Ubiquitous and Mobile Computing
CS: 403X Give Me Some Space App

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Vision: A Study Space for All

- Allows students to find study spots
- Alleviates pressure on hot-spots
- Creates an even distribution across campus
Related Work

- SpaceScout (University of Washington) - allowed users to search for study spaces based on preference
- Room Finder (Bryant University) - displayed empty study spaces to students by tapping into the electrical system
Our User’s process is easy

Launch → Lookup → Travel → Report
Visual Spec

Sleek, easy, and minimalistic
Implementation/Prototype

1. Initialize Google Maps
2. Wait for Geofence Event
3. Prompt user for Data
Implementation/Prototype Cont’d

1. Retrieve Data from Firebase
2. Search through Manifest
3. Compute Relevant Data
Evaluation/Results

- Five Participants
- Length of Study: 8 hours
- Accuracy of Averaged Ratings

Table of User Study Ratings

<table>
<thead>
<tr>
<th>Time (EST)</th>
<th>Library Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 AM</td>
<td>3</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>4</td>
</tr>
<tr>
<td>1:00 PM</td>
<td>4</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>5</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>5</td>
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<tr>
<td>4:00 PM</td>
<td>5</td>
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<tr>
<td>5:00 PM</td>
<td>4</td>
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<tr>
<td>6:00 PM</td>
<td>4</td>
</tr>
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<tr>
<td>8:00 PM</td>
<td>4</td>
</tr>
<tr>
<td>9:00 PM</td>
<td>4</td>
</tr>
</tbody>
</table>
Conclusion

- Utilization of crowd-sourcing and Geofences
- Accuracy of aggregated ratings: sufficient
- Saves students time
Future Work

- WPI Wifi Load Sensing
- Removal of Geofences
- Passive Data
- User Preferences
Thanks!
Any questions?