FINS

2012 Marketing Presentation

FUNS 2012 Marketing Presentation

Jack-

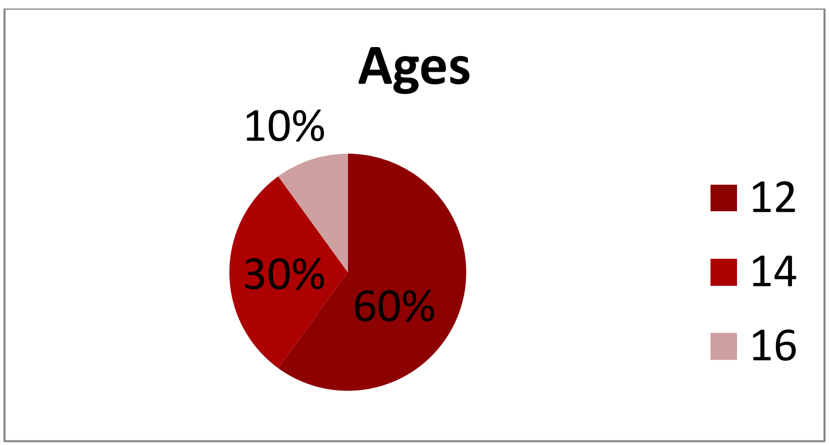
Open, give judges a welcome, tell them the purpose of this presentation.

Zeff-

Go over our team, read off each team member and there title.

James Lutz	Lead Technical Engineer
Jack Giebel	Assistant Technical Engineer and Android Advocate
Drew Beck	Computer Aided Design Engineer
Zeff Pagano	Assistant Programmer and Apple Advocate
Micah Beideman	Robot Designer
Jacob Lutz	Odds and Ends Guy
Scott Giebel	Assistant Odds and Ends Guy
Jacob Evans	Builder
Daniel Evans	Builder

Talk about our “impressive” Age Demographics, really try to stretch it.



Budget is next,

Budget	
Fundraiser	+ $93
T-Shirts	- $90
Remaining	$3

Make a point of selling $372 of Tupperware and getting 25%. Now, say something to transition to the next speaker, tell the judges that next up is robot design.

Micah

You will be the start of our robot design section, and Zeff should have told the judges that. Talk about the pictures, and what they are, and try not to read just from the slides, and elaborate on the text up there.

Gripper Points:

- Our innovative gripper allows us to transport a large amount of cargo ever trip into space, twice as much as the competition.
- This gripper was made using PVC and Plexiglas, making it sturdy and light.
- By grabbing the cargo instead of scooping it, we reduce the risk of knocking it off and ruining the mission.

Arm Points

- Our state-of-the-art arm system allows for the gripper to be easily and accurately deployed into to secure the cargo.
- The arm is designed to reach above and behind the robot in order to deliver the cargo properly.
- This arm is designed to do carry one type of cargo well, rather than a many types of cargo poorly like the competition does.

Now move on to Tanner

Tanner

The slides you will talk about start with the body, then the gear, then the “climb assist mechanism”, and finishing with our safety “features”

Body points:

- Our ground-breaking light-weight body system allows for easy attachment and removal from the pole.
- This system also allows for easy access to the electronic systems

Gear points:

- In order to climb, we developed a powerful gear system using dual motor technology. This allows us to move up and down quickly and smoothly.
- This gear system was carefully manufactured in order to provide the stability needed

Climb assists mechanism point:

- This precision system allows us to keep the robot moving in the event of the main gear stalling.

Safety feature points:

- Our robot features advanced arm tracking to prevent cargo loss.
- The array of advanced sensors our robot features allows us to prevent crashing.
- Our Safety notification light system will let you know when the robot is active, so you can stay back

Now transition to Drew:

Drew-

Talk about your cad, elaborate on the text on the slide. CAD Points:

- This CAD design is an accurate computerized model of our robot.
- Used for early testing and designing of parts, we were able to see what the components for the robot would look like before building them, and to give us an idea of the functionality of each component.

Next is Jack.

Jack-

Talk about our “team website”.

- We created a company website in order to provide the community with information about our company.
- This site also allows us to get news about our team out quickly and easily.

James-

Start with the Joystick, then the code. Outline of code points:

Simple and easy to use gripper servo control

```
if(vexRT[Btn6D] == 1)
  {
    sGripL = -60;
  }
if(vexRT[Btn6U] == 1)
  {
    sGripL = 120;
  }
if(vexRT[Btn5D] == 1)
  {
    sGripR = -60;
  }
if(vexRT[Btn5U] == 1)
  {
    sGripR = 120;
  }
```

Toggle-able climbing motor brake, prevents drifting

```
if(vexRT[Btn7L] == 1) { hold = 30; }
if(vexRT[Btn7D] == 1) { hold = 0; }
```

Exponential averaging, no jerky movements

```
mDrive = ((mDrive * 19) + joy3) / 20;
joy2a = ((joy2a * 9) + joy2) / 10;
```

Use of potentiometer and proportional loop to keep the arm where we want it

```
armPos += (joy2a / 300);
if(armPos > 135) { armPos = 135; }
if(armPos < 0) { armPos = 0; }
error = armPos - potIn;
mArm = error * pK;
if(joy2a > 20)
  {
    if(error > 30) {armPos = potIn + 30; }
  }
```

Joystick input cutting, so an un-calibrated joystick won't strain the motors

```
if(abs(vexRT[Ch2]) < 10)
  {
    joy2 = 0;
  }
else
  {
    joy2 = vexRT[Ch2];
  }
if(abs(vexRT[Ch3]) < 10)
  {
    joy3 = 0;
  }
else
  {
    joy3 = vexRT[Ch3]; /
```

End