# HackOHI/O 2017


Steal this Idea

# Idea 1: Campus Map+ → Danny Dotson dotson.77

Build a campus map with the ability to find locations based upon multiple criteria students, employees, and visitors need.

| Suggestions to include: | Other suggested features: |
| --- | --- |
| • Coffee<br>• Food<br>• Vending machines<br>• Study Spaces<br>• Libraries<br>• Parking (preferably categorized with tag types and visitor options)<br>• Public computers / printing<br>• ATMs<br>• Pay phones<br>• Public Safety Call Boxes<br>• Museums and Other Public Interest Spaces<br>• Construction Obstructions | • The app should be easily updatable if something changes (examples: new vending, coffee shop moves to another building, etc.)<br>• Work on multiple phone operating systems<br>• Will provide both walking and driving directions |

# Idea 2: Push/Pull files from ssh to cloud drive

Imagine a “git-like” command to push and pull files from an ssh connection to a Linux server to a cloud storage service like google drive, buckeyebox, or dropbox.

Cuts out annoying step of “scp username@server:file .” Then uploading via a web interface

Massively helpful for sharing files between disciplines (I.e. Developer to biologist)

# From Undergraduate Student Gov

- Mapping wheelchair-accessible routes throughout campus from building to building while avoiding stairs
- Based on the time and day, find free parking around campus. Kind of like what Car2Go does with its parking spots.
- A Tinder-like app for student organizations. Swipe right or left for student org meetings, events, etc. Every student organization can have access to and post on it, and every student can swipe left or right to RSVP or show interest. Optional addition: mechanism for students to input why they're interested in the student org but cannot attend. This could help the student orgs gather data and gauge interest for the student organizations.
- Creating a map of the blue lights around campus that can track the student's location in relation to those blue lights

# Lyrical Keyboard

Android / iOS keyboard that analyzes current content on display and lists a relevant song lyrics from your favorite band. For example, if a friend texts you, "Will we finish our Hackathon project?", it pops up a keyboard with three buttons:

*[Never gonna give you up]*
*[Never gonna let you down]*
*[Never gonna run around and desert you]*

Scam Alert ⟶ *Arnab Nandi (arnab@arnab.org)*

Create a browser extension that detects if a webpage / email is part of a chain email, scam or hoax by querying Snopes.com for the key terms, and pop up a window, warning the user.

Instant Slideshow → *Arnab Nandi (arnab@arnab.org)*

1. Use Chrome's Speech Recognition API

[ https://www.google.com/intl/en/chrome/demos/speech.html ] to recognize words while people are speaking

2. Recognize important words using Open Calais

3. Pipe them to Flickr search and get nice images

4. Use html5 to create fancy, animated slides with nice images and important words + transitions

5. Demo a slideshow that you don't need to create: just start talking, and it creates a slideshow on the fly based on what you say.

Oulipo Writer → *Zoe Brigley Thompson* *( zoe.brigley@gmail.com)*

- The Oulipo Poets were a French group of writers seeking to explore the links between poetry and mathematics. An Oulipo App would allow you to feed a piece of text in, and for it to be transformed via Oulipo techniques such as...
- "N+7" in which the writer takes a poem already in existence and substitutes each of the poem's substantive nouns with the noun appearing seven nouns away in the dictionary.""
- Lipograms - leaving out one letter of the alphabet (http://en.wikipedia.org/wiki/Lipogram).
- The Prisoner's Constraint - a lipogram that omits ""letters with ""legs"" (b, d, f, g, h, j, k, l, p, q, t, and y)"".
- The Unredundancy Exercise - cutting lines to only 1,2, or 3 words. http://nestersteachingblog.com/2010/11/23/a-collection-of-oulipo-exercises/
- The Isomorphism Exercise - replacing each word with a rhyme http://nestersteachingblog.com/2010/11/23/a-collection-of-oulipo-exercises/

Events by Bluetooth → *Steve Fischer (fischer.141@osu.edu)*

A mobile application that uses beacons and low energy Bluetooth for event registration. There exists a database of events with date, time, and location. Event organizers place 1 or more beacons near the doorway of the event, e.g., a meeting room in the Ohio Union. If a user has installed this application and has allowed location services their app, if they are near the location of an event in the database, the app will ask them if they'd like to register. A simple confirmation by tapping "yes" or entering an email address would register them for the event by storing their info and joining it to the event info.

Behavior Logger → *Susan Gershman (gershman.6@osu.edu)*

I study behavior. When observing animals, I need to record multiple time-sensitive behaviors at the same time. Further, some of these behaviors are instantaneous, and some occur over a duration of time. There is an old shareware package (Etholog http://www.ip.usp.br/docentes/ebottoni/EthoLog/ethohome.html) that allows a computer keyboard to become an event recorder. Surprisingly, there is no equivalent app for a tablet that can do this! If an app-based Etholog were made, it would be very attractive to behavioral researchers! If this app were made for a tablet with an on-screen keyboard, the behaviors could be written on the keys, which would reduce error.

I-AM-NOT-SAFE → *Raghu Machiraju (raghu@cse.ohio-state.edu)*

In addition or in lieu of 911 calls, send out alerts to all social media networks, preferred kith-&-kin, and salient authority numbers -providing location, time, and other information. The App should work with minimal "overhead" and should be part of the device's dock; essentially, it should be a one-button-push app. The settings should be chosen by user.

Autocut App → *Roman Holowinsky (+Jim Fowler)* *(holowinsky.1@osu.edu)*

Incorporate something like Jim Fowler's

https://github.com/kisonecat/autocut

into a smart phone video recording app. Isolates audio between 100-400 Hz (average range for human voice). This will allow the casual smartphone video recorder to reduce background noise and eliminate the parts of the video where they (or the subject they are recording) are not talking.

It would be neat if video editors superimposed little spectrograms instead of time domain data on top of the video "film reel."

Let’s count all of Wikipedia → *Arnab Nandi (arnab@arnab.org)*

Wikipedia is BIG. Why don't we count all the words in it and make an evolving word cloud based on all edits to wikipedia over time? For examples, see http://blog.cloudera.com/blog/2009/07/tracking-trends-with-hadoop-and-hive-on-ec2/

You will probably need to learn / use Pig / Hive (see tutorials on Amazon EMR) Once you have a prototype, ask Arnab for Amazon EC2 credits so you can run your job at scale.

Transported Reality Bocce Ball → *Arnab Nandi (arnab@arnab.org)*

Use 2 spheros and 2 webcams + openCV to allow people on different sides of the planet to play Bocce Ball [ http://en.wikipedia.org/wiki/Bocce ]. Each time one player its their ball, you simulate the other ball's movement in the same way and use the camera to ensure position. To borrow a Sphero, ask the help desk.

## SQL Database Manager / Data Explorer for iPads, Kinects, and Leap Motion devices → *Arnab Nandi (arnab@arnab.org)*

a. What if we took away keyboards from computers? What happens to data interfaces? What if we could build data-rich interfaces like Iron Man or Minority Report [ http://bit.ly/18yT04B ] using a Kinect, an iPad or a Leap Motion device [ http://bit.ly/18SFkiO ]?

b. Current "SQL Explorer" apps on iOS App Store / Android Market are really hard to use. Can you make something better?

c. A basic version of this app exists at http://interact.osu.edu/gesturedb -- check out the video on that page, and the documents that describe the gestural . Another video: data exhibit at the Thompson Library: http://bit.ly/YUskqR

Concierge as a Service → *Arnab Nandi (arnab@arnab.org)*

Use Twilio's API to create a phone interface that calls you every day to say "Good Morning" and reminds you about your friends birthdays, etc. If your calendar lists phone numbers, it should automatically dial it / create a phone conference and connect you. If a meeting is running over, it should call you at the end, so that you can politely leave the meeting by saying "I'm sorry I have a phone call coming in...."

Portable curator → *Raghu Machiraju (raghu@cse.ohio-state.edu)*

Use the light on your device, pan/zoom, take a picture and do a quick analysis somewhere (on or outside device), annotate and curate it. This can be useful if you are wild life scientist, or a geologist, or a coin collector or someone who just loves to record.

WhatPillIsThis → *Raghu Machiraju (raghu@cse.ohio-state.edu)*

Seniors often have difficulty in identifying pills. So if an app can take a "good picture" and post it on a social media site, health care workers can help. It will be even better to use a panaroma so that the full pill is characterized if possible.

# Asset Inventory App → *Sandra Y Howe-Forney (howe-forney.1@osu.edu)*

A system that will allow Administration to know what items we have in each library (separate from books and materials that can be checked out.) It should allow for input of – Site, Location(room#), Photo, Description(desk, chair etc), Quantity, Manufacturer, Condition (I.e.  a range of 1 to 5), Serial number (being able to input a unique barcode for items would be awesome-this may be able to be built in later)  and purchase price/or costs.

Information can then be uploaded into a report that will administration to query each field. If we need to know how many desks supplied by ABC Co. and allow us to sort by condition and so on. We would want to generate a product date-sheet with each individual item along with a photo and selected field.  The Product data sheet can be something we send to vendors for replacement, repair warranty Etc. or to show what an item looks like that we may use in another location.

To make it simple, it's a photo database of Inventory/Assets that can be input on an Android, iPad or even by computer (pictures to be added later.)

# Wi-fi Drone Disabler → *Chandara Ngoc (ngoc.1s@osu.edu)*

Level beginner: if first hackathon this is a great step by step, to get them warmed up and perhaps inspired for other projects.

http://makezine.com/projects/build-wi-fi-drone-disabler-with-raspberry-pi/

# Find People App Push → Danny Dotson dotson.77

Imagine if you will someone is looking at someone at Find People on the OSU site.

Where there is a print logo to print the info, there could be an icon to push the contact info to email or as a text.

I could see reference using this, but could see people in many cases wanting to push that info to email or text.

# Nursing Mothers' Helper - *Dr. Alia Dietsch.29*

I'd suggest building an app for new mothers who need spaces where they can express breastmilk (i.e., use a breast pump) in a safe and clean environment on OSU's campus. The university has a list of lacatation spaces around campus, but I'd like to engage app developers to make this list 'living', meaning it could be updated with real-time reservations using the same system (maybe like car2go where the spaces were available/not available based on users, perhaps linked to the CABS bus system, and maybe even allow users to rate the rooms on certain features (e.g., noise, comfort, cleanliness), perhaps even connect with one another to share their stories or preferences, who knows. Then users could also input their location through GPS to find the closest room that is available (aka, not reserved by another user) all within the same interface rather than having to go through individual departments that may have separate reservation systems or a first-come first-serve policy. In the long-run, the app might even be used by the university to determine the need for a mobile space based on general demand that can shift locations based on the # of new mothers and where they are on campus across years. Anyway, I'd be happy to share more about the idea, if needed.

My thoughts originated from a friend of mine at another university who was telling me about some of the challenges she faced finding a space when she was facilitating a workshop at their Union-equivalent. The discussion helped me realize that new mothers not only face their own challenges of transitioning into this new life stage, but that supervisors may not always be as forgiving of a woman who is sporadically late, disappears for a long period of time, etc., and that these mothers who are already pressed for time and energy don't have to be, at least not on this issue. Cutting down on that 'lost' time and frantic feelings should improve the likelihood that the woman can stay in classes and in career. So, I expect OSU would be thrilled to be part of developing and implementing some sort of app-based system like this that helped women, families, and ultimately our community. Also, I can imagine it'd be easy to get advertisers to support this app, if needed, and other universities as well, so they could implement it on their campuses.