Making an Impression: Tips for the Judges' Interview

Presented by the Ponytail Posse

Who are we?

- Retired in 2018
- 9 years of robotics experience
  - 5 years in FLL
  - 4 years in FTC

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AGENDA:

1. Judges’ Interview (the big one)
2. Pit judging (the little ones)
3. More tips for talking with judges

What is the Judges' Interview?

"Each Team will have a ten to fifteen minute 'fact-finding' interview with a panel of two or three judges.

During the interview, students will get a minimum of 5 minutes to present to the judges. After the Team's five-minute presentation, the Judges will have the opportunity to ask questions about the Team, the Robot, outreach efforts, etc."

— Game Manual Pt. 1

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What is the Judge

Where are the facts??

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Game Ma

What goes in the Judges' Interview?

1. Robot

- Describe the most important/unique parts of your robot!
- Explain what you've changed and why - **ENGINEERING PROCESS!**
- Software not required, but recommended

2. Outreach

- Number of overall outreach hours
- Numbers vs. stories - find the balance
- Focus on the unique aspects of your team outreach

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SWITCH IT UP

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2. Software
   - Algorithms
   - Sensors
   - Failsafes
3. Robot
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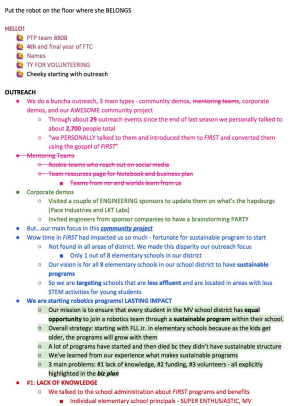
How do you prepare for the Judges' Interview?

- Make and revise your outline
  - Highlight key talking points in case time runs out
- Divide up the outline - assign parts
  - Mix up the voices!
- Plan ahead of time - who is carrying which props, etc.
- Decide where everyone will stand



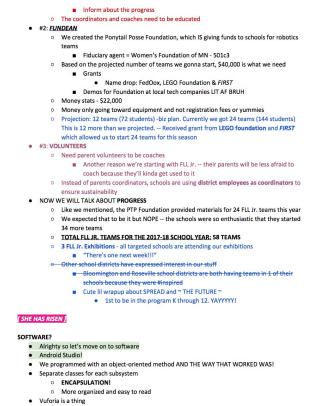
Put the robot on the floor where she BELONGS

HELLO!

- PTP team 8808
- 4th and final year of FTC
- Names
- TY FOR VOLUNTEERING
- Cheeky starting with outreach

OUTREACH

- We do a buncha outreach, 3 main types - community demos, ~~mentoring teams~~, corporate demos, and our AWESOME community project
  - Through about **29** outreach events since the end of last season we personally talked to about **2,700** people total
  - *we PERSONALLY talked to them and introduced them to *FIRST* and converted them using the gospel of *FIRST*"
- ~~Mentoring Teams~~
  - ~~Rookie teams who reach out on social media~~
  - ~~Team resources page for Notebook and business plan~~
    - ~~Teams from nar and worlds learn from us~~
- Corporate demos
  - Visited a couple of ENGINEERING sponsors to update them on what's the hapsburgs (Pace Industries and LKT Labs)
  - Invited engineers from sponsor companies to have a brainstorming PARTY
- But...our main focus in this **community project**
- Wow time in *FIRST* had impacted us so much - fortunate for sustainable program to start
  - Not found in all areas of district. We made this disparity our outreach focus
    - Only 1 out of 8 elementary schools in our district
  - Our vision is for all 8 elementary schools in our school district to have **sustainable programs**
  - So we are **targeting** schools that are **less affluent** and are located in areas with less STEM activities for young students
- **We are starting robotics programs! LASTING IMPACT**
  - Our mission is to ensure that every student in the MV school district has **equal opportunity** to join a robotics team through a **sustainable program** within their school.
  - Overall strategy: starting with FLL Jr. in elementary schools because as the kids get older, the programs will grow with them
  - A lot of programs have started and then died bc they didn't have sustainable structure
  - We've learned from our experience what makes sustainable programs
  - 3 main problems: #1 lack of knowledge, #2 funding, #3 volunteers - all explicitly highlighted in the ***biz plan***
- **#1: LACK OF KNOWLEDGE**
  - We talked to the school administration about *FIRST* programs and benefits
    - Individual elementary school principals - SUPER ENTHUSIASTIC, MV administration (MV **director of community ed** last week)

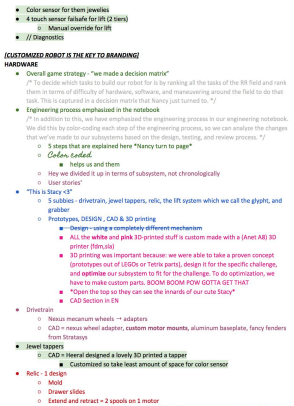


- Inform about the progress
  - The coordinators and coaches need to be educated
- **#2: *FUNDAN***
  - We created the Ponytail Posse Foundation, which IS giving funds to schools for robotics teams
    - Fiduciary agent = Women's Foundation of MN - 501c3
  - Based on the projected number of teams we gonna start, $40,000 is what we need
    - Grants
      - Name drop: FedOox, LEGO Foundation & *FIRST*
    - Dorneas for Foundation at local tech companies LIT AF BRUH
  - Money stats - $22,000
  - Money only going toward equipment and not registration fees or yummies
  - Projection: 12 teams (72 students) -biz plan. Currently we got 24 teams (144 students) This is 12 more than we projected. -- Received grant from **LEGO foundation** and ***FIRST*** which allowed us to start 24 teams for this season
- #3: VOLUNTEERS
  - Need parent volunteers to be coaches
    - Another reason we're starting with FLL Jr. -- their parents will be less afraid to coach because they'll kinda get used to it
  - Instead of parents coordinators, schools are using **district employees as coordinators** to ensure sustainability
- NOW WE WILL TALK ABOUT **PROGRESS**
  - Like we mentioned, the PTP Foundation provided materials for 24 FLL Jr. teams this year
  - **We expected that to be it but NOPE -- the schools were so enthusiastic that they started 34 more teams**
  - **TOTAL FLL JR. TEAMS FOR THE 2017-18 SCHOOL YEAR: 58 TEAMS**
  - **3 FLL Jr. Exhibitions** - all targeted schools are attending our exhibitions
    - "There's one next week!!!"
  - ~~Other school districts have expressed interest in our stuff~~
    - ~~Bloomington and Roseville school districts are both having teams in 1 of their schools because they were #inspired~~
    - Cute lil wrapup about SPREAD and "" THE FUTURE ~
      - 1st to be in the program K through 12. YAYYYYY!

SHE HAS RISEN

SOFTWARE?

- Alrighty so let's move on to software
- Android Studio!
- We programmed with an object-oriented method AND THE WAY THAT WORKED WAS!
- Separate classes for each subsystem
  - **ENCAPSULATION!**
  - More organized and easy to read
- Vuforia is a thing
  - Failsafe



- Color sensor for them jewelies
- 4 touch sensor failsafe for lift (2 tiers)
  - Manual override for lift
- // Diagnostics

[CUSTOMIZED ROBOT IS THE KEY TO BRANDING]

HARDWARE

- Overall game strategy - "we made a decision matric"
  /* To decide which tasks to build our robot for is by ranking all the tasks of the RR field and rank them in terms of difficulty of hardware, software, and maneuvering around the field to do that task. This is captured in a decision matrix that Nancy just turned to. */
- Engineering process emphasized in the notebook
  /* In addition to this, we have emphasized the engineering process in our engineering notebook. We did this by color-coding each step of the engineering process, so we can analyze the changes that we've made to our subsystems based on the design, testing, and review process. */
  - 5 steps that are explained here "Nancy turn to page"
  - *Color coded.*
    - helps us and them
  - Hey we divided it up in terms of subsystem, not chronologically
  - User stories'
- "This is Stacy <3"
  - 5 subbies - drivetrain, jewel tappers, relic, the lift system which we call the glypht, and grabber
  - Prototypes, DESIGN , CAD & 3D printing
    - ~~Design - using a completely different mechanism~~
    - ALL the **white** and **pink** 3D-printed stuff is custom made with a (Anet A8) 3D printer (fdm.sla)
    - 3D printing was important because: we were able to take a proven concept (prototypes out of LEGOs or Tetrix parts), design it for the specific challenge, and **optimize** our subsystem to fit for the challenge. To do optimization, we have to make custom parts. BOOM BOOM POW GOTTA GET THAT
    - *Open the top so they can see the innards of our cute Stacy*
    - CAD Section in EN
- Drivetrain
  - Nexus mecanum wheels → adapters
  - CAD = nexus wheel adapter, **custom motor mounts**, aluminum baseplate, fancy fenders from Stratasys
- Jewel tappers
  - CAD = Heeral designed a lovely 3D printed a tapper
    - Customized so take least amount of space for color sensor
- Relic - 1 design
  - Mold
  - Drawer slides
  - Extend and retract = 2 spools on 1 motor
    - Demonstration - take off the back robot wall and show them the THING

- Glypht - 1 design hi everybody my name is Sabirzeh and I am from the Ponytail Posse here's my business card
  - Had a design review session with pro-engineers from our sponsors and used this to narrow down our mechanism to a rack and pinion lift
  - LEGO Prototypes! Look at the cuties!
  - We stuck with this same design but had some **MAJOR** changes
  - Up till 2nd qualifier had tetrix rack and pinion lift but we decided to **customize** with HERRINGBONE (show it)
  - 1 tier to 2 tier lift
  - DEMONSTRATION*
  - CAD = CUSTOM MADE lift channels, rack track, pinion, touch sensor mount (failsafe)
- Grabber - 3 designs
  - Brainstormed with a bunch ENGINEERS
  - Went with double rack and pinion because it is the most efficient
  - CAD = grabbing mechanism is entirely custom-made == Optimization through customization
  - Experiments: made it more high-traction so it could hold onto glyphs better; decided on craft foam bc it's the grippiest. Actually the glyph was but do I have time to cut that? No.

~ *last year vibes* ~

ROBOT- Optimization through customization

Wanted to leave a legacy with the **Foundation** and minimize **frustration** by challenging ourselves with **customization** for our robot **creation**

Optimization also

Can't wait till the season is over so we can take a vacation

Planned robot on CAD before making parts

Buzzwords:

- Engineering Process
- LEGO Prototyping
- Customization for optimization
- Whole robot is CUSTOM
- Lasting impact
- Legacy
- Sustainability
- [Name drops]
- MN FTC
- Minnesota FIRST
- Giving back
- "Even as we travel far and wide we gon be FIRST Ladies for life"

Run the robot

unique things about our robot

How do you prepare for the Judges' Interview?

- Make and revise your outline
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- Divide up the outline - assign parts
  - Mix up the voices!
- Plan ahead of time - who is carrying which props, etc.
- Decide where everyone will stand

How do you make your Interview memorable?

- Give marketing materials
- Bring prototypes
- Use props
- **Reference the Engineering Notebook**

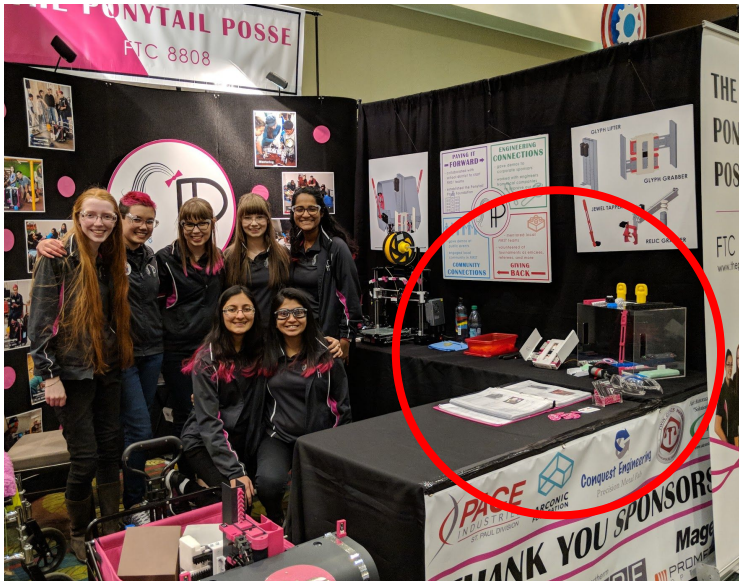
What is Pit Judging?

- After your Judges' Interview, judges may visit your pit to learn more about something specific
  - Usually around lunchtime / early afternoon
- Most likely **different** judges than your Interview

This is your chance to talk about everything you forgot to say in the Interview!

How do you prepare for Pit Judging?

- Make a list of talking points
- Use props



What's the best way to approach Pit Judging?

- Make sure you always have either zero or more than two people in the pit
- Less of a formal judging session, more of a **conversation**
- Figure out what the judges are looking for and try to stick to that topic

"What's the most unique part of your robot?"
Innovate Award

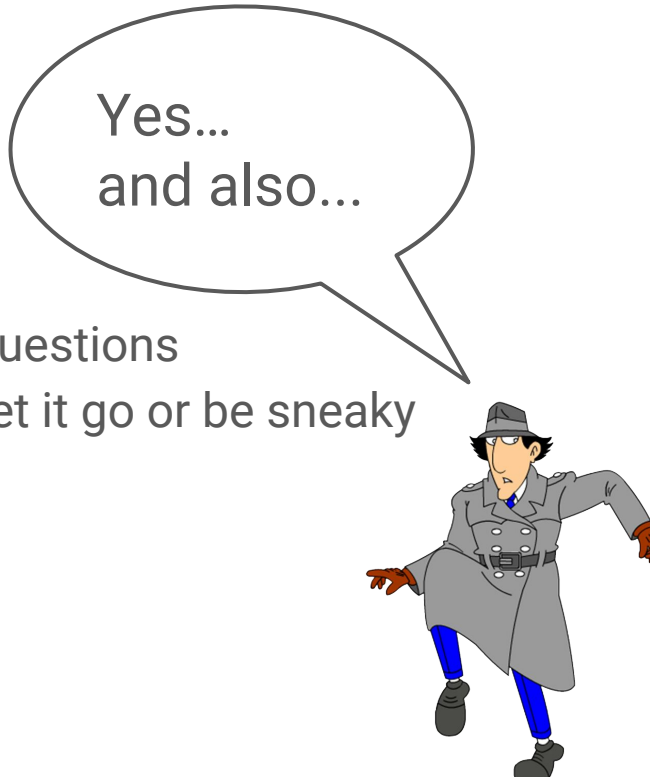
"What does your autonomous do?"
Control Award

"What kind of outreach have you done this year?"
Connect / Motivate Award

"Tell us about your season."
Inspire Award

When speaking with judges...

- Exude confidence
  - Make eye contact with judges
  - Have great posture
- Control your voice
  - Speak slowly
  - Speak loudly
- Don’t interrupt your teammates
- Watch the judges’ body language - allow room for questions
- If your teammate says something incorrect, either let it go or be sneaky

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