ACM @ Purdue

President: Logan Gore

Purdue Chapter
Association for Computing Machinery

Who we are

Learning with large projects

Community Service Award

National ACM Award

Work with official Purdue app

PROS: used by over 2000 teams worldwide

High School Coding Competition

Probably our most exciting event of the year

29 teams competed at Purdue

Similar to official ACM-ICPC format

Students had a blast

ExactTarget 24 Hour Hackathon

Smaller hackathon for Purdue students only

About 10 teams competed

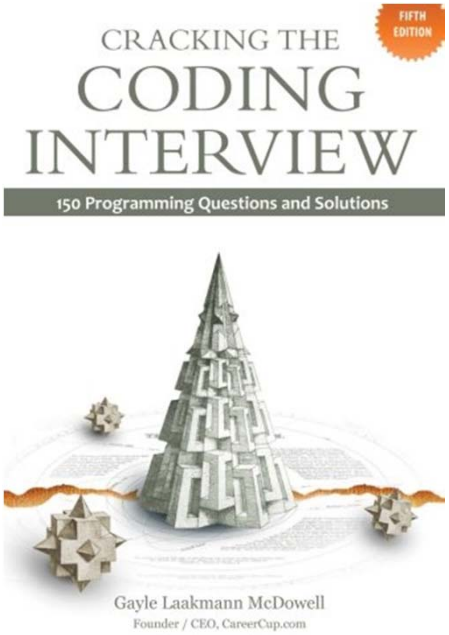
Fun event in the “Hackathon off-season”

Interview Night with USB

Roughly 30 students

Mostly freshmen and sophomores

Focus on technical side of interviews



QUALCOMM®

Isilon Student Appreciation

End-of-semester party in the Fall
Cookie party for CS252 class after first exam

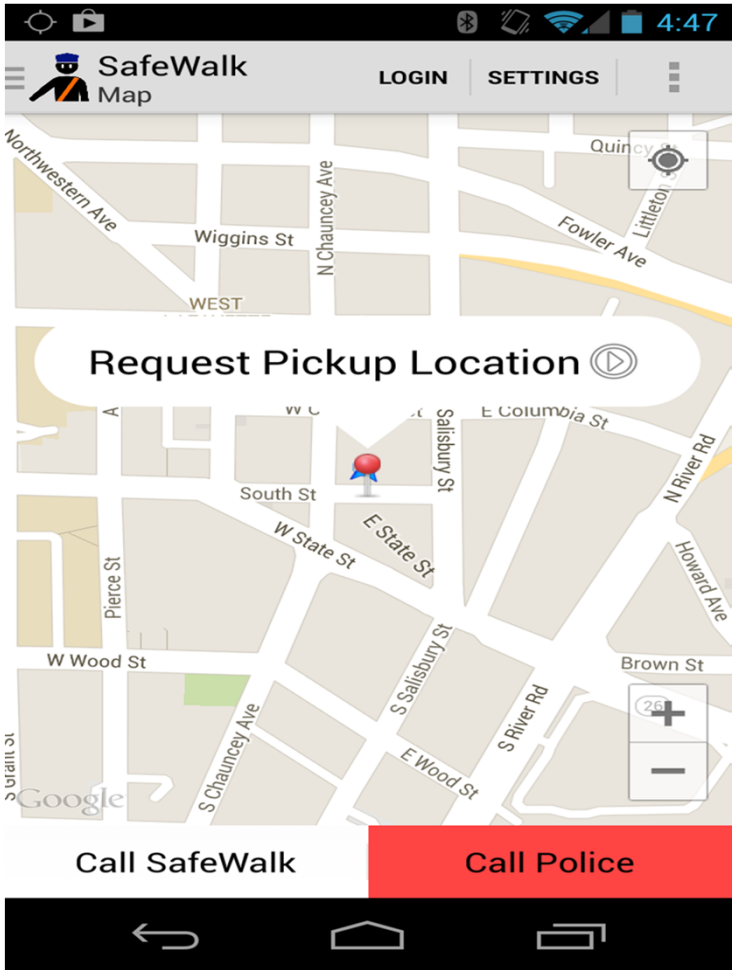
What's next?

500 Miles Tech Talk
SMU Guildhall Tech Talk
More interview prep
Some more focus on hackathons

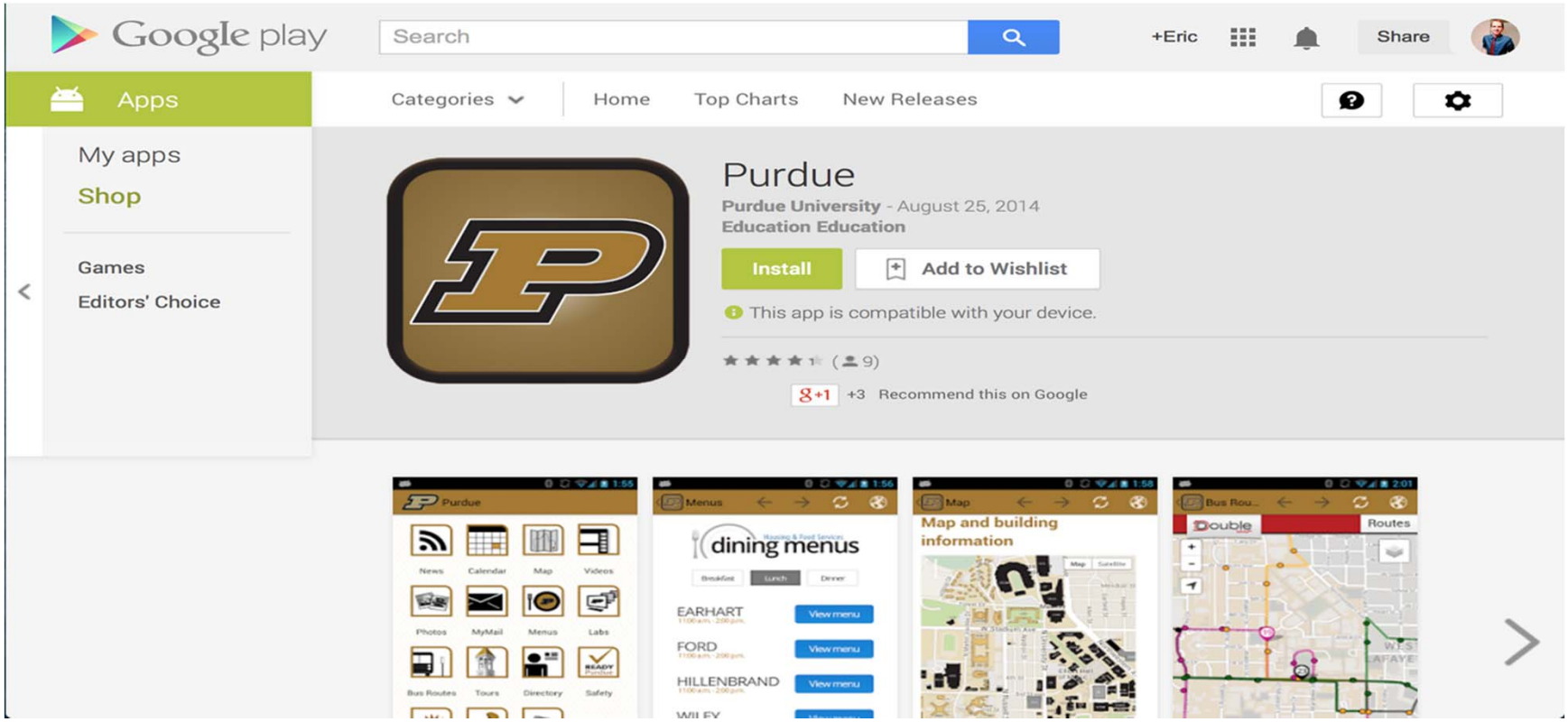
Applied Computer Science

Eric Templin
David Tschida
Michael Hockerman

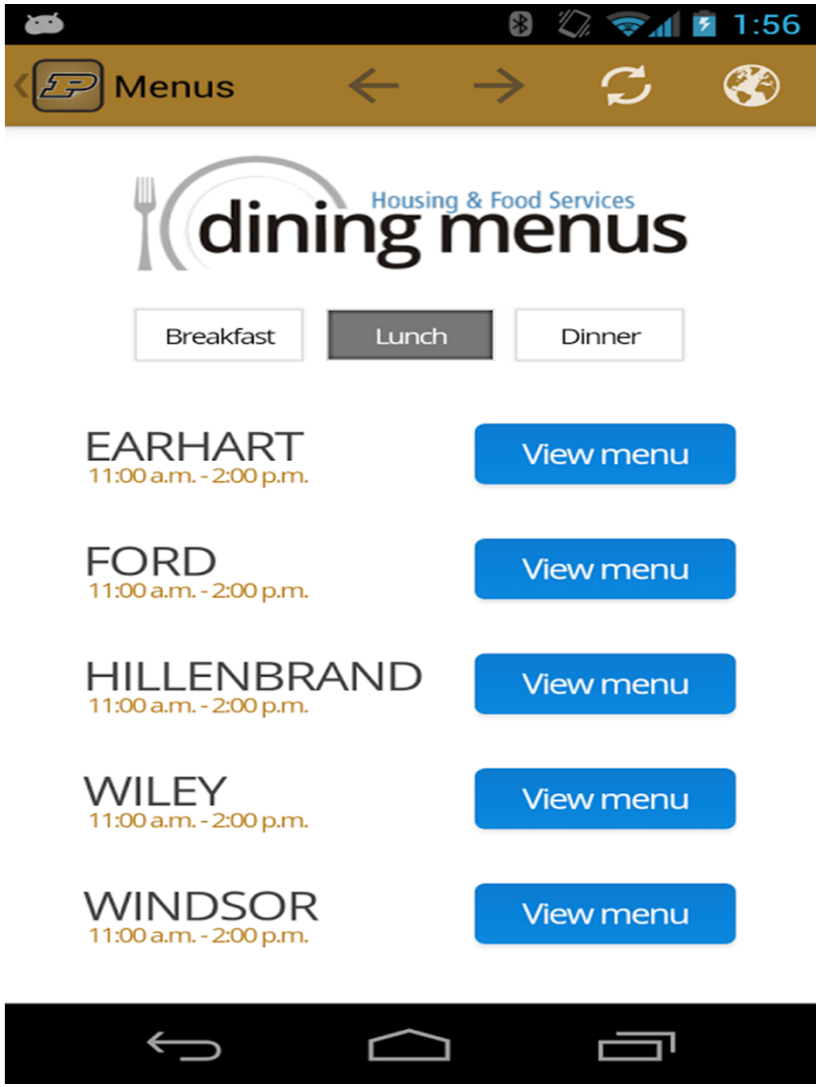
SafeWalk


4:47
SafeWalk
Map
LOGIN
SETTINGS
Northwestern Ave
Wiggins St
N Chauncey Ave
Fowler Ave
Littleton
WEST
Request Pickup Location
E Columbia St
Salisbury St
N River Rd
South St
W State St
E State St
Pierce St
Howard Ave
W Wood St
Brown St
S Salisbury St
S River Rd
S Chauncey Ave
E Wood St
Google
Call SafeWalk
Call Police

Purdue App


Google play
Search
+Eric
Share
Apps
Categories
Home
Top Charts
New Releases
My apps
Shop
Games
Editors' Choice
Purdue
Purdue University - August 25, 2014
Education Education
Install
Add to Wishlist
This app is compatible with your device.
(9)
+1 +3 Recommend this on Google
dining menus
EARHART
FORD
HILLENBRAND
Map and building information
Routes


1:55
Purdue
News
Calendar
Map
Videos
Photos
MyMail
Menus
Labs
Bus Routes
Tours
Directory
READY
Purdue
Safety
Weather
PurdueBoa...
Store


1:56
Menus
Housing & Food Services
dining menus
Breakfast
Lunch
Dinner
EARHART
11:00 a.m. - 2:00 p.m.
View menu
FORD
11:00 a.m. - 2:00 p.m.
View menu
HILLENBRAND
11:00 a.m. - 2:00 p.m.
View menu
WILEY
11:00 a.m. - 2:00 p.m.
View menu
WINDSOR
11:00 a.m. - 2:00 p.m.
View menu

This year

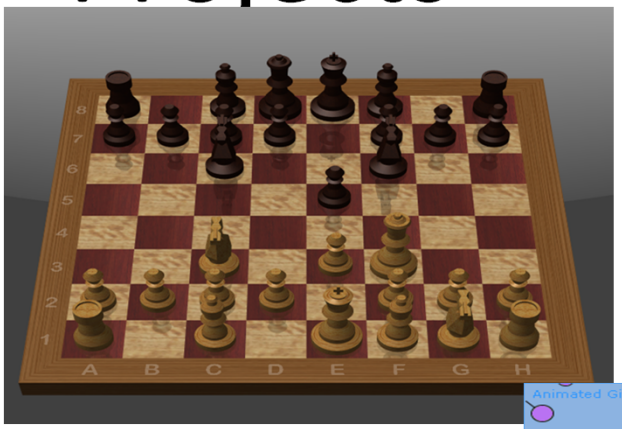
- Tutorials
  Android, iOS, Web Service Development, GoLang, NodeJS, and more
- Made Purdue app fully native
- Redesiged backend components of Safewalk

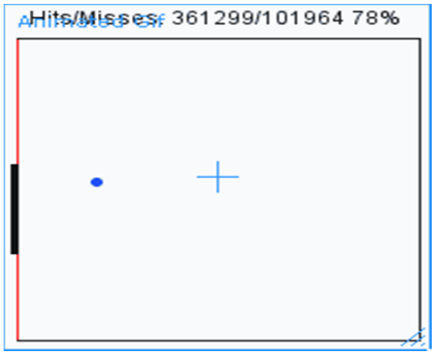
SIGART

Artificial Intelligence

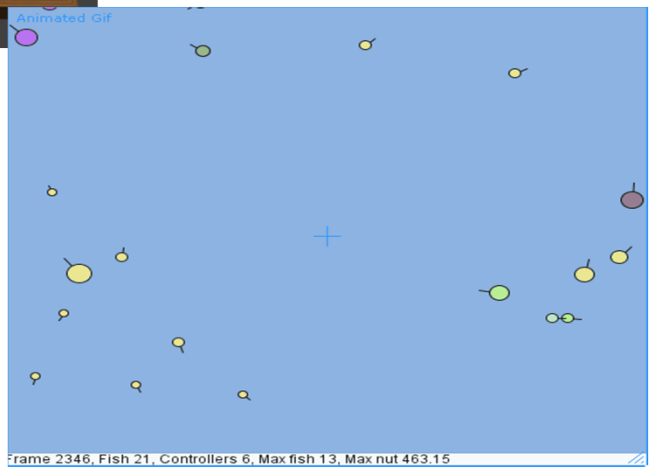
Special Interest Group for Artificial Intelligence

Projects




Hits/Misses: 361299/101964 78%


I have n
I've just found
10,000 ways that
won't work.
- Thomas Edison


Animated Gif
Frame 2346, Fish 21, Controllers 6, Max fish 13, Max nut 463.15

This semester

- Chess AI competition sponsored by Interactive
- Teams competing against each other

Lee Anne Opfer, President

Game Developer's Conference

First time in SIGGD's history
Great experience to see unique ideas
Hoping to send more members next year

Game Jam

36 hour hackathon
Teams of 3
Used Unreal Engine 4
to quickly prototype games

UNREAL
ENGINE

SIG SAC

Matthew Gotteiner, President

SIGSAC

Reverse engineering binaries in Linux

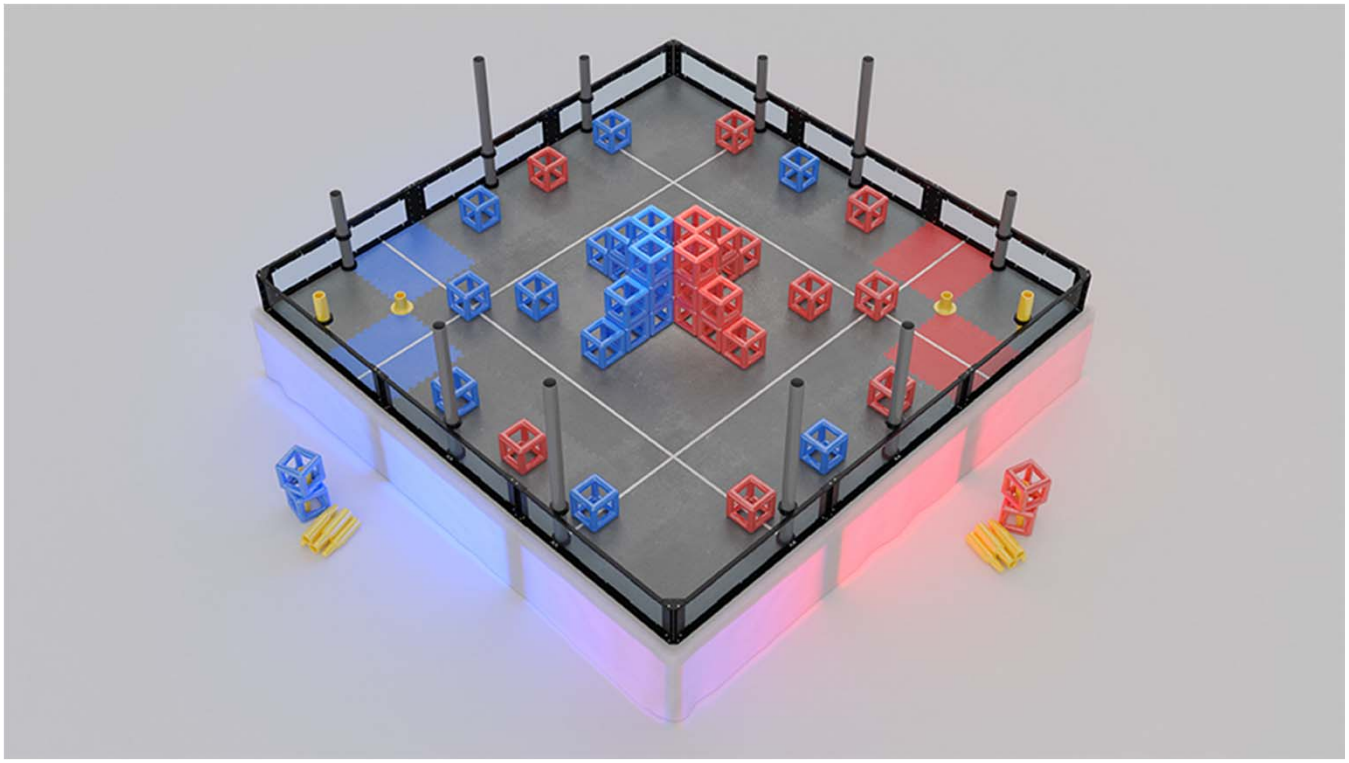
Capture the Flag

Cryptocurrency seminars

Network security

SIGBOTS

VEX Skyrise



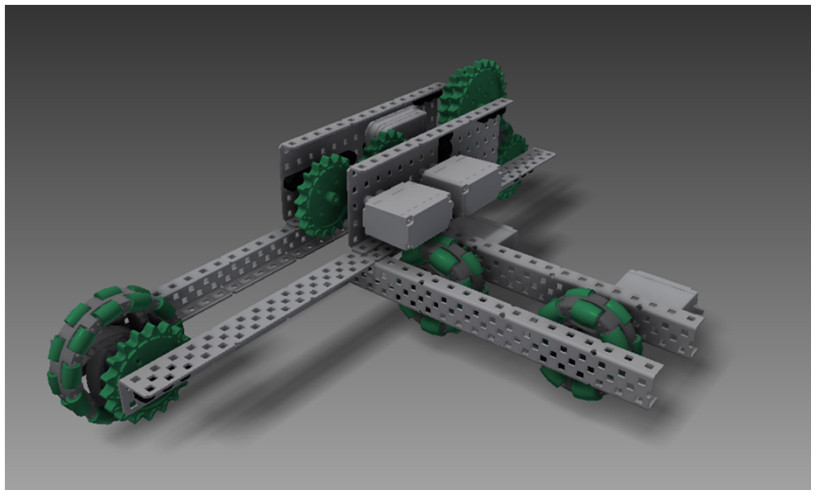
Major Goals

- Create mechanical reusability
- Increase reliability through controls
- Fine tune software with rapid prototyping
- Develop inter-robot communications

Mechanical Reusability

Configurable Drivetrain

- Optimal gear ratio achieved through swapping sprockets
- Scalable to large and small robots



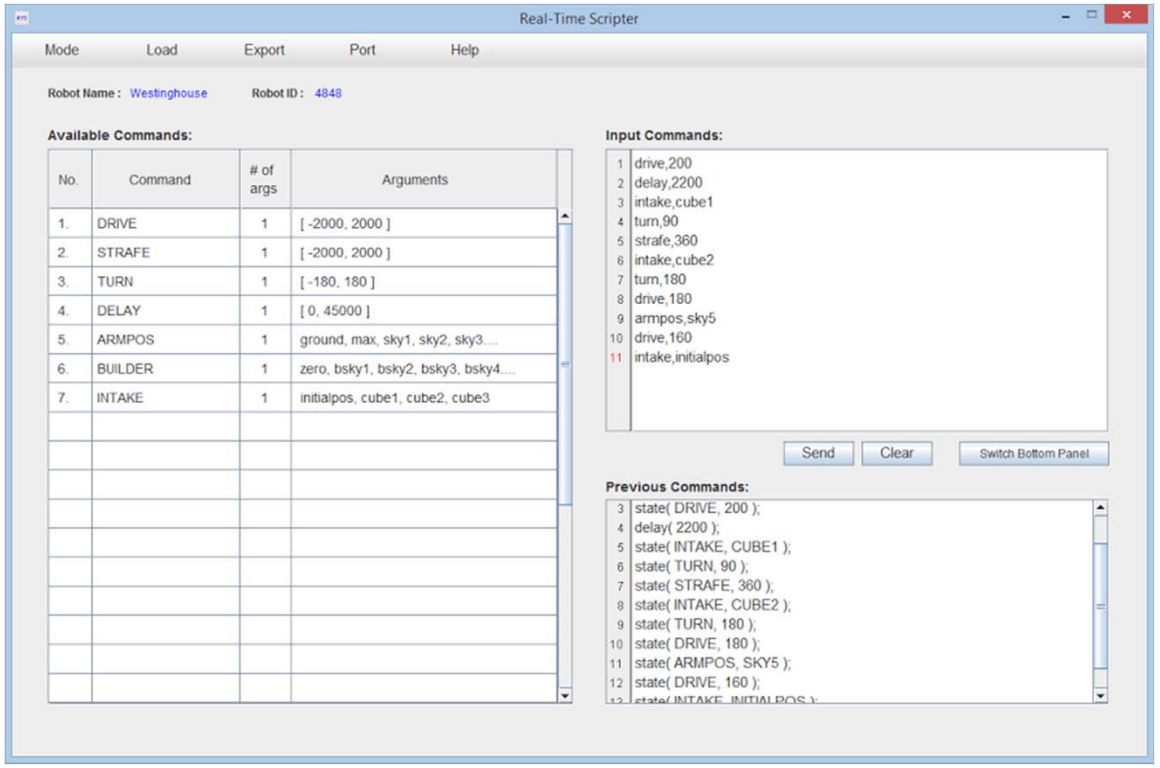
Controls

Liberal Use of PID Controls

- Lift
  - P control to set height
  - PD control to sync left and right sides
- Drive
  - PI control for driving straight
  - PD control for rotation
- PD control on Skyrise builder arm

Rapid Prototyping

Real-time Scripting (RTS)

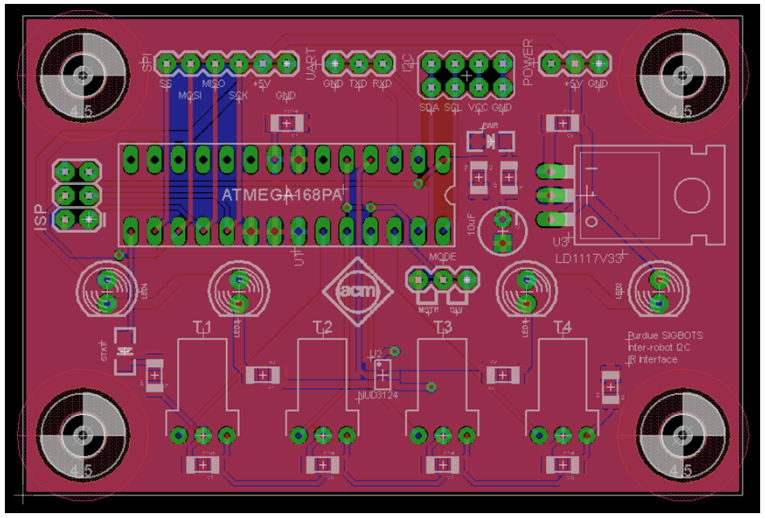


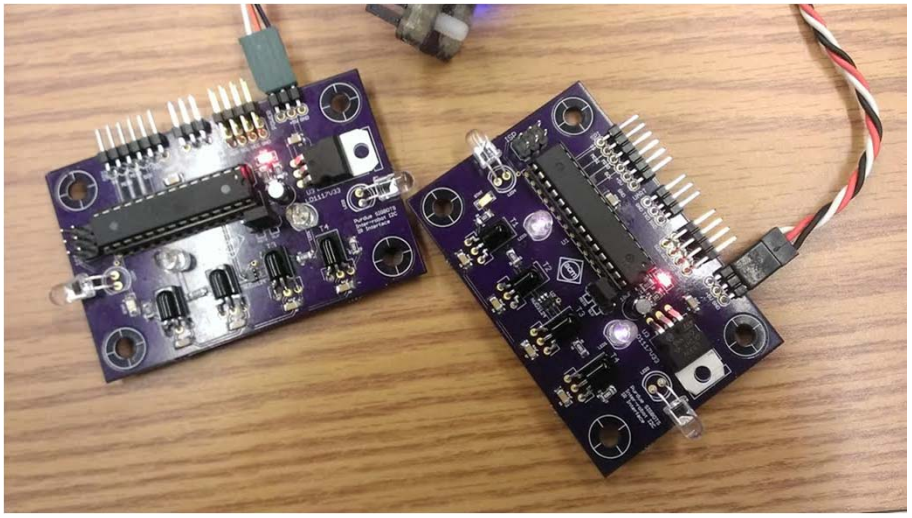
Real-time Scripting (RTS)

- Takes ~30 seconds to flash code to the robot
- Flash once, run as needed
- Create autonomous scripts and tune PID controllers
- Reduce development time by more than 50%

Inter-robot Communications

Four Is


ATMEGA168PA
LD1117V33
Purdue SIGBOTS
Inter-robot I2C
IR interface



Four Is

- Inter-robot I2C Infrared Interface
- Achieves UART-level baud rates
- Enables development of synergetic autonomous operation

Growing Up

- The game as a catalyst for our learning
- Members get industry-like experience not taught in the classroom
- Team is cross-discipline, all majors reap the benefits

Destination: Louisville

VEX ROBOTICS WORLD CHAMPIONSHIP

Watch online
4/16 - 4/18