2IO75
Embedded systems

Product Backlog

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Group 25

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1 RPC List

1.1 Functionality Requirements

- The robot Mechanically moves the disks
- The robot can classify and identify different optical properties of the disks.
- The system detects failures in both mechanical and electronic components and communicates the issue to the user.
- The system is able to generate patterns from the picked up disks.
- The system is able to store the sequence of picked disks.
- The system is able to output melodies based on the stored sequence.
- The system is able to synchronize with the production line

1.2 Preferences

- The system is as light as possible
- The system is as cheap as possible
- The system uses Raspberry pi
- The system contains

1.3 Constraints

- The robot can only be built from FisherTechnic parts Provided at the start of the practical.
- robot must be autonomous after Initialization.
- robot must report on its internal state for running test Scenarios.
- The robot must fit in the bounding box of the factory floor set up 30X15.
- The robot must be attached in the assigned location on the factory floor.

1.4 Product delivery

An Electro-mechanical robotic system that can identify the different disks on the production line, displace them from the production line to produce a pre-programmed pattern/structure, and output a melody based on the stored disk sequence.