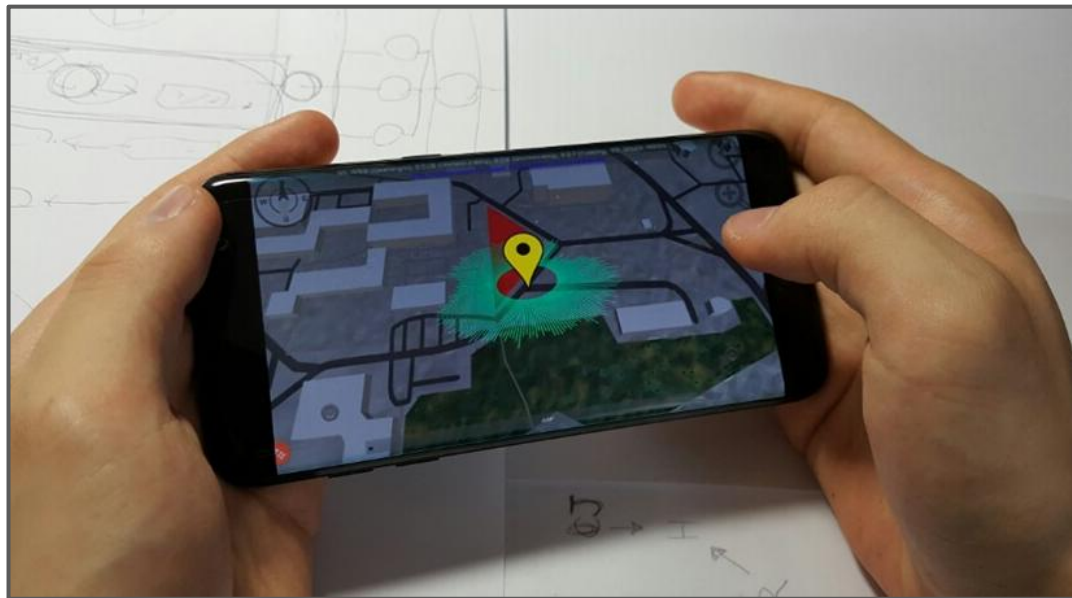
20091238 Jeong-woo Yang

20130690 Su-min Han

Problem Overview



Observer
: Referee,
Supervisor



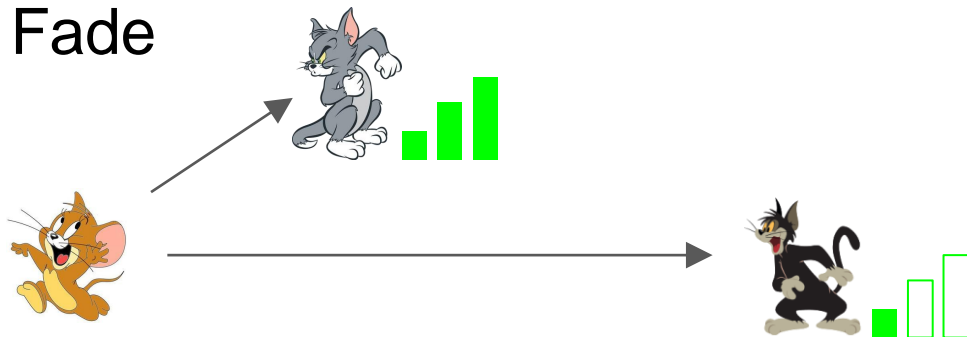
Let's make it
playable
with smartphones!



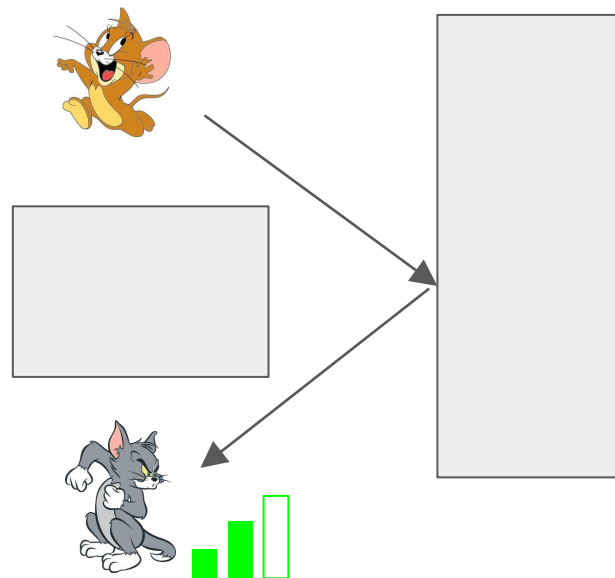
Problem Statement

We want to replace original radio gears to smartphones...

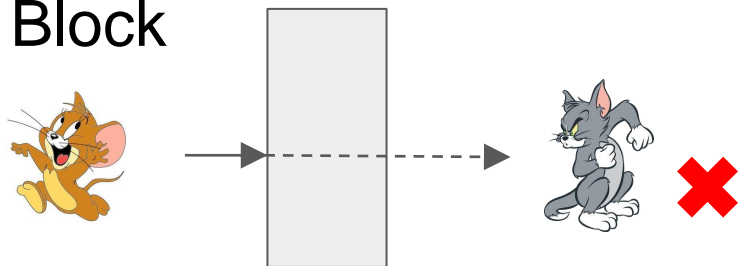
Fade



Reflect



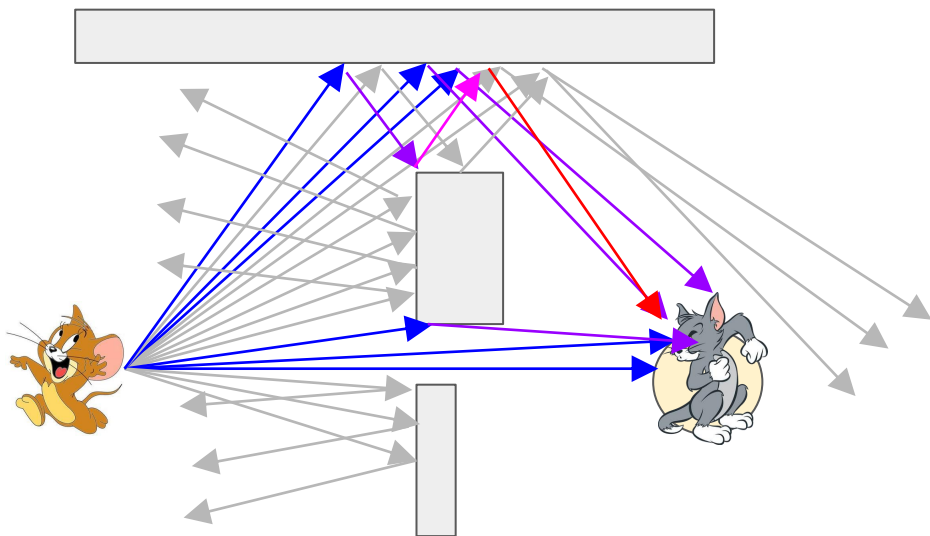
Block



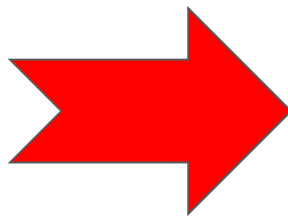
Problem Statement

But the Signal simulation is **too complex!**

Discrete Signals



Technical
Solution!



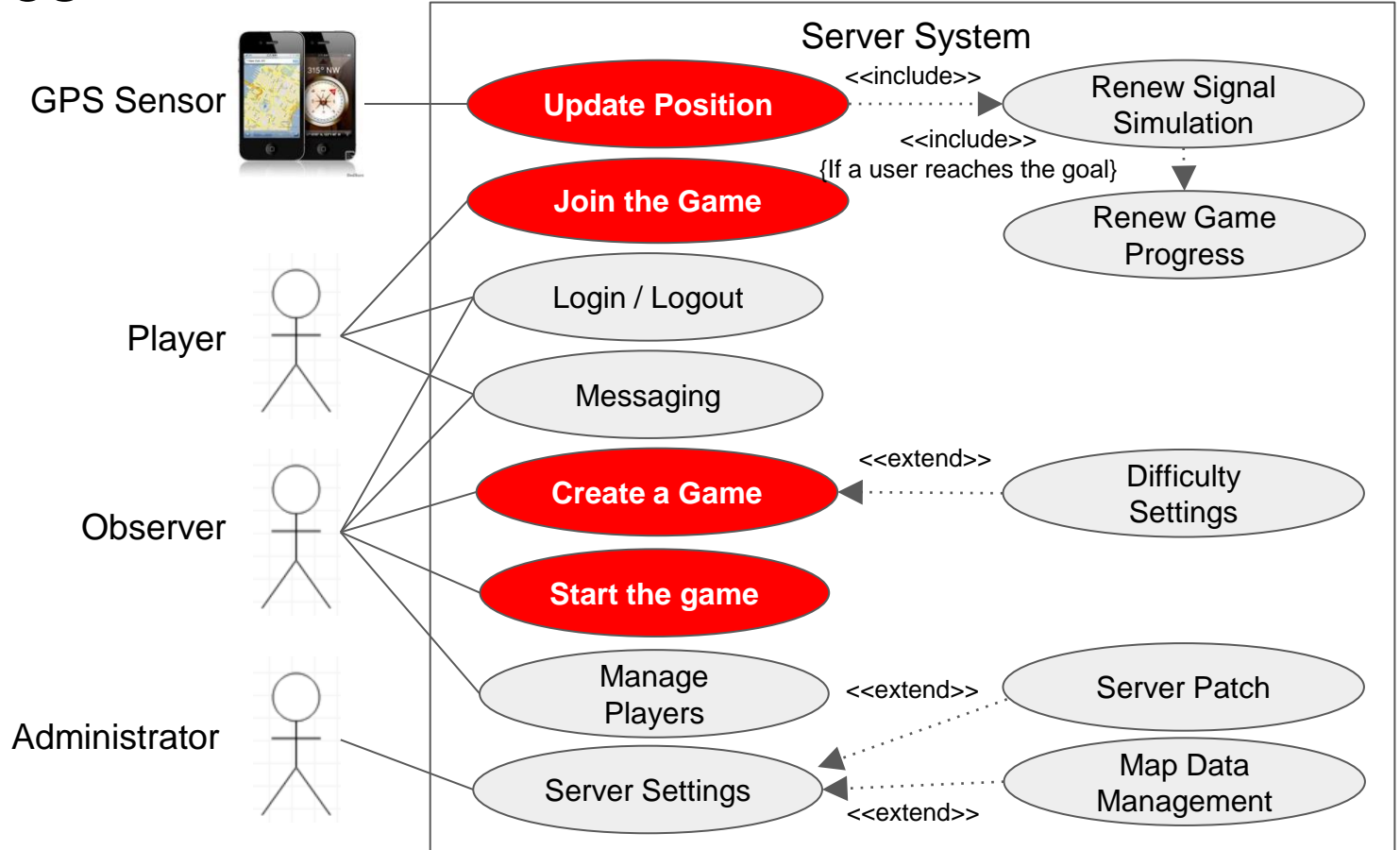
Sequential
Algorithm

+

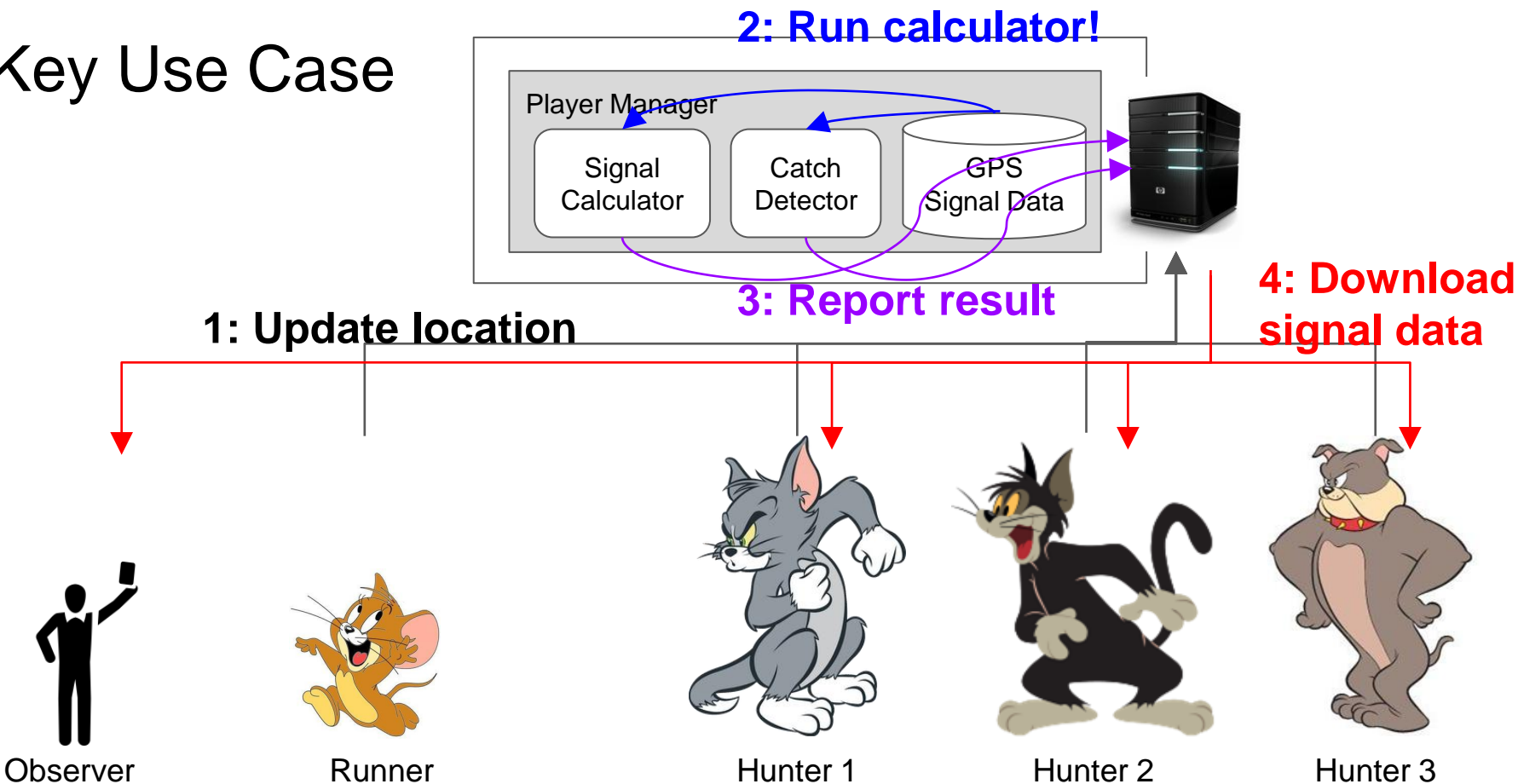
Parallel
Computing

Requirement Analysis

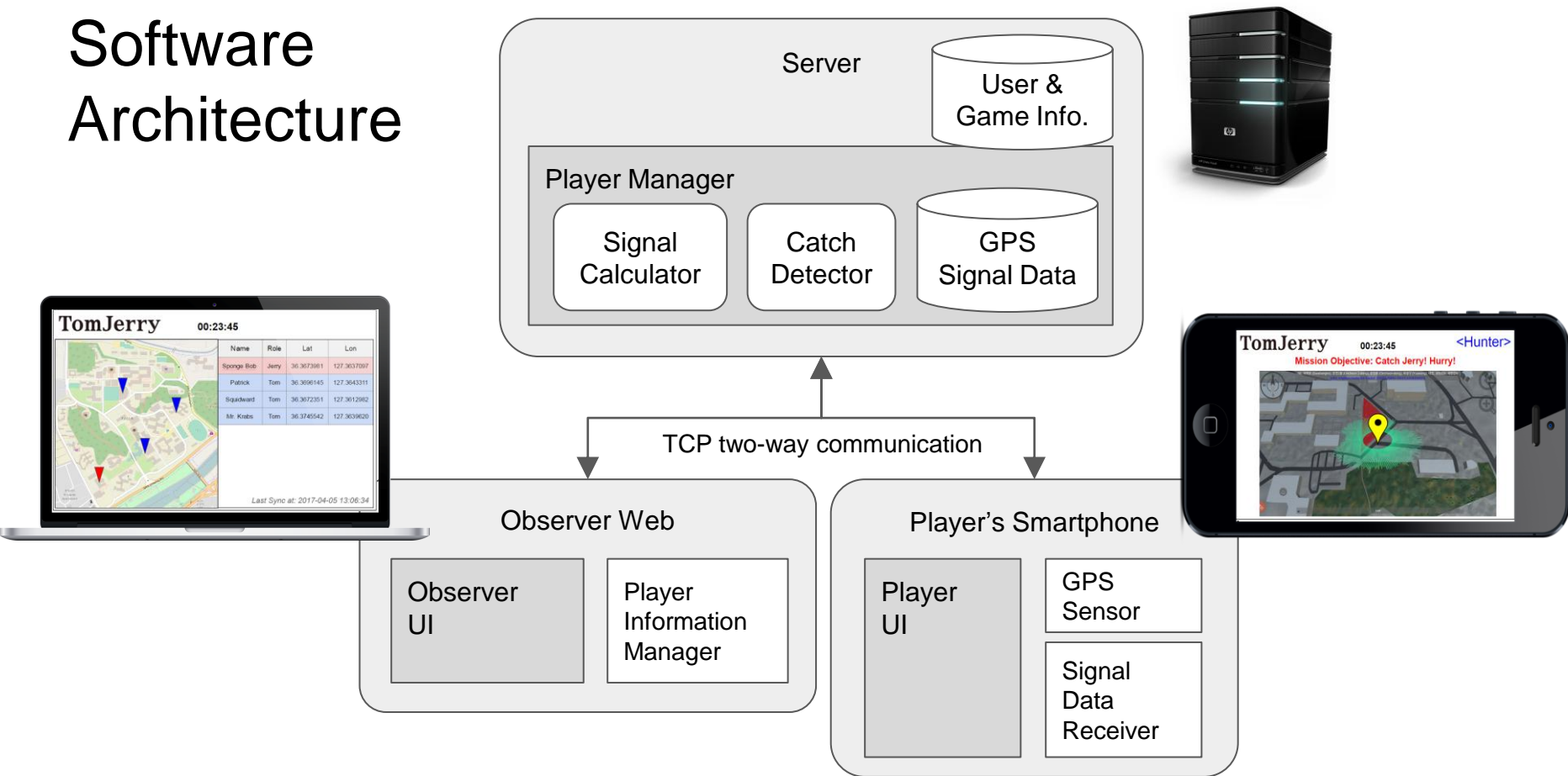
Use Cases



Key Use Case



Software Architecture



Design



► Create

Starcraft 1. Battle.net Benchmark

► Waiting Room



► Join



TomJerry

(Web)

Observer Login

Name:

Password:

New Account

Change Password

Recover Password

OK

Cancel

Observer



TomJerry

Create Game

Game Name:

Game Password:

Number of Jerry:

Mode (Difficulty):



Number of Tom:

Observer



TomJerry

Jerry

SpongeBob



Tom

Patrick



Squidward



Mr. Krabs



Unknown Player



- Open
- Close
- **Ban this player**

Game Name:

Welcome KAIST!

Password:

1234

Observer (Referee)

CS408_Observer

Starting in 5 seconds...

Start Game

Cancel

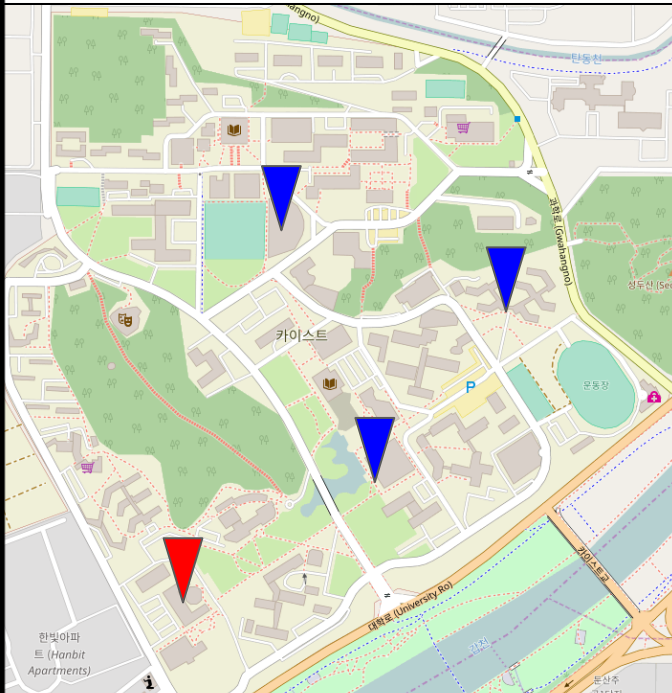
Observer



TomJerry

00:23:45

<Observer>



Name	Role	Lat	Lon
Sponge Bob	Jerry	36.3673981	127.3637097
Patrick	Tom	36.3696145	127.3643311
Squidward	Tom	36.3672351	127.3612982
Mr. Krabs	Tom	36.3745542	127.3639620

Last Sync at: 2017-04-05 13:06:34

Observer



TomJerry

Player Login

Name:

SpongeBob

Password:

New Account

Change Password

Recover Password

OK

Cancel

TomJerry

Join Game

Room...1

Room...2

Welcome KAIST!

Room...3

Room...4

Room...5

Room...6



Game Name:

Welcome KAIST!

Game Password:

1234

Creator: CS408_Team16

OK

Cancel

TomJerry

Jerry

SpongeBob

Tom

Patrick

Squidward

Mr. Krabs

Unknown Player

Game Name:

Welcome KAIST!

Password:

1234

Observer (Referee)

CS408_Team16

Starting in 5 seconds...

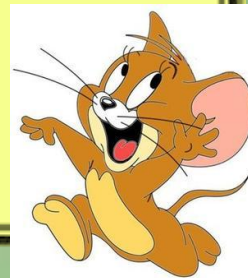
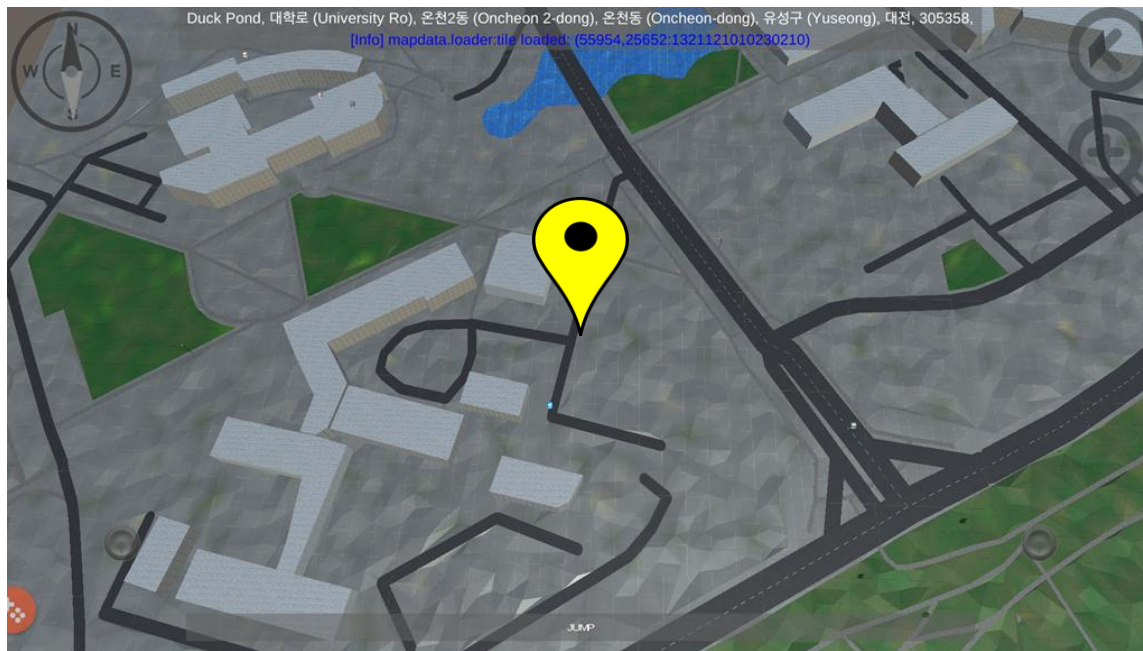
Cancel

TomJerry

00:23:45

<Runner>

Mission Objective: Don't be caught until the time count.



TomJerry

00:23:45

<Hunter>

Mission Objective: Catch Jerry! Hurry!



Remaining Works

Milestones

4/9

4/23

5/10

5/19

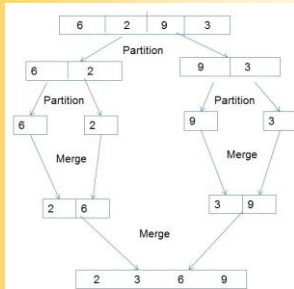
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MOSP

MIDTERM

Signal imulation

[SH, SM, JW]

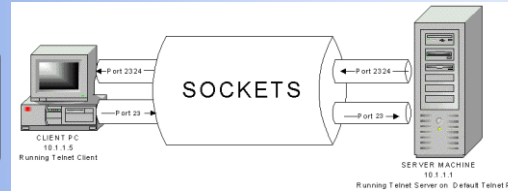


TCP Socket [SH]

Client View [SM]

Observer View
[JW]

Revised Document



Integration

EOSP

SW Testing
[SH, SM, JW]



Gantt Chart (URL: <http://goo.gl/81I3pE>)

➤ Signal Simulation

1. MPI and OpenCL installation,
2. Learn & running example codes,
3. OSM XML data crawling and refinement
4. Reflection algorithm implementation
5. Map-reduce implementation

➤ TCP Real-time Communication

1. Choose language and setup the environment
2. TCP socket implementation
3. Android real-time connection testing
4. Real-time calculated signal information communication based on Android GPS location

➤ Unity 3D Graphical User Interface

1. Run UnityMap demo on android
2. Modify demo code to fit our GUI
3. Interface for game (Login, GPS pinpoint)
4. Signal graph implementation

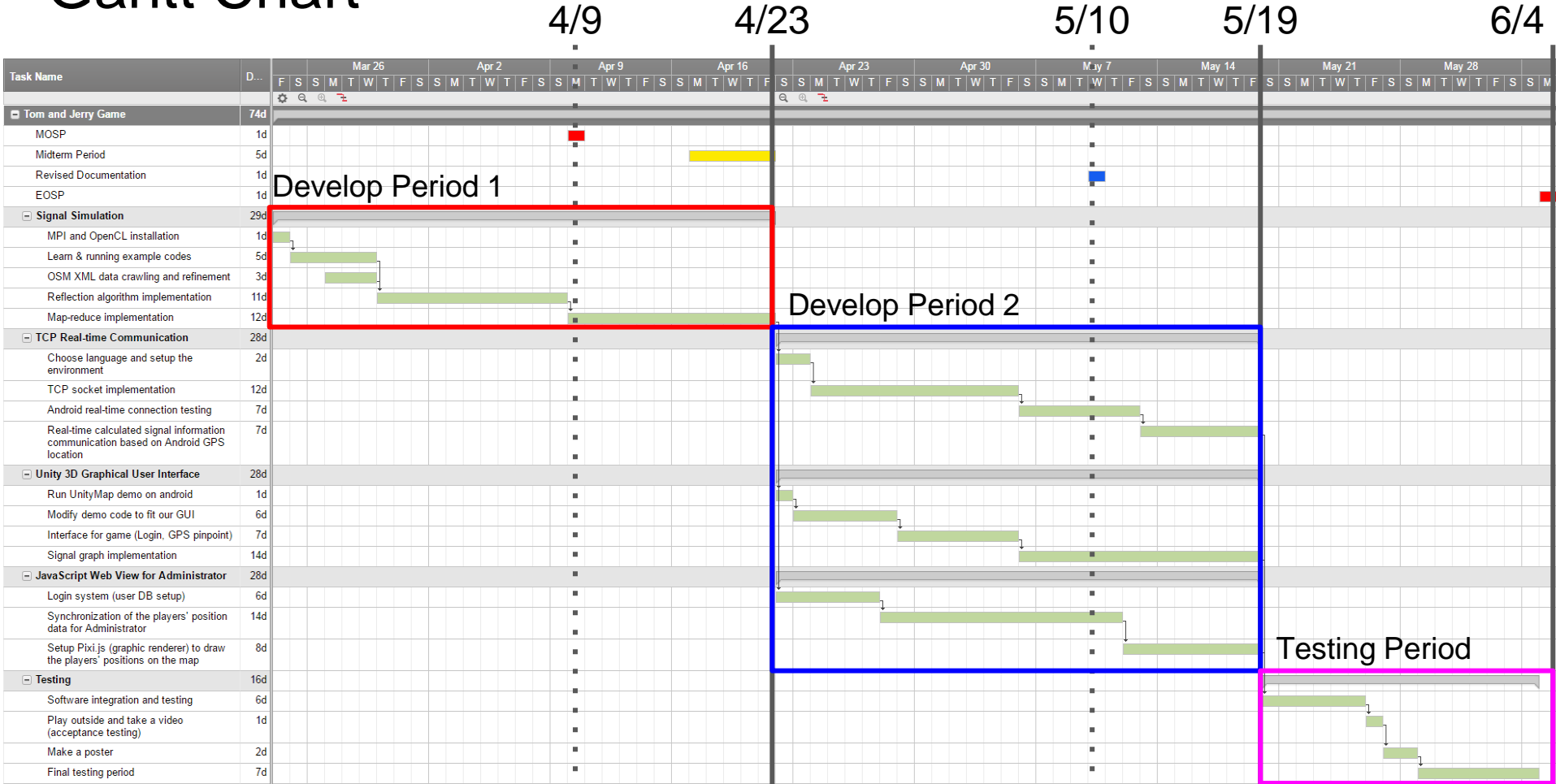
➤ JavaScript Web View for Administrator

1. Login system (user DB setup)
2. Synchronization of the players' position data for Administrator
3. Setup Pixi.js (graphic renderer) to draw the players' positions on the map

➤ Testing

1. Software integration and testing
2. Play outside and take a video (acceptance testing)
3. Make a poster
4. Final testing period

Gantt Chart



Internal Roles

Name	E-mail	Role
Seung-hwan Song	sik2603@kaist.ac.kr	Coder (Java Server, TCP Socket)
Su-min Han	hsm6911@kaist.ac.kr	Coder (Unity, Parallel), Project Manager
Jeong-woo Yang	jwy1991@kaist.ac.kr	Coder (HTML, JS, Web server)