THE ORCHESTRA OF THINGS

Dr. Stephen David Beck, PhD

Amanda K. Holloman
ABOUT THE ORCHESTRA OF THINGS

The Orchestra of Things project (OOT) was conceived and established by Stephen David Beck and Chris Branton of the LSU Center for Computation & Technology. It is the successor to several grid-oriented projects relating to the distribution and management of software across laptop, mobile, tangible and embedded environments. These past projects include GRENDL and Ensemble.
Within the three weeks of my arrival, I have been exposed to terms and languages that were very foreign yet intriguing to me in order to improve Dr. Becks project. As of right now I will be incorporating Gimbal beacons into this project in order for the “instruments” to communicate and connect without being dependent upon the UNIX system like in the past. This connection will allow them to play together, broadcast songs, and most importantly recognize other interested instruments within the vicinity. The possibilities are endless.
**TOOLS & RESOURCES**

- OS X Terminal
  - Linux command codes
- Programming Languages
  - JavaScript
  - HTML
- Node.js
- Express
- Socket.io
- Gimbal Beacons
HOW CAN THIS ALREADY WONDERFUL PROJECT BE IMPROVED?
• The server is composed of Socket.io, Node.js and JavaScript to run and communicate to the terminal.
• Functions that connect buttons to webpages, create/updates the SQLite3 database and sends the homepage to the browser.
THE HOMEPAGE

• Gives a brief description of what the Orchestra of Things is about.
• Houses links to other webpages that help insert values into the database.
JOIN THE CREW

//July 2016

Join The Crew!

Enter name: katelyn
Enter I.P. Address: 370.2.8.9
Enter Port Number: 9000
Enter instrument: drums
Submit

Receiving OoT Crew katelyn
User is submitting 1 : amandapiano
User is submitting 2 : amandapiano
User is submitting 3 : Haroldpiano
User is submitting 4 : Haroldpiano
User is submitting 5 : Susanpiano
User is submitting 6 : Susanpiano
User is submitting 7 : jonpiano
User is submitting 8 : Susanpiano
User is submitting 9 : katepiano
User is submitting 10 : katepiano
User is submitting 11 : katepiano
User is submitting 12 : katepiano
User is submitting 13 : davianttrumpet
User is submitting 14 : amandapiano
User is submitting 15 : katelyndrums
a user connected
refreshing...
JOIN THE CREW

- A simple HTML form that allows the user fill out their name, I.P. Address, port number and instrument.
- These string values are then sent to server to store in the database while also generating a specific identification number for retrieval purposes.
### Meet the Musicians

<table>
<thead>
<tr>
<th>Name</th>
<th>I. P. Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amanda</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Amanda</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Harold</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Harold</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Susan</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Susan</td>
<td>127.0.0.5</td>
</tr>
<tr>
<td>Jon</td>
<td>127.0.0.5</td>
</tr>
<tr>
<td>Susan</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Kate</td>
<td>127.0.0.5</td>
</tr>
<tr>
<td>Kate</td>
<td>127.0.0.5</td>
</tr>
<tr>
<td>Kate</td>
<td>127.0.0.5</td>
</tr>
<tr>
<td>Davian</td>
<td>0728.1965</td>
</tr>
<tr>
<td>Amanda</td>
<td>127.0.0.6</td>
</tr>
<tr>
<td>Katelyn</td>
<td>370.2.8.9</td>
</tr>
</tbody>
</table>
VIEW THE CREW

- Created a HTML table by building and inserting the data cell by cell and row by row with the help of the appendchild function.

- Data from the server’s database is retrieved as an object in array form and placed into the cells.

- A refresh button allows the data to be displayed upon request.
FUTURE WORKS

- To continue improving the communication of the orchestra, it is with high hopes to incorporate both physical Gimbal beacons and virtual ones. These beacons will be imbedded in the website, physical instruments, speakers, and Apple/Android applications in order to include mobile devices such as phones, iPads and tablets.