

Brainstorming Approaches

September 15th 2011

We as a team discussed what company name to pick. The most votes were on Bug-E. Also we were discussing jobs and discussing what the robot must do and how we can build it to do what it needs to do. We are also discussing our t-shirt design. We read the rules so we know the concept too.

Thinking:

- Have a separation for the claw, so it be easier to grab the bugs.
- Use one motor on one part of the claw, and another on the other side. .
- Maybe have two arms, so the bugs don't flop, or getting harmed.

Now after we did some brainstorming on ideas for our robot; we are discussing what are we going to use as the arm, wheels, and the platform/ We are going to sketch ideas on Saturday.

We are also thinking of getting the bugs, like flies with the most number of points so we have good amount of points.

September 17th 2011

We are thinking about game strategies. We are thinking if we should get each type of bug during the game.

Also we are thinking (separated into small group) about robot designs. We need power and trends, to go over pipes, so it won't tip either. So, we are observing materials to build the robot.

-Game Strategies

-Robot Design:

-Brainstorm

-Consider our alternatives; look at what we did last year to help us out.

-Look at our materials

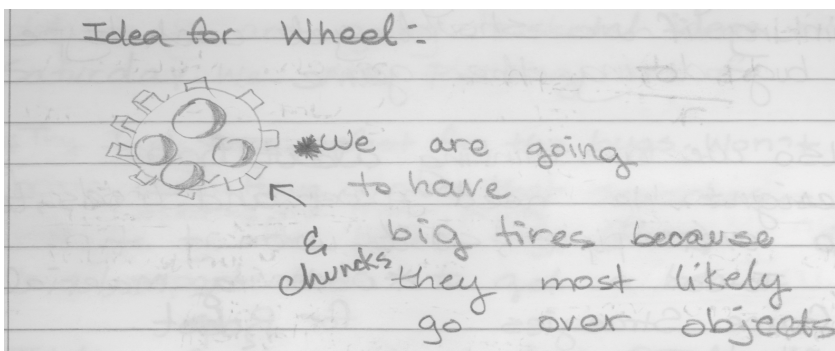
-Learn Software

-Hex Bug Fund raising

-Build wheels, and platform

September 17th 2011

Brainstorming mostly for robot still. We are going to use big tires because they most likely go over



objects.

We are going to use a wood platform because it's sturdy.

What kind of shape for the Platform?

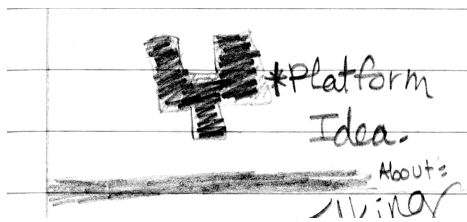
We want it to be heavy, and light.

Because it could be tilted or un-balanced.

*Accuracy for a normal arm. Make some gears.

~Trying different ideas for arm.

Still brainstorming ideas to build the robot.



-Tall robot to open cabinet=big wheels.

*Problems:

~The WPCA –

of extra weight(torque), harder to balance

~The pyramid needs mostly power for arm.

~Picking up Hex Bugs Nano's

~Reading/picking up flies

~Picking up termites

~Opening the cabinet

Potential Solution:

- A really long arm-Hinge or telescope
- (Hard to control)
- Driving over the top of blocks
- Umbilical robot(Too hard to program)
- Ignore WPCA(No, worth to much)
- Use treads(Like a tank)
- Have big wheels + transaction(groove/studs)

4 Wheels

Pros

*Stable

*Easier to

go over objects

Cons

*Weight

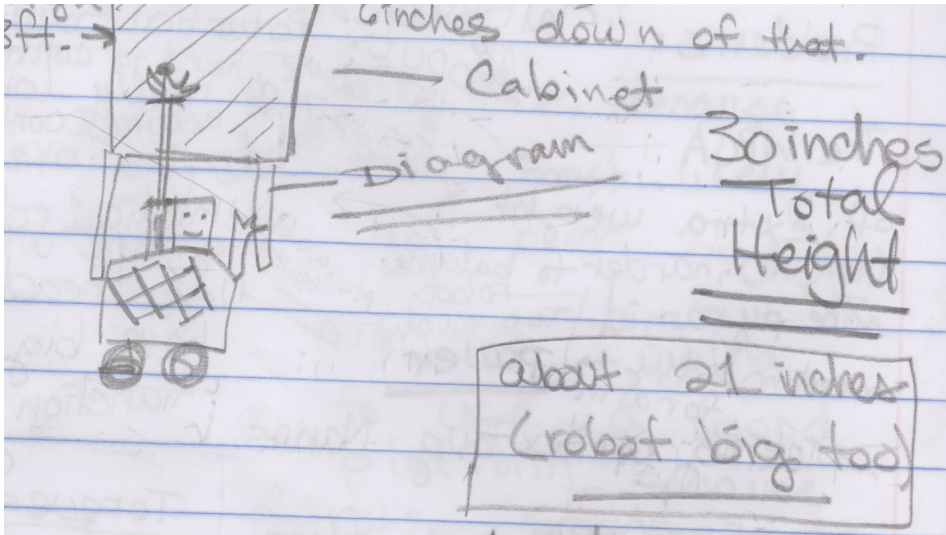
*Size

*Steer/Axel

(Torque= Load x length from fulerum to go over with arm.)

Looking for calculations for how long the arm has to be to open the cabinet Also needs to be a little more taller to reach the flies

Analytical Evaluation of Design Alternatives



Found out:

Termite=1 ½ pounds

To not to go over w/ arm-

$1.75\text{ft} \times 2.5\text{lb} = 4.375\text{ft}$

To go over-

$3\text{ft} \times 3\text{lb} = 9\text{ft/lb}$

Is this possible?

Not picking up termites:

$3\text{ft} \times 1.5\text{lb} = 4.5\text{ft/lb}$

Offensive and Defensive Evaluation

Max points if we don't go for termites:

Max points if we don't go through the WPCA:

Points if we get a lot of cockroaches:

Strategy of what bug/order of capture:

Nano's=2 inches

Strategy= Termites heaviest, go for termites last.

Scooping Arm/net-knit yarn

Size of competition notebook!

10 inches long 10 by 10 with yarn to scoop bugs