Purdue Chapter
Association for Computing Machinery

President: Nikolas Ogg

What is ACM?

A collection of groups focused on fields in computing
•Game Development
•Artificial Intelligence
•Robotics
•Etc...

Host Special Events
•Company Tech Talks
•Help Sessions
•Student led Talks
•Programming Competitions
•Hackathons

Ask an Intern

Google

How can I get an interview with Big Name Company?
Should I try out a startup?
How do technical interviews work?
What do I do once I have an offer?

facebook

Microsoft

How to: Install Linux

Why should I
use Linux?

What is EXT4?
What is SWAP?

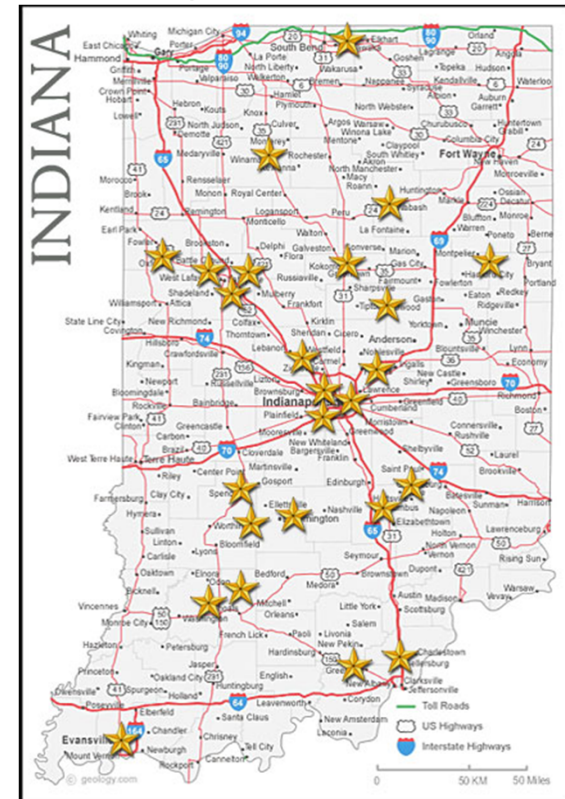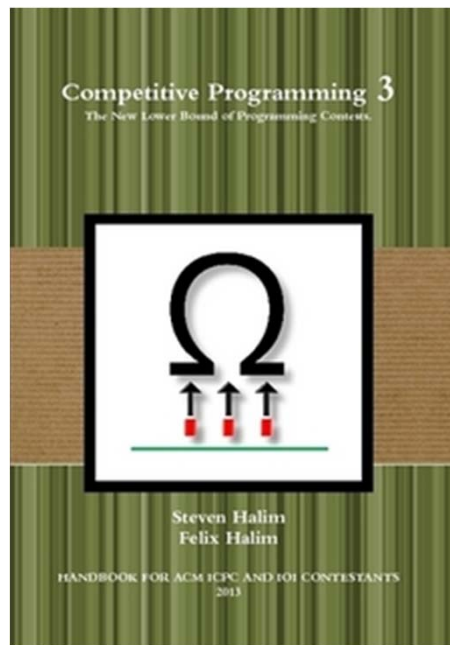Should I install
Arch Linux?
(Lol, probably not)

High School Coding Competition

Simple coding questions (think FizzBuzz)
Talk to students about CS and Purdue
Learn about competitive programming

SIGAI

Artificial Intelligence
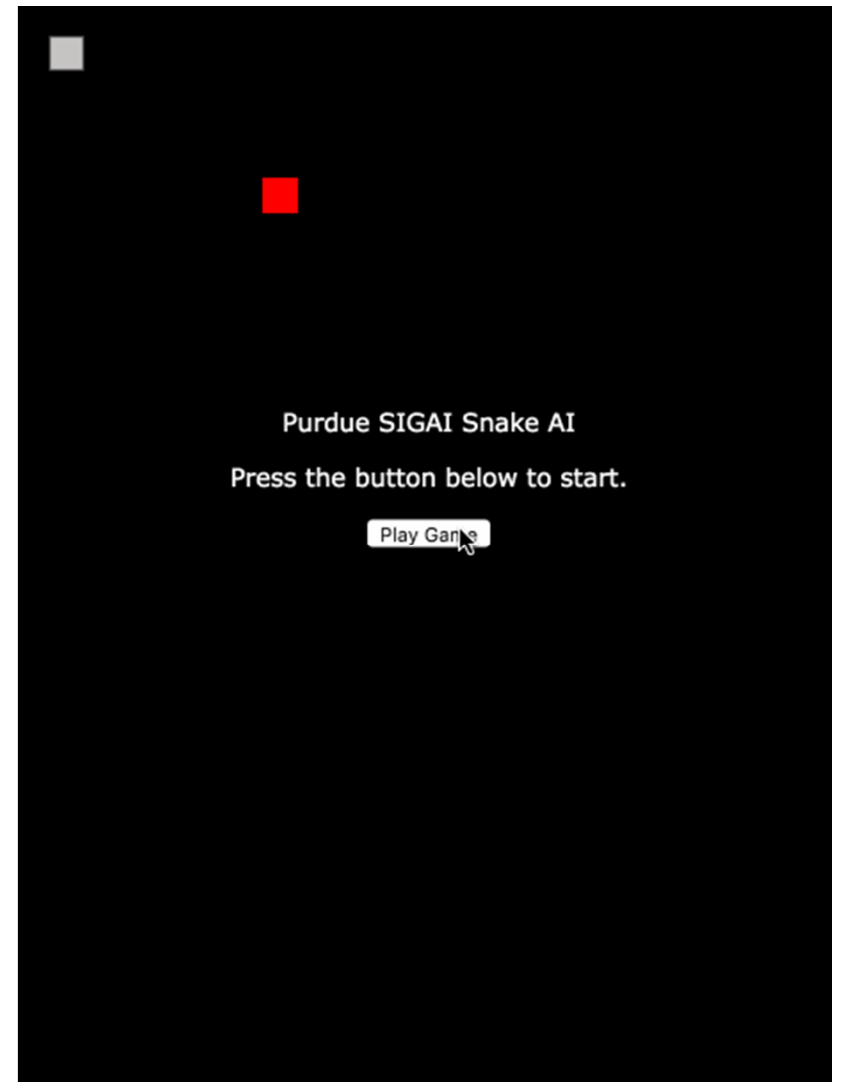
Last Year (Fall): Snake A.I.

Heuristic graph searching

Grid Clutter

    L-shape vs direct path

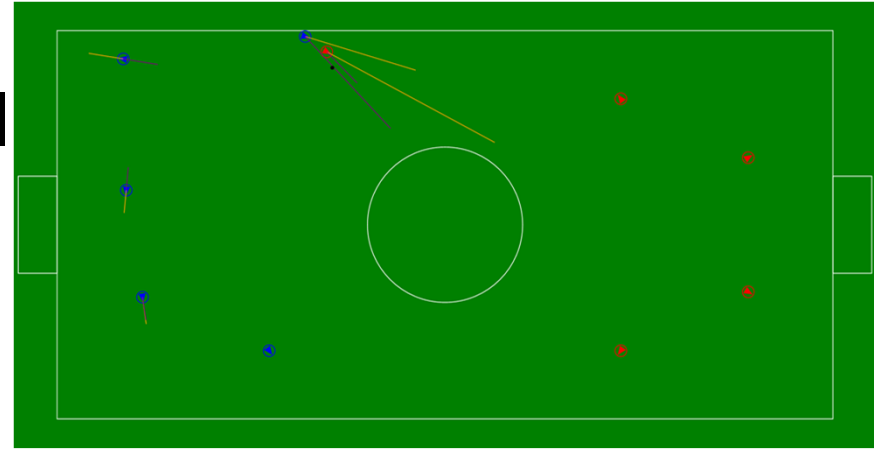   Head → Tail vs Head → Food

Prioritize living

Last Year (Spring): Soccer AI

We have been be using C# to write a basic Soccer Engine.

Implemented basic player strategies:
stay still, seek, pursue.

Using these player strategies to implement team strategies:
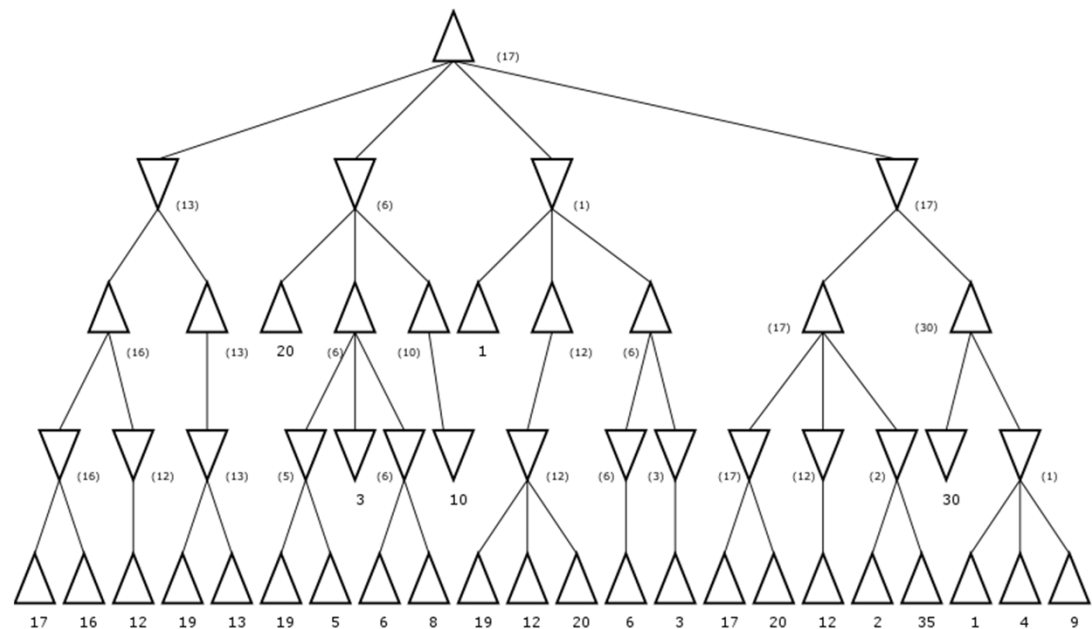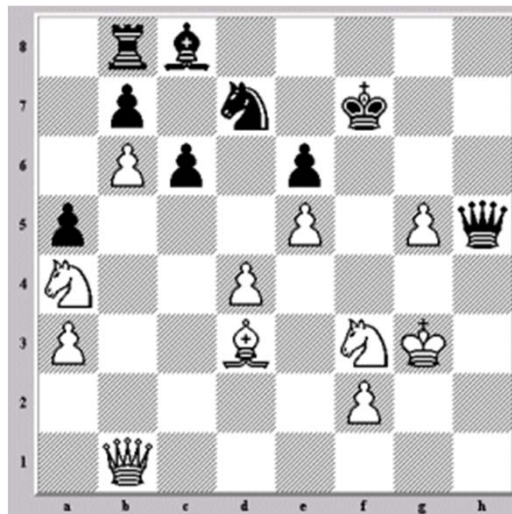passing, spreading out, marking players, and ultimately scoring a goal.

This Year: Chess A.I.
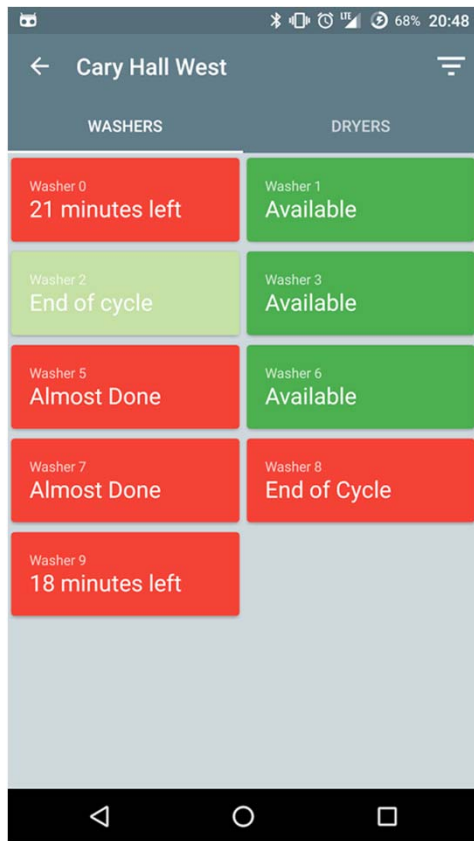
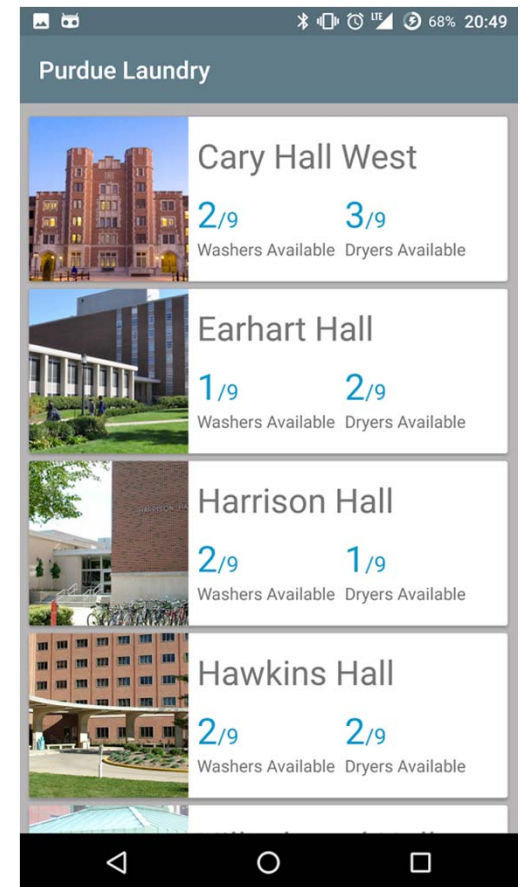**Starting Point:**

MiniMax
Alpha Beta Pruning
Evaluation

SIGAPP

Applied Computing

Michael Vieck
SIGAPP Senior Member

Last Year (Fall)

Purdue Laundry
Android App

Cary Hall West

WASHERS	DRYERS
Washer 0 — 21 minutes left	Washer 1 — Available
Washer 2 — End of cycle	Washer 3 — Available
Washer 5 — Almost Done	Washer 6 — Available
Washer 7 — Almost Done	Washer 8 — End of Cycle
Washer 9 — 18 minutes left	

Purdue Laundry

Cary Hall West
2/9 Washers Available   3/9 Dryers Available

Earhart Hall
1/9 Washers Available   2/9 Dryers Available

Harrison Hall
2/9 Washers Available   1/9 Dryers Available

Hawkins Hall
2/9 Washers Available   2/9 Dryers Available

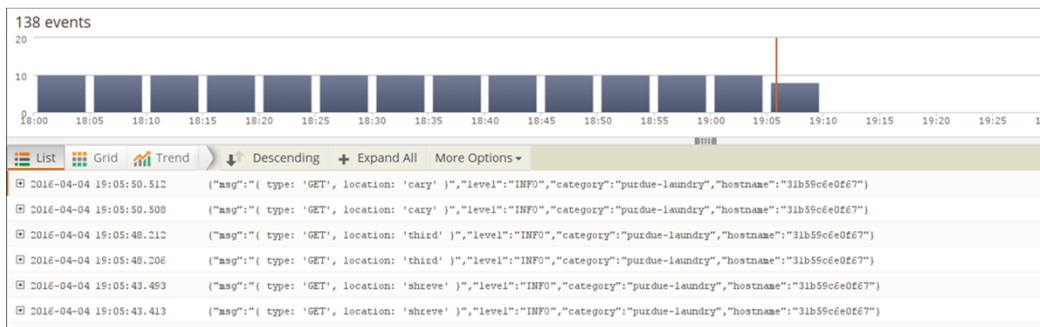GET IT ON
Google Play

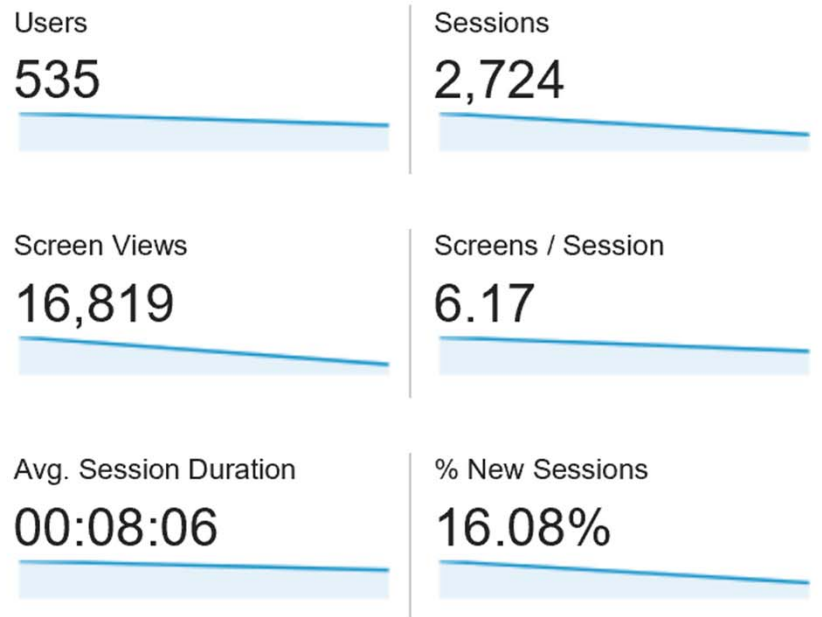# Breaking in to new technologies

- Moved Purdue Laundry server to AWS adding both Redis and Docker

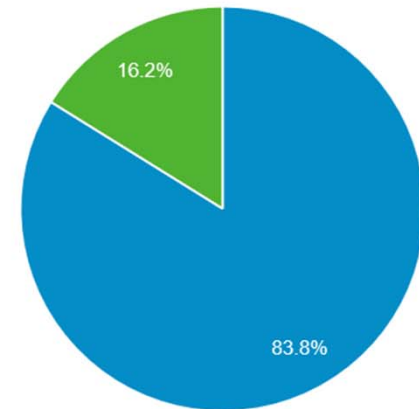# Every Production app needs monitoring

- First full scale release of an application meant needing to know when it goes down
  - We used Loggly and DataDog to monitor our server to be alerted immediately when the service went down.
  - Allows us to monitor Redis usage, RAM usage, CPU spikes, and anything else we may need.
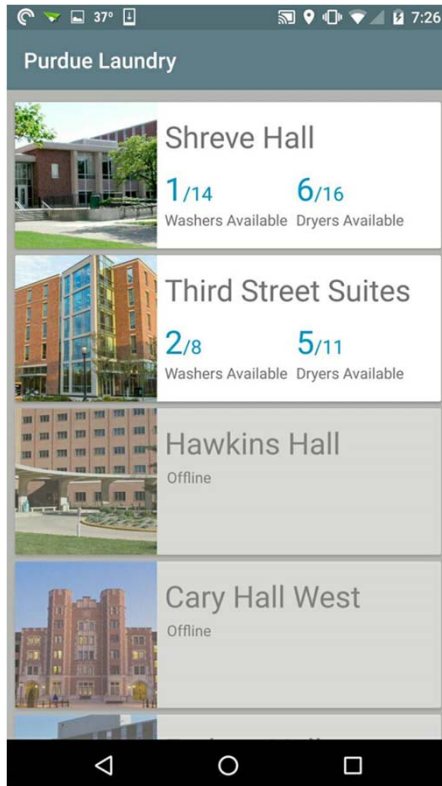
Tracking Analytics

Users	Sessions
535	2,724

Screen Views	Screens / Session
16,819	6.17

Avg. Session Duration	% New Sessions
00:08:06	16.08%

■ Returning Users ■ New Users

16.2%

83.8%

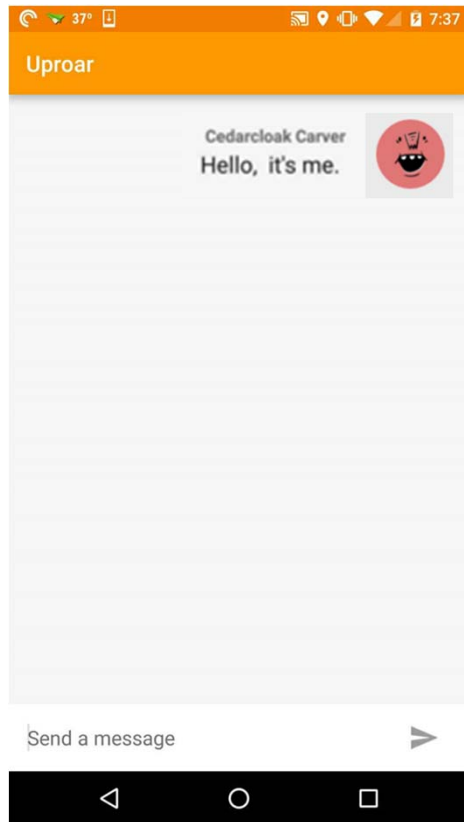Stats for the last 30 days

Future plans

- **Adding an iOS app**
- Analyzing machine usage to suggest times to do laundry
- Responding to user feedback
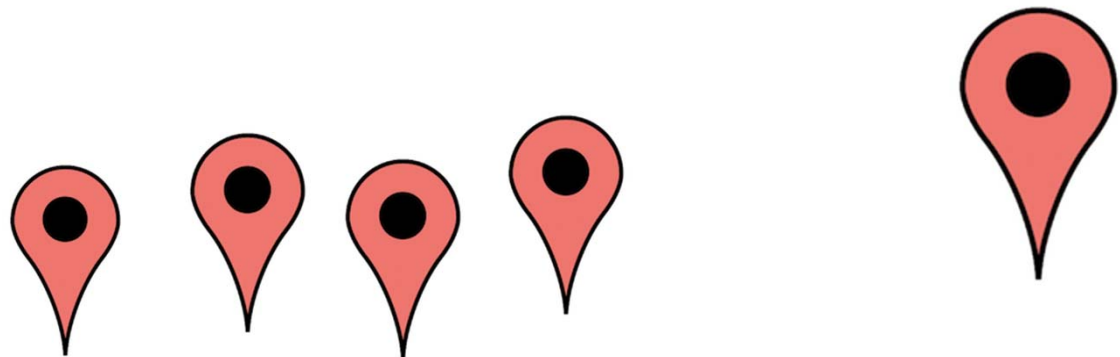- Continuous performance increases and server updates.

Spring 2016
Uproar: Explore your community

- A location based chat app similar to YikYak.
- Users can see clusters of messages on a map and topics being discussed in those clusters
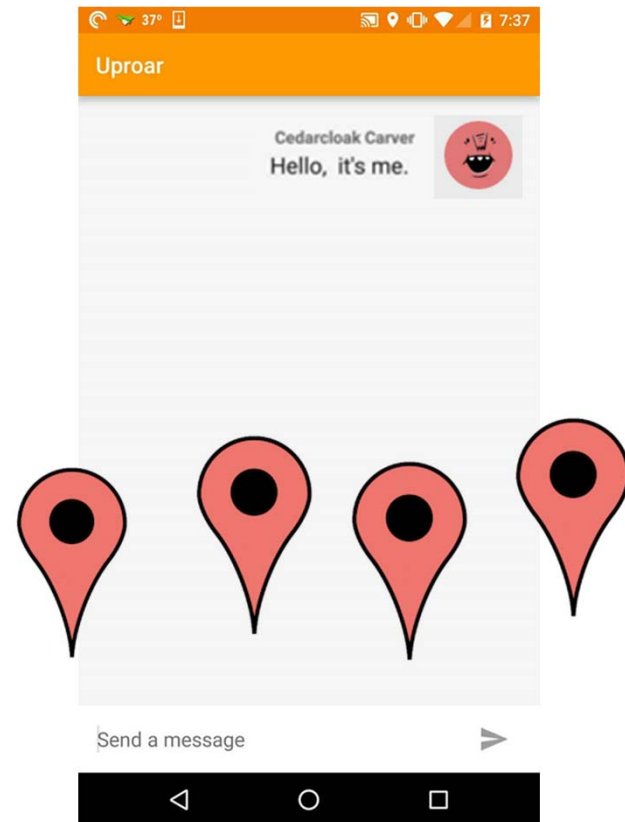- Encourages people to explore

The Uproar Backend

- We wanted to teach members the **power of backends**
    - Trained members to create a server for a real time application.
- Used services such as PubNub for message pushing and RethinkDB for location queries
- Experimented with NLP using MonkeyLearn and Kafka.
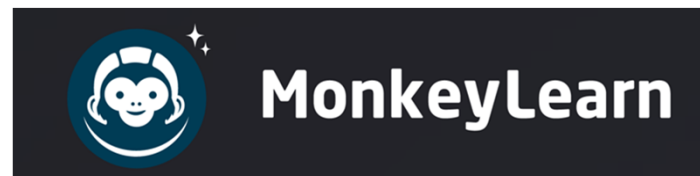
Two of our favorite projects

Our goals

We give students experience with real world systems by creating real world applications using powerful technologies.

We want to show members what it is like to build a full stack application and experience maintaining one.
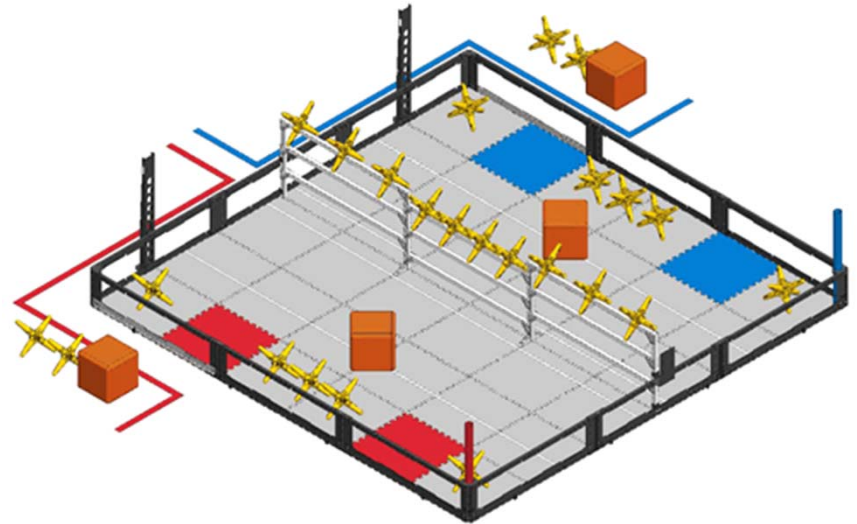
SIGBOTS

Special Interest Group for Robotics

This Year's Game: VEX Starstruck

Expansion is allowed

45 second autonomous period, 75 second driver control

Overwhelm the opponent by sending more stars and cubes to their side of the fence than they throw back

Initial Design Ideas
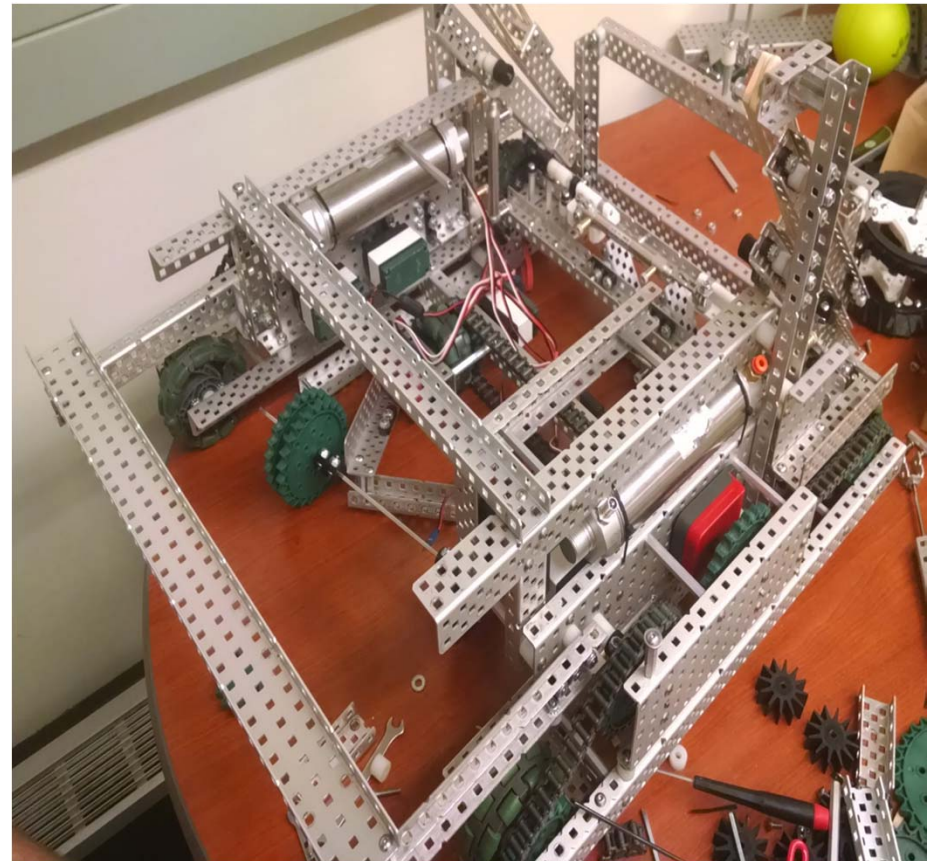
Launchers

Catapults

Slingshot

Drivetrain

Revise last year's H-Drive

X Holonomic drive

Software

Image Processing with PIXY CMUCam5

Accurate position tracking

New Tools - Phabricator

Industry project management tool

Issue tracking, code reviews, ticketing system

New Tools - Overleaf

Online hosting and sharing of LaTeX documentation

Allows for multiple editors and live pdf output display

Cross-referenced documentation for building
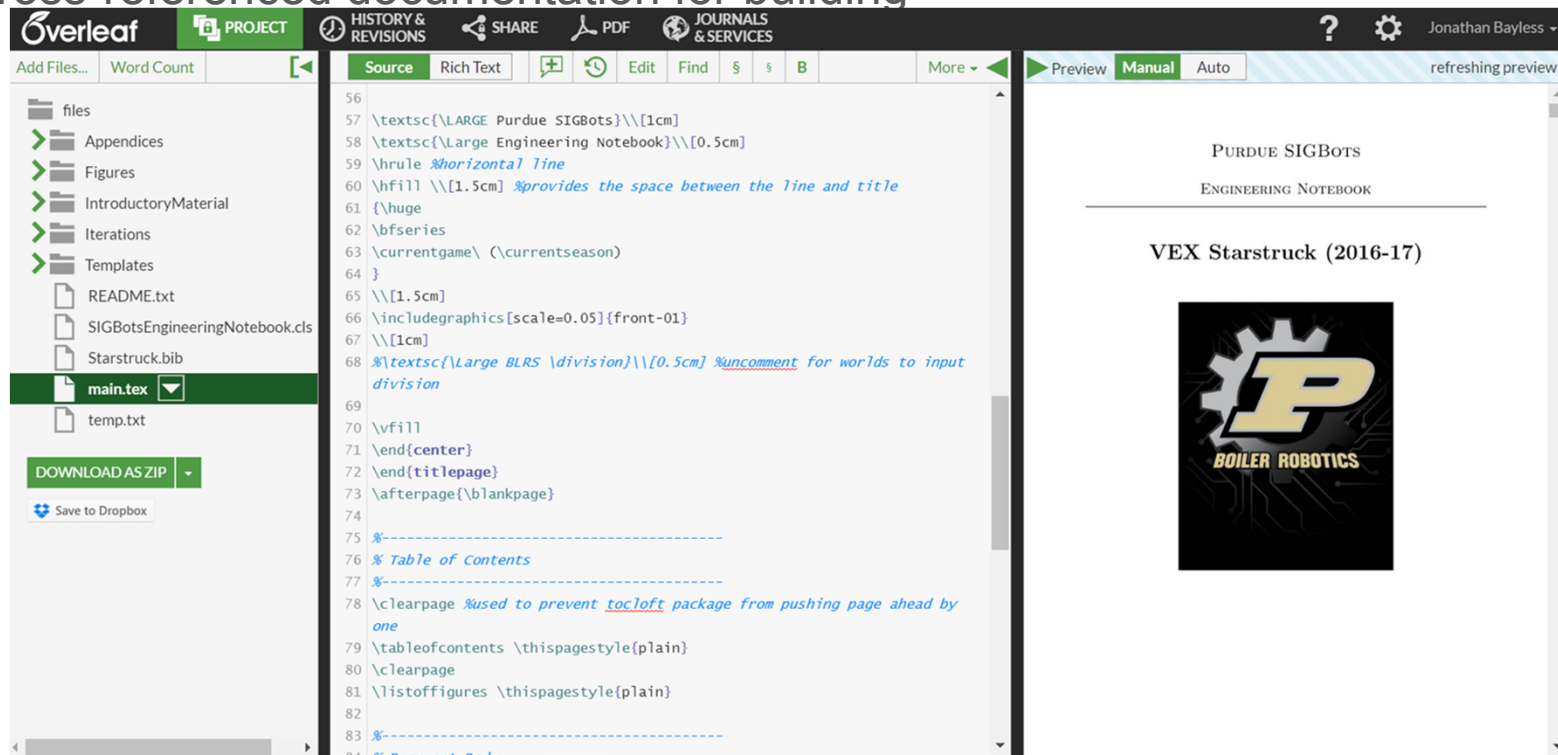
Hosting Competitions

3 events - Fall scrimmage, Winter qualifier,
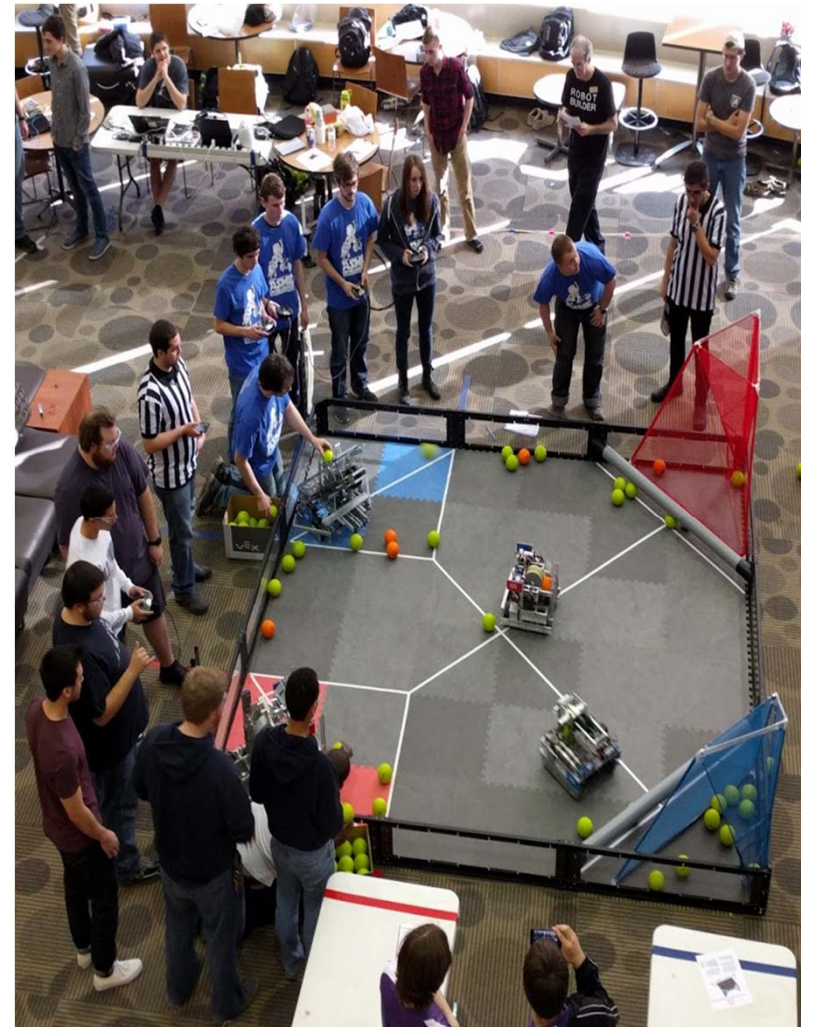and Spring skills

Last year had largest competition yet with 10
teams, hope to increase that number this year

SIGCHI

Computer Human Interaction

What is Human-Computer Interaction?

- UX Design
- UI Modeling/Design
- User Flow

All-in-all the customer experience

SIGCHI's Future at Purdue

- Learning from grad students/professors
- Student Design/Student Research Competitions
- User trials
- Future goal, "Hackathon"

2016 #chi4good

Lee Anne Opfer, President

Who We Are

Past Projects
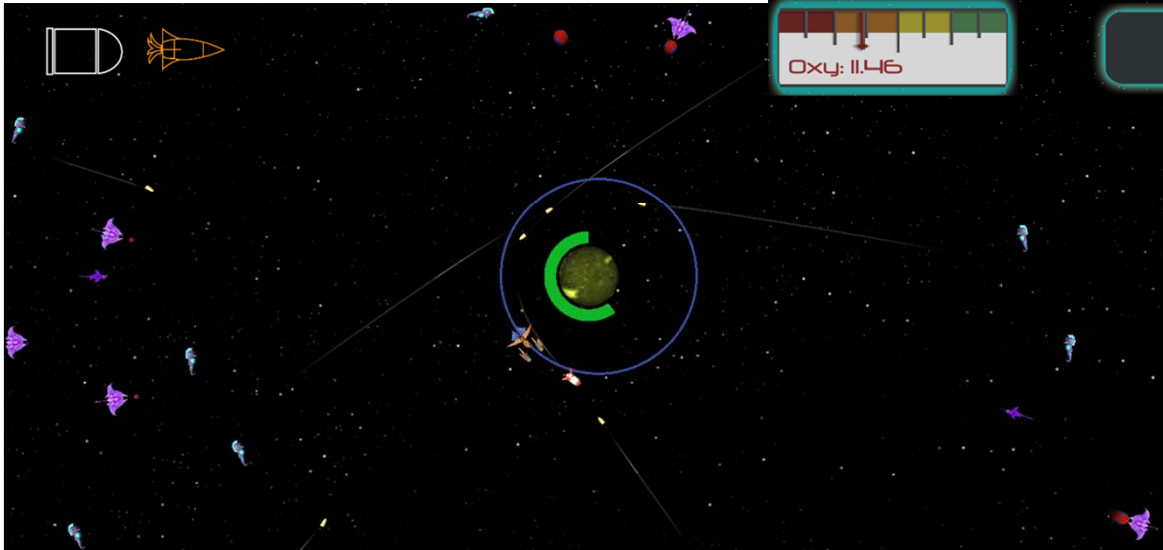
Space Salvage

20,000 Leagues Over the Sea

Past Events

SIGGD Game Jam - Fall 2015

    48 hour hackathon

    16 participants

Global Game Jam - Spring 2016

    48 hour hackathon

    50 registered participants

http://globalgamejam.org/2016/jam-sites

Current Project

Grappling Hook Fighters (for lack of a better name)

   Fast-paced platformer shooter

   Gameplay influences from Super Smash Bros, Duck Game, and a mixture of other indie games

   Art influences from DnD/Fantasy themes

Beta mode: Feature complete, rigorous bug testing

For the Future

Fall Game Jam - October 21-24

Enter Grappling Hook Fighters into the 2017 Independent Games Festival

Global Game Jam - Jan. 20th - 22nd

SIGSAC

How stuff breaks

What is SIGSAC?

A group of people, who:

    a) Are interested in cyber security

    b) Like to break things apart and see what falls in our laps

    c) Do the above for strictly educational purposes (under the SIG)

Agenda for this semester

Setting up a cyber security analysis environment

Experiencing Tor

Fun with Wireless Routers

Discussing about attacks and scenarios like MITM and viruses like Stuxnet

Tentative:

Cyber Capture the Flag (Security Flavor)

Contact Info

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