

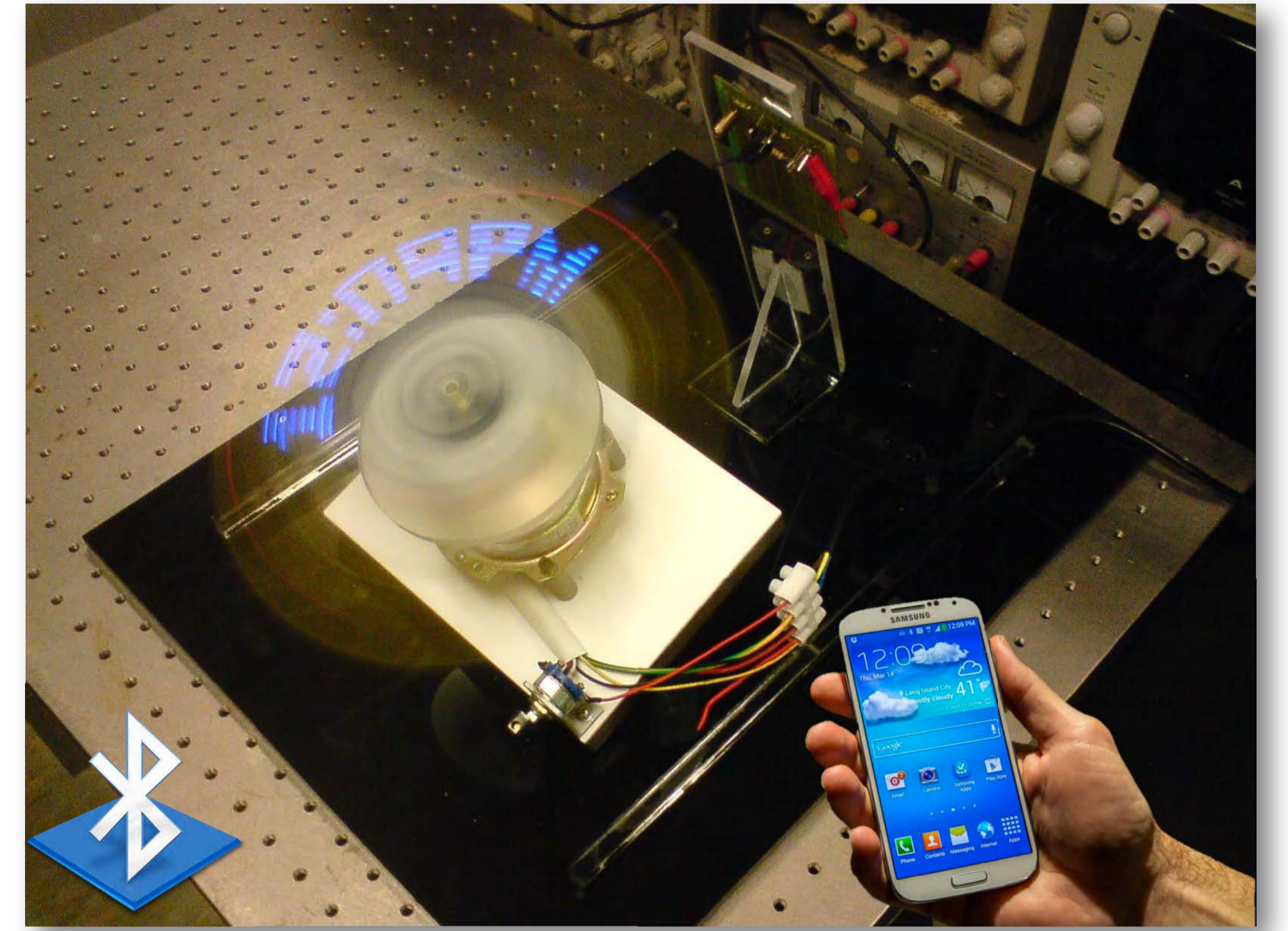
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Programme: BEngECE

Supervisor: Dr. Chan, Andy H P

Objective/Background

- Display technology based on persistence of vision
- Feature with simpler electronic driving circuit and flexible appearance
- Prototype rotating LED display with enhanced control functionality



Methodology

Persistence of Vision

- Afterimage persists on retina for 0.04s
- Time-space sharing concept
- Attach LEDs to high-speed rotating device

Synchronization

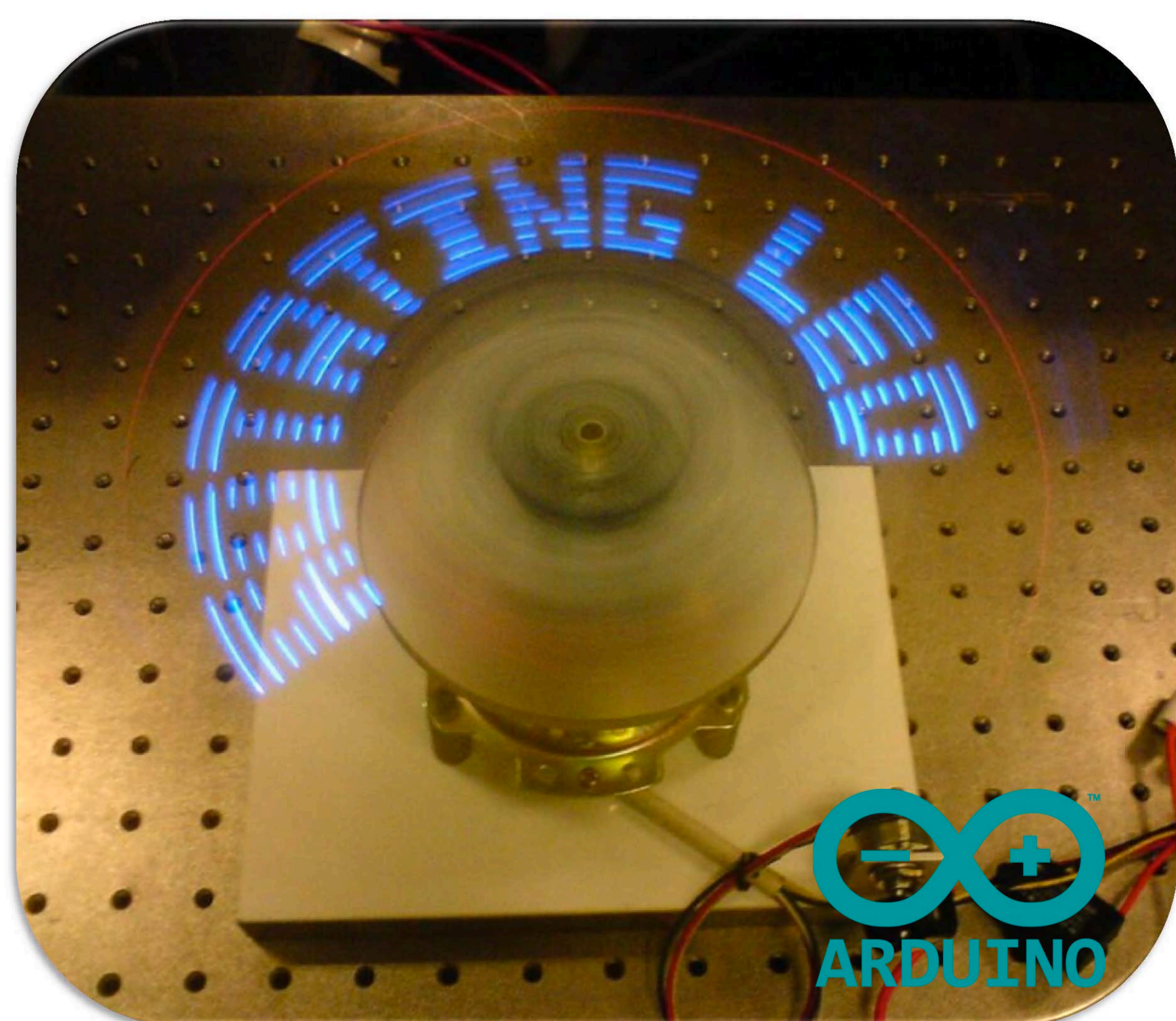
- Coordination between MCU and motor
- On/off period of LEDs in sync with motor rotation
- Add a reference point by using optical sensor

Control

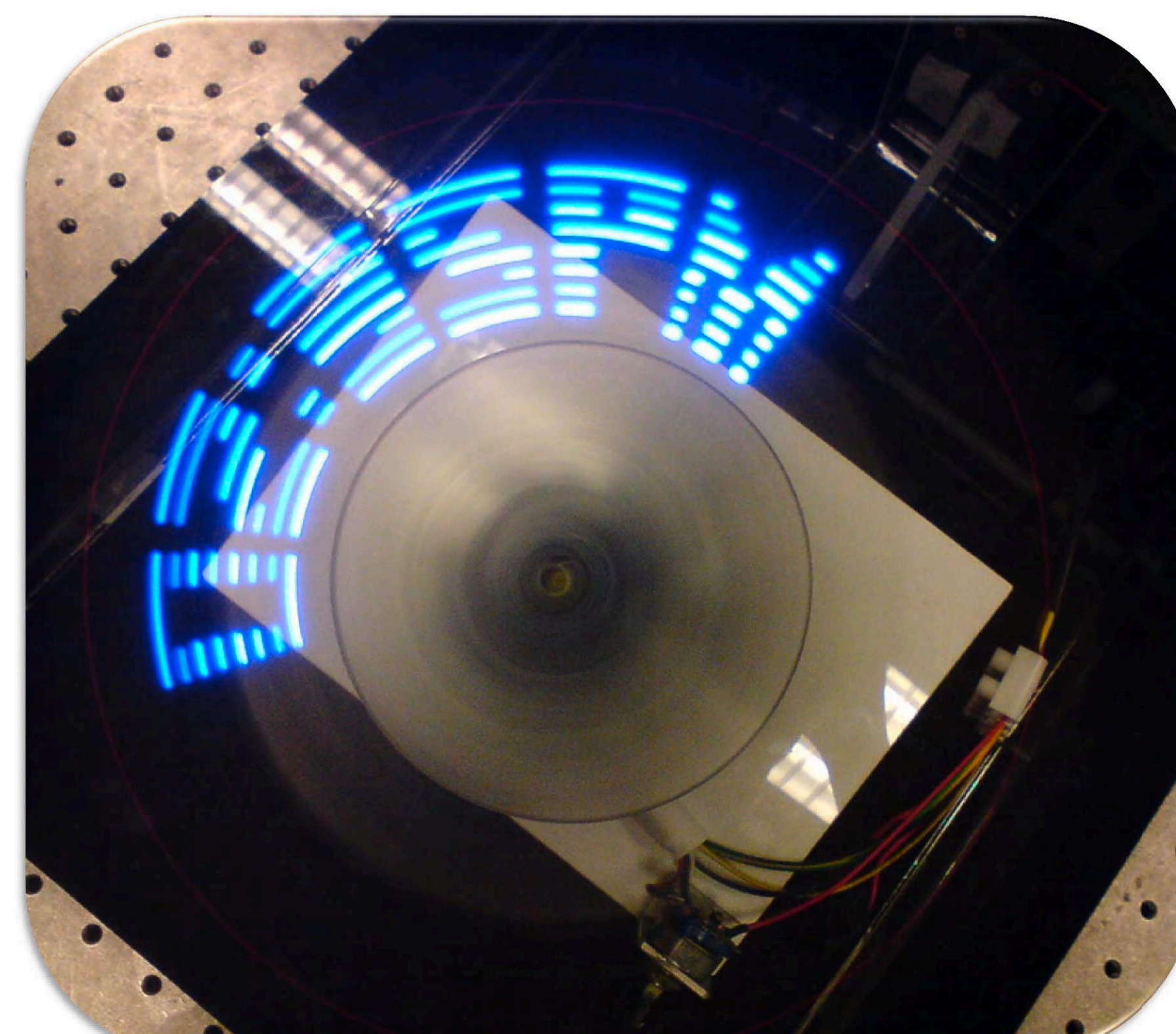
- Receive command from user and perform different functions
- Serialize command for transmission
- Transmit and receive using Bluetooth

Functions/Specification

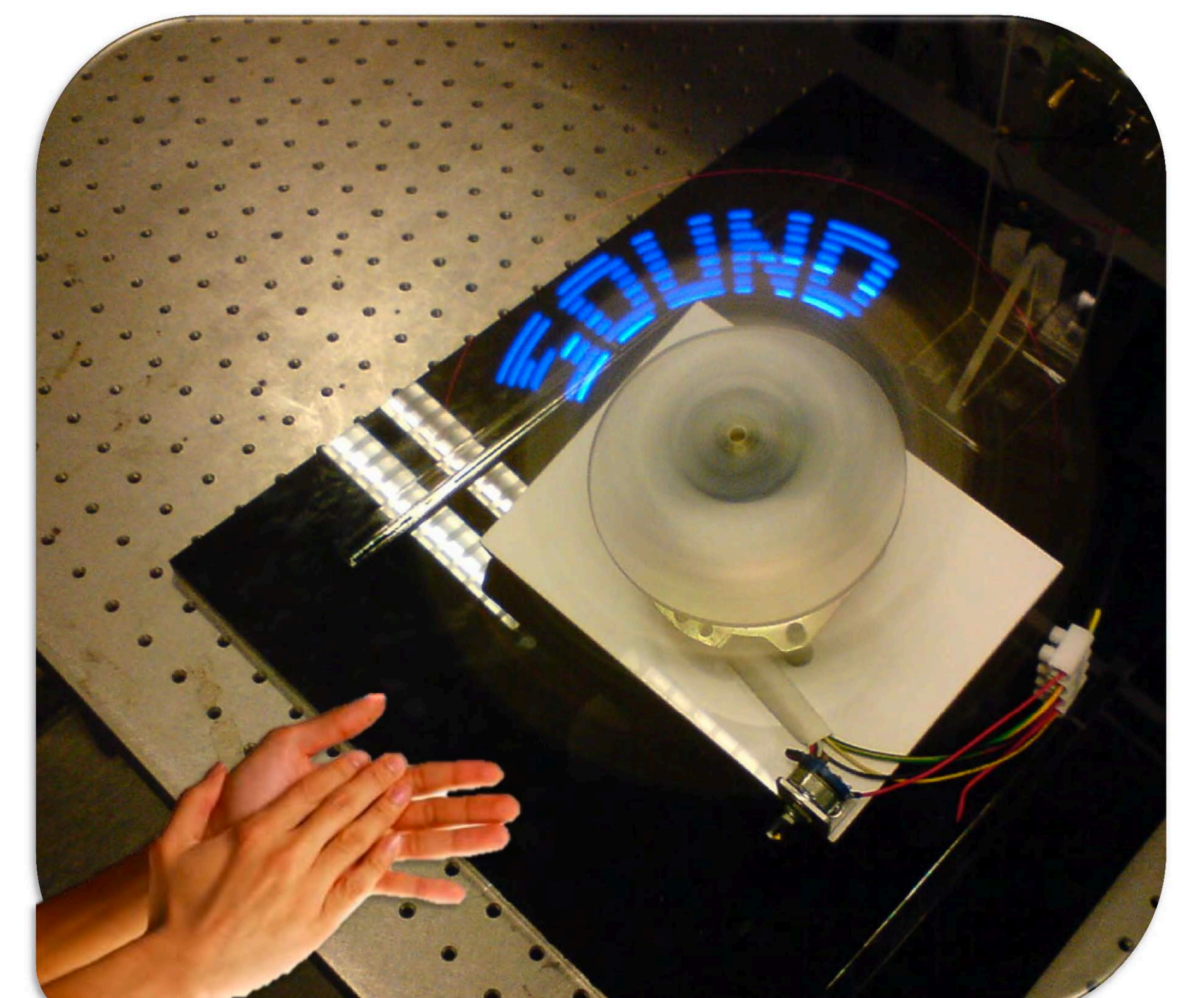
- Display resolution up to 8 x 240 pixels
- Receive command directly from other Bluetooth devices (e.g. PC, smartphone)
- Different text messages display (e.g. static or scrolling, graphic patterns, digital clock)



Scrolling Display



Digital Clock



Sound Control