AppInventor and Google Fusion Tables

Daniel Sheehan
MIT GIS Services
dsheehan@mit.edu
gishelp@mit.edu
http://libguides.mit.edu/gis
Senior GIS Specialist
MIT Libraries
A short, outsider’s history of AppInventor

• Scratch (SmallTalk)
  – Mitch Resnick and Life Long Kindergarten group
A short, outsider’s history of AppInventor

• StarLogo TNG (Java)
  – Eric Klopfer
  – The App Inventor blocks were initially based on the MIT master’s thesis of Ricarose Roque.*

A short, outsider’s history of AppInventor

• Hal Abelson and Google
  – “It’s not about sitting at a desktop computer. It’s about these incredibly powerful computers that you now carry around with you that can do location-aware things, and they can find your friends, and they can make phone calls and do other stuff. App Inventor, as an educational program, is about giving young people who are trying to learn about computing power over the real computing that they’re using in their lives.”*

• Moved to MIT Center for Mobile Learning in 2012

First project

• “Digital Brunton” compass
• Orientation sensor
• Location sensor
• Write to appspot.com
But now we can write to Fusion tables
Web interface to Design mobile UI
Working with blocks

Set latitude and longitude labels to the values from the location sensor
More blocks ...

The most complicated block – the Insert statement.
Insert Command in Fusion Tables

\[
\text{INSERT INTO } \langle\text{table_id}\rangle \\
(\langle\text{column_name}\rangle \text{, } \langle\text{column_name}\rangle \text{)}*) \text{ VALUES} \\
(\langle\text{value}\rangle \text{, } \langle\text{value}\rangle \text{)}*)
\]

\[
\text{INSERT INTO} \\
1IT1UOFOWTiMI9z4FDEYNZEYxv86JfegHnyaLuts \\
(\text{Latitude, Longitude, Description}) \text{ VALUES} (\text{txtLat.text, txtLon.text, ‘txtDescription.text’}) – \text{quotes required} \\
\text{where field type is Text}
\]
Clean up

Show the query and the results – mostly debugging
Populated fusion table

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Edited at 12:15 AM

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.41964</td>
<td>-71.095</td>
<td>Home</td>
</tr>
</tbody>
</table>
And visualizing as map
JavaScript for adding Fusion Table in Maps API

FusionLayer = new
  google.maps.FusionTablesLayer
  1942400,
  {suppressInfoWindows: false});
FusionLayer.setMap(map);

Within JavaScript Initialize() function
GPS inaccuracies in urban environment

GPS track recorded using MyTracks on Android phone
Things to think about

• Get your machine set if you didn’t do this before
  (http://appinventor.mit.edu/explore/content/setup-mit-app-inventor.html)

• Change application settings for apps from unknown sources

• It’s not programming but like programming, logic is key, syntax is vital