

Smart Tracking

SIS Field Work Experiment 2014
Division of Spatial Information Science
University of Tsukuba

Professor Dr. Yuji Murayama and Dr. Ko Ko Lwin
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TASK 1

Mobile Tracking and Recording

(Before and Mid Field Experiment)

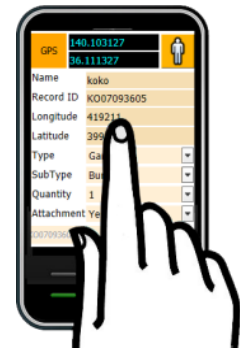
TASK 2

Tracking Data Visualization

(After Field Experiment)

TASK 1: Mobile Tracking and Recording

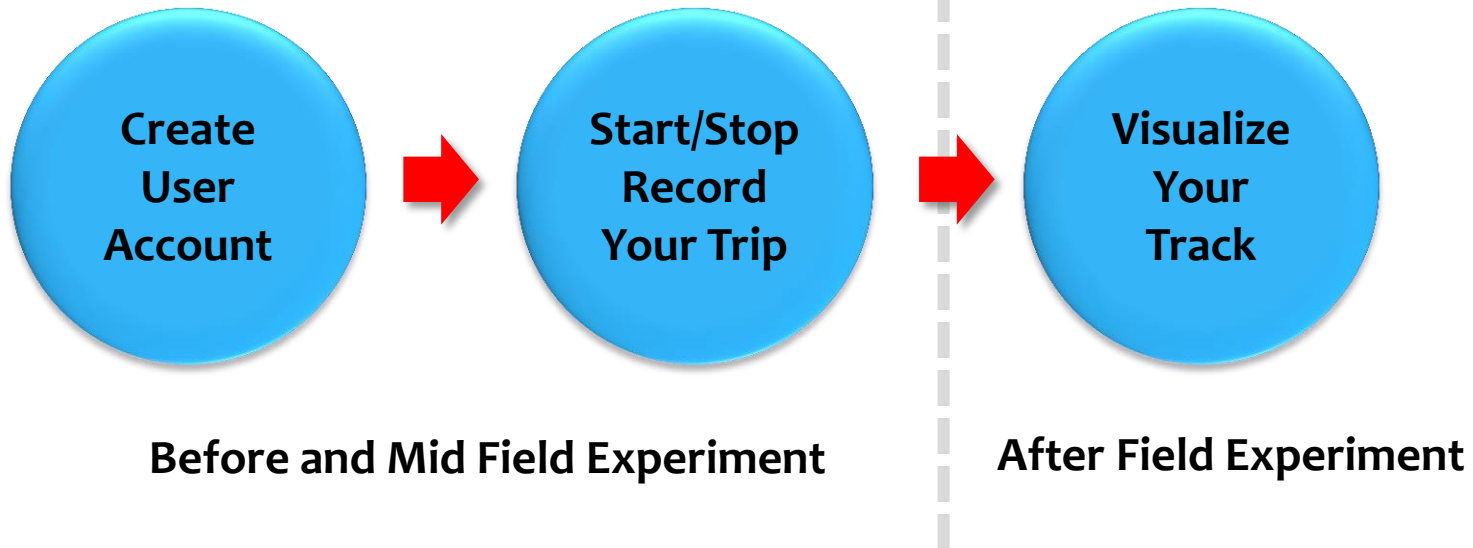
What you need is: **A Smart Phone**



What you have to do is: **Just Walk & Look ...**



How It Works



User Account Creation

URL: <http://land.geo.tsukuba.ac.jp/fieldgis2014>

Smart Tracking User Account Creation

Log In Create Account

1

User Name:

Password:

Confirm Password:

Smart Tracking User Account Creation

Log In Create Account

2

User Name:

Password:

Remember me next time.

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- 1 Click “Create Account” to create new account (minimum 3 characters)
- 2 Click “Log In” to start recording (Enter user name and password)

Start Walking and Recording

Click  icon to start and click  icon to stop (Toggle)




 TODAY: 2/4/2014 4:39:13 PM 140.116699 36.083302 

Stop Mode

 RECORDING STARTED AT: 16:41:35  RECORDING ... 140.116699 36.083302 



Recording Mode

Check your records (It will record every 30 seconds)

 RECORDING STARTED AT: 16:41:35  RECORDING ... 140.116699 36.083302 

Name: pandora
Time Elapsed: 3 min. 30 sec.
Recorded: 7

PNAME	POID	TKDATE	TKTIME	LON	LAT	DIST	EVENT	RMK
pandora	7	20140204	16:45:00	140.116699	36.083302	0	*	*
pandora	6	20140204	16:44:30	140.116699	36.083302	0	*	*
pandora	5	20140204	16:44:00	140.116699	36.083302	0	*	*
pandora	4	20140204	16:43:30	140.116699	36.083302	0	*	*
pandora	3	20140204	16:43:00	140.116699	36.083302	0	*	*
pandora	2	20140204	16:42:30	140.116699	36.083302	0	*	*
pandora	1	20140204	16:42:00	140.116699	36.083302	0	*	START

None 
20140204 

One more please!

You have to watch out illegal garbage and parking events while you're walking inside the campus...

- 1 If you find them, Stop walking and select appropriate event in "Event Selector" dropdown List



- 2 Wait and see this event is recorded or not. After recorded, then continue to walk.

Terminal screenshot showing event recording data. A blue circle with the number '2' is positioned above the 'Burnable' column header, which is circled in red. The data shows five rows of event records for 'pandora'.

							2 Burnable	*
pandora	18	20140204	16:51:00	140.116699	36.083302	0	*	*
pandora	17	20140204	16:50:30	140.116699	36.083302	0	*	*
pandora	16	20140204	16:50:00	140.116699	36.083302	0	*	*
pandora	15	20140204	16:49:30	140.116699	36.083302	0	*	*
pandora	14	20140204	16:49:00	140.116699	36.083302	0	*	*

To see the whole track

The screenshot shows a Bing Maps interface with a recorded track overlaid on a map. The track is a blue line with numbered points (1-37) and distance markers between points. The map includes labels for 'Kaede-dori', '筑波大附区 館', '平塚通', '上野歯科医院', 'ビルディーン', '栗原ハイッ', and 'つくばビジッ カレッジ専門'. A scale bar indicates 320 m. The interface includes a 'bing' logo, a 'Map' dropdown, and a table of track data.

TODAY: 2/4/2014 4:55:35 PM 140.116699 36.083302

Name: admin TOTAL: 37

PNAME	POID	TKDATE	TKTIME	LON	LAT	DIST	EVENT	RMK
admin	37	20140203	10:33:30	140.103374	36.111052	24	Illg. Car	STOP
admin	36	20140203	10:33:00	140.103160	36.111017	190	*	*
admin	35	20140203	10:32:30	140.103268	36.109643	17	*	*
admin	34	20140203	10:31:30	140.103201	36.109529	124	*	*
admin	33	20140203	10:31:00	140.103709	36.108726	11	*	*
admin	32	20140203	10:30:30	140.103626	36.108679	1	*	*
admin	31	20140203	10:29:30	140.103636	36.108677	234	*	*
admin	30	20140203	10:29:00	140.104663	36.107197	3	*	*
admin	29	20140203	10:28:30	140.104690	36.107198	2310	*	*

- 1 Stop recording and click “Refresh” button to see the whole track (Disabled in recording mode)



TASK 2

Tracking Data Visualization

(After Field Experiment)

Log In as Administrator account

URL: <http://land.geo.tsukuba.ac.jp/fieldgis2014>

Smart Tracking User Account Creation

User Name:

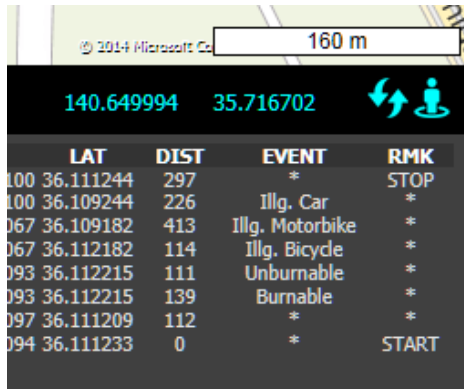
Password:

Remember me next time.

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Log In as Administrator account

- 1 Under the first page, click “**Visualizer**” to launch visualizer page
(Only available in Administrator account)



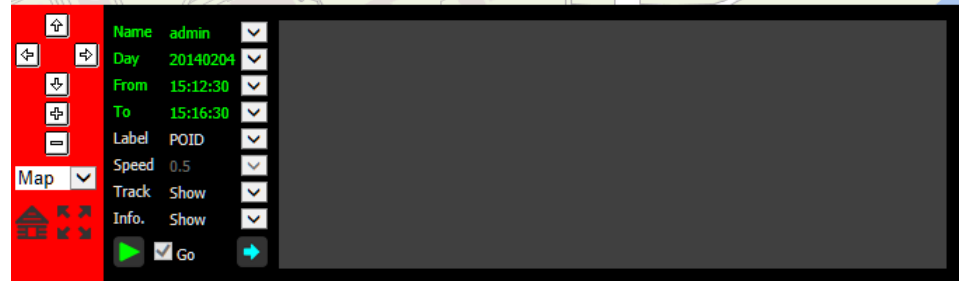
160 m

140.649994 35.716702

	LAT	DIST	EVENT	RMK
100	36.111244	297	*	STOP
100	36.109244	226	Illg. Car	*
067	36.109182	413	Illg. Motorbike	*
067	36.112182	114	Illg. Bicycle	*
093	36.112215	111	Unburnable	*
093	36.112215	139	Burnable	*
097	36.111209	112	*	*
094	36.111233	0	*	START

[Visualizer](#)

1



Name admin

Day 20140204

From 15:12:30

To 15:16:30

Label POID

Speed 0.5

Track Show

Info. Show

Go



Export

Tracking

[Logout](#)

Visualizer page

Trip Filtering and Loading Control

Name	admin	▼
Day	20140204	▼
From	15:12:30	▼
To	15:16:30	▼
Label	POID	▼
Speed	0.5	▼
Track	Show	▼
Info.	Show	▼
	<input checked="" type="checkbox"/> Go	

Select Name

Select Trip Day

Select Trip Start Time

Select Trip End Time

Choose label field to display

Set Movement speed

Set show or hide track

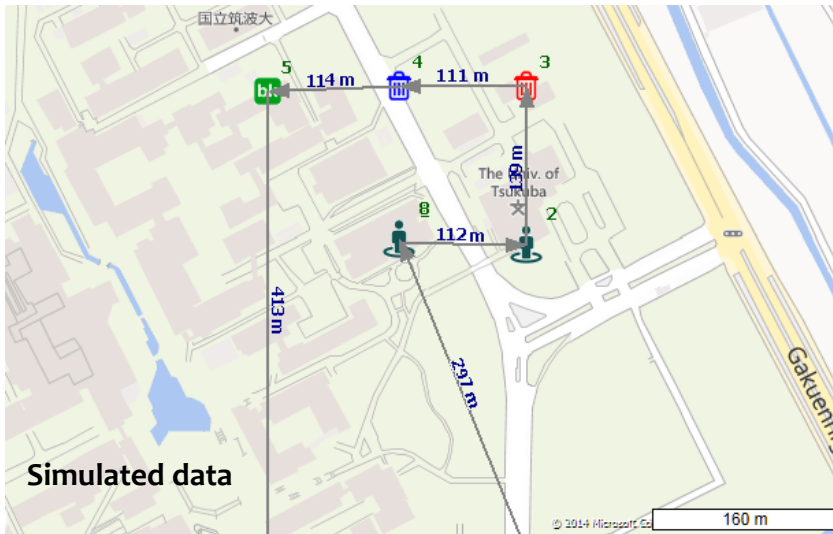
Set show or hide trip information

Play, Pause and Load the Track Data


Use this control for filtering and loading the trip by user search category such as by name, date, start time and end time ...

After selection, click  button to load the data

Load Trip Data by User Defined Search Category

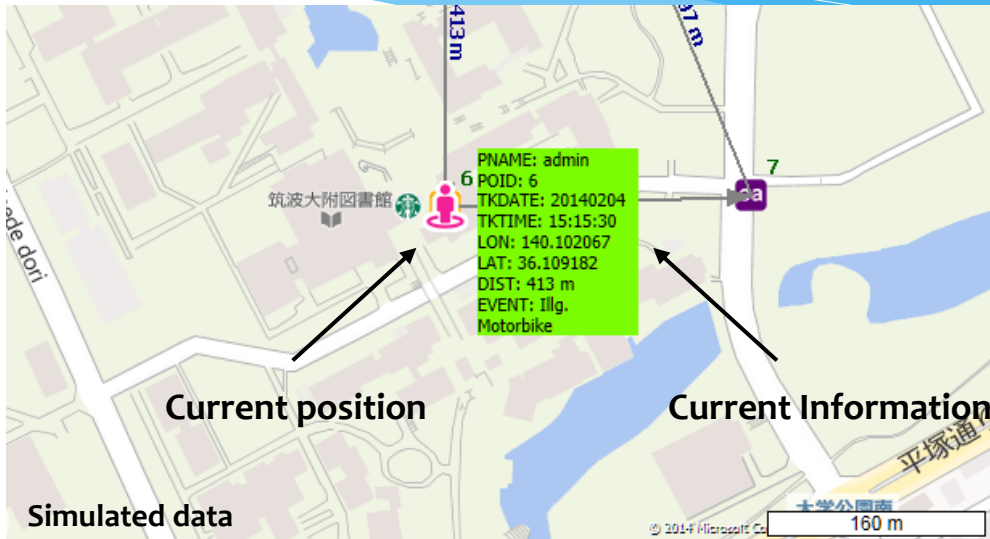


- * None
-  Burnable
-  Unburnable
-  Illegal Car
-  Illegal Bicycle
-  Illegal Motorbike

Name	admin	PNAME	POID	TKDATE	TKTIME	LON	LAT	DIST	EVENT	RMK
Day	20140204	admin	1	20140204	15:12:30	140.103094	36.111233	0	*	START
From	15:12:30	admin	2	20140204	15:13:00	140.104097	36.111209	112	*	*
To	15:16:30	admin	3	20140204	15:13:30	140.104093	36.112215	139	Burnable	*
Label	POID	admin	4	20140204	15:14:00	140.103093	36.112215	111	Unburnable	*
Speed	0.5	admin	5	20140204	15:15:00	140.102067	36.112182	114	Illg. Bicycle	*
Track	Show	admin	6	20140204	15:15:30	140.102067	36.109182	413	Illg. Motorbike	*
Info.	Show	admin	7	20140204	15:16:00	140.104100	36.109244	226	Illg. Car	*
	Go	admin	8	20140204	15:16:30	140.103100	36.111244	297	*	STOP

Click  button to see the movement

Display the Movement



Simulated data

Name	PNAME	POID	TKDATE	TKTIME	LON	LAT	DIST	EVENT	RMK
admin	admin	1	20140204	15:12:30	140.103094	36.111233	0	*	START
Day 20140204	admin	2	20140204	15:13:00	140.104097	36.111209	112	*	*
From 15:12:30	admin	3	20140204	15:13:30	140.104093	36.112215	139	Burnable	*
To 15:16:30	admin	4	20140204	15:14:00	140.103093	36.112215	111	Unburnable	*
Label POID	admin	5	20140204	15:15:00	140.102067	36.112182	114	Illg. Bicycle	*
Speed 0.5	admin	6	20140204	15:15:30	140.102067	36.109182	413	Illg. Motorbike	*
Track Show	admin	7	20140204	15:16:00	140.104100	36.109244	226	Illg. Car	*
Info. Show	admin	8	20140204	15:16:30	140.103100	36.111244	297	*	STOP

1 Go 2

Tracking

1 Click button to stop the movement (Toggle Switch)

2 Off "Go" Check Box to pause the movement and On for continue

Export to ESRI Shape file

Name	Day	From	To	Label	Speed	Track	Info	PNAME	POID	TKDATE	TKTIME	LON	LAT	DIST	EVENT	RMK
admin	20140204	15:12:30	15:16:30	POID	0.5	Show	Show	admin	1	20140204	15:12:30	140.103094	36.111233	0	*	START
admin								admin	2	20140204	15:13:00	140.104097	36.111209	112	*	*
admin								admin	3	20140204	15:13:30	140.104093	36.112215	139	Burnable	*
admin								admin	4	20140204	15:14:00	140.103093	36.112215	111	Unburnable	*
admin								admin	5	20140204	15:15:00	140.102067	36.112182	114	Illg. Bicycle	*
admin								admin	6	20140204	15:15:30	140.102067	36.109182	413	Illg. Motorbike	*
admin								admin	7	20140204	15:16:00	140.104100	36.109244	226	Illg. Car	*
admin								admin	8	20140204	15:16:30	140.103100	36.111244	297	*	STOP

1 Export admin.zip

[Tracking](#)

1 Click **Export** button to export all trip data by selected person into an ESRI Shape file

FID	Shape	X	Y	PNAME	POID	TKDATE	TKTIME	DIST	EVENT	RMK
1	Point	140.103094	36.111233	admin	1	20140204	15:12:30	0	*	STAR
2	Point	140.104097	36.111209	admin	2	20140204	15:13:00	112	*	*
3	Point	140.104093	36.112215	admin	3	20140204	15:13:30	139	Burnable	*
4	Point	140.103093	36.112215	admin	4	20140204	15:14:00	111	Unburnable	*
5	Point	140.102067	36.112182	admin	5	20140204	15:15:00	114	Illg. Bicycle	*
6	Point	140.102067	36.109182	admin	6	20140204	15:15:30	413	Illg. Motorbike	*
7	Point	140.104100	36.109244	admin	7	20140204	15:16:00	226	Illg. Car	*
8	Point	140.103100	36.111244	admin	8	20140204	15:16:30	297	*	STOP
9	Point	140.103110	36.111226	admin	1	20140203	10:11:30	0	*	STAR
10	Point	140.101805	36.109535	admin	10	20140203	10:16:30	35	*	*
11	Point	140.101731	36.109237	admin	11	20140203	10:17:30	42	*	*
12	Point	140.101751	36.109552	admin	12	20140203	10:18:00	43	*	*
13	Point	140.101859	36.109559	admin	13	20140203	10:18:30	12	*	*
14	Point	140.101672	36.109404	admin	14	20140203	10:19:30	30	*	*
15	Point	140.101816	36.109225	admin	15	20140203	10:20:00	29	*	*
16	Point	140.101941	36.108823	admin	16	20140203	10:20:30	57	*	*
17	Point	140.102102	36.108435	admin	17	20140203	10:21:00	56	*	*
18	Point	140.102102	36.108435	admin	17	20140203	10:21:00	56	*	*
19	Point	140.102225	36.108262	admin	19	20140203	10:22:00	29	*	*
20	Point	140.102441	36.110927	admin	2	20140203	10:12:00	85	*	*
21	Point	140.102081	36.108233	admin	20	20140203	10:22:30	17	Illg. Bicycle	*
22	Point	140.102537	36.108069	admin	21	20140203	10:23:00	56	*	*
23	Point	140.102527	36.108072	admin	22	20140203	10:24:00	1	*	*
24	Point	140.101767	36.107546	admin	23	20140203	10:24:30	111	*	Star

All trips for selected person only



That's All, Enjoy!