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

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?
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 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

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

Stats for the last 30 days

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Users</td>
<td>535</td>
</tr>
<tr>
<td>Sessions</td>
<td>2,724</td>
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<tr>
<td>Screen Views</td>
<td>16,819</td>
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<tr>
<td>Screens / Session</td>
<td>6.17</td>
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<tr>
<td>Avg. Session Duration</td>
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<tr>
<td>% New Sessions</td>
<td>16.08%</td>
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</tbody>
</table>

## Returning vs New Users

- Returning Users: 83.8%
- New Users: 16.2%
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”
Lee Anne Opfer, President
Who We Are
Past Projects

20,000 Leagues Over the Sea

Space Salvage
Past Events

SIGGD Game Jam - Fall 2015
48 hour hackathon
16 participants

Global Game Jam - Spring 2016
48 hour hackathon
50 registered participants

Check out the games at http://globalgamejam.org/2016/jam-sites/purdue-university/games
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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