6/19/2025 IMD Tools @ NG 2:30pm

Build:

Requirements: M.R.A.T.S

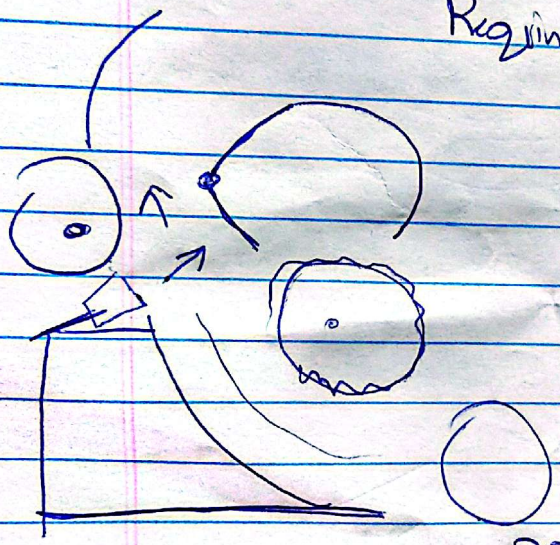
Measurable: Average cycle time

Realistic:

Achievable

Time

Specific



Prototyping:

- 30 mins or less
- 3D Print
- Rapid Prototype
- Share with Programming and Drive Teams

Does your brainstormed idea have a chance.

Draw on paper then CAD

Leap Frog Design Technique:

- Have 2 bots. Make 1 with Basic operation
  - Drive & Shoot
- Builders make little systems
  - Shooter
  - Camera Unit

Optimization:

- How to pick up Balls (Order, Release, Speed)
- Do the easy tasks first.
- Cycle time. From first operation to the next first operation
- Make a path Plan.
  - Task overlaping
  - Minimize ΔD
  - Routing
  - Planning

Don't Need to do everything
Get really good at just
Shooting first.
Find our individual Strengths

Take notes and find out what other teams are doing and copy / build from.

DeCode

FTC.Game ∈ Website

- With 18 inch entire game
- 24 purple, 23 green
- 3 at a time
- 30sec auto
- Can the robot be in the square at same time as player?
  - ↳ Yes, but cannot connect through ball
- Pre load is before Pattern randomization
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Q's to consider For optimizing

- How many steps does it take?
- What must be done before scoring
- How many movements? Randomness? Overlap task?

Process Goals

MRATS

* Decision Matrix?
* Bainstorm should have quanity over quality
* 30min Prototype
* Freeze design 2-3 weeks before comp.

Measureable: average cycle time, size, weight

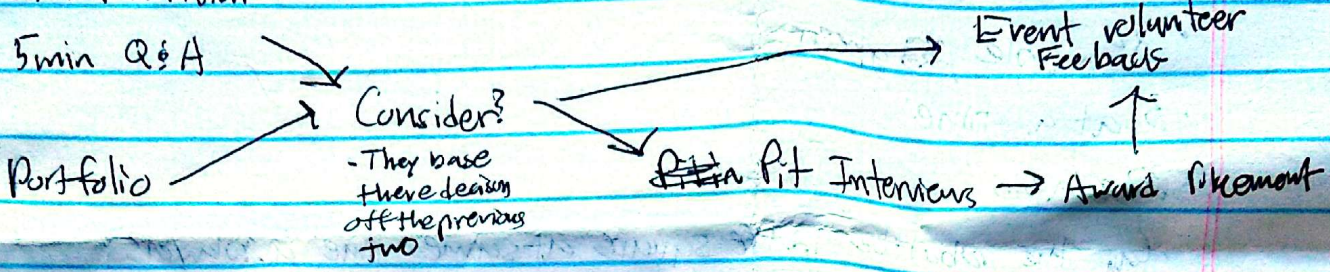
Realistic: Constraints cost, parts, size

Itchievable: feasable

Time Bound: Time frame, keep dead lines

Specific: Give exact values

Awards and Academics



- One award per team
- Inspire award - Big one
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