Purdue Chapter
Association for Computing Machinery

Jordan Field
President
What is ACM?

- A collection of groups focused on fields in computing
  - Game Development
  - Artificial Intelligence
  - Robotics
  - Applications Development
- Host Special Events
  - Company Tech Talks
  - Help Sessions
  - Programming Competitions
  - Hackathons
High School Coding Competition

- Simple coding questions (think FizzBuzz)
- Talk to students about CS and Purdue
- Learn about competitive programming
- 100% of students who signed up came!
Looking Forward

• Student Led Tech Talks
• Collaboration with other CS Organizations
• College-level competitions
• High School Coding Competition
Special Interest Group for Robotics
Success Last Year

• Both Purdue teams in finals of Qualifier event
• World Championship appearance
• 2 Tournament Champion Awards, 2 Design Awards, and 2 Robot Skills Award at Qualifiers
• Largest Qualifier event yet with 11 teams
PROS: only student developed OS in VEX

- Open source RTOS for VEX Cortex Microcontroller
- Offers C and C++ development through PROS CLI and Atom IDE plugin
- 800 users since introduction of tracking through Atom
- Partnering with VEX for development of upcoming V5 microcontroller
This Year’s Game

- Stacking cones on mobile and stationary goals
- Moving mobile goals into zones
- Bonuses for highest stacks
Projects for the Upcoming Season

- Continuous Variable Transmission (left)
- Further development of magnetic current detection sensor
- Image processing with PIXY CMUcam
- Two robots for two teams in VEX competition
- Revamp of JINX, a graphical debugging tool for PROS
“How can I help out?”

Love to champion sponsors on our robots, t-shirts, and at competitions

Resources used for:

- VEX parts
- Competition Registration Fees
- Field equipment
- Advanced lab equipment
  - Oscilloscope/Logic Analyzer
  - 3D printer

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ACM Special Interest Group on Game Development
Who are we?

- Developers
- Artists
- Designers
What do we do?

- Semester-long project
- Hosted events and opportunities
  - SIGGD Game Jam (Hackathon)
  - Global Game Jam
- Workshops and training
What do we teach?

- Coding standards
- Familiarity with Git, Github
- Teams and tasks for each individual (Trello)
- Introduction and setting expectations about the Game Development industry

```csharp
public class ExampleClass : IExampleInterface {
    public const int EXAMPLE_INTEGER = 1;
    private String exampleString;
    public void Start() {
        this.GetComponent<ExampleComponent>().doThings();
    }
}
```
What’s next?

- VR Applications
- Mobile app development
- Split teams, with different skill levels
- Involving Game Development groups across campus
Last Year (Fall & Spring): Chess A.I.

- MiniMax
- Alpha Beta Pruning
- Transposition Tables
- Evaluation Improvements
- Genetic Algorithm
This Year (Fall): Project TBA

• No set in stone project - club will decide
• Many ideas to consider:
  – Theaigames.com - site for competition against other bots
  – Handwriting simulation
  – Machine learning
    • facial recognition
    • object understanding
New Things We are Thinking About

- Informational sessions
- A.I. bot competitions
- Discuss cutting edge research in the artificial intelligence field
Purdue Laundry

- Launched to the Play Store
- Has almost a thousand users
- Has a server and Android component

[Link to Purdue Laundry App](tinyurl.com/PurdueLaundryApp)
Monitoring and Analytics

- Loggy
- DataDog
- Google Analytics
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
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.
This year, we plan to follow an actual college-like course for our Android tutorials.
We are also planning to start a brand new project this semester.