ISTA 303: Assignment 3 Write Up

Nile Grice, Chaoneng Quan

**1. Picture of assembled MeArm**

A picture containing indoor, floor

Description automatically generated

**2. Schematic**

A picture containing screenshot

Description automatically generated

**3. Kinematics code**

For the code itself, see the Arduino code file.

Diagram of each components

A close up of a map

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Math calculation for inverse kinematics(How to get B and K+B from r and z)

A close up of text on a white background

Description automatically generated

**4. Demoed in class**

**5. Diagrams, schematics, pictures, etc., of extensions**

Extension: A MeArm controlled catapult

Catapult

A picture containing indoor, table

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Projectile Holder

A picture containing floor, indoor, room, table

Description automatically generated

MeArm at motion

A picture containing indoor, floor

Description automatically generated A picture containing indoor, floor

Description automatically generated

(Grabbing projectile) (launching the catapult)

STL file preview of catapult’s components

A close up of a logo

Description automatically generatedA picture containing wall

Description automatically generatedA picture containing indoor

Description automatically generatedA close up of a device

Description automatically generated

**6. Teamwork statement**

Our workloads were shared around 50% / 50%.

**Extension:**

We extended the MeArm’s functionalities to be able to: 1. Move to a specific location according to user input. 2. Grab an object and moving while holding it. 3. Drop an object to specific location. 4. Push the catapult’s leveler. 5. Repeat all functionalities mentioned above.

**Attachments:**

1. Arduino code for the MeArm 2. OpenSCAD file for the catapult 3. Adobe illustrator file for the projectile holder