Our idea

1. **Tags each photo with Bluetooth device-IDs detected around the moment when it was taken.**
   ![Diagram showing tag affects context]

2. **Links photos whose tags have intersection and clusters photos by context.**
   ![Diagram showing links between photos and clusters]

3. **The user browses in her photo archive by switching among three view modes and retrieves/finds photo(s) by exploring cluster tree(s) and/or cluster(s) on a map or a timeline.**

### Three Views

#### Graph Network View
- Each thumbnail is the representative image of a cluster chosen by applying the PageRank algorithm (left).
- Jump into a more detailed layer by clicking a thumbnail.
- Each thumbnail corresponds to a photo at the bottom layer (right).

#### Map View
- Layouts the cluster selected in Graph Network View on a map.
- Each thumbnail/photo is settled on the location where it was taken.

#### Timeline View
- Layouts photos of the selected period of time, i.e., year, month, week, or day.
- Layouts photos in either of the whole archive or the selected cluster in order of their timestamps.
- Displays a thumbnail by moving the mouse cursor over a red line.

### Discussions

**Need to incorporate Wi-Fi detection information**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bluetooth ID</th>
<th>Wi-Fi ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># unique</td>
<td># record</td>
</tr>
<tr>
<td>2009 (Apr.)</td>
<td>34,604</td>
<td>1,107,306</td>
</tr>
<tr>
<td>2010</td>
<td>34,063</td>
<td>1,125,123</td>
</tr>
<tr>
<td>2011</td>
<td>17,356</td>
<td>1,386,228</td>
</tr>
</tbody>
</table>

Increasing: tethering / pocket Wi-Fi?
Drastically decreasing: security?