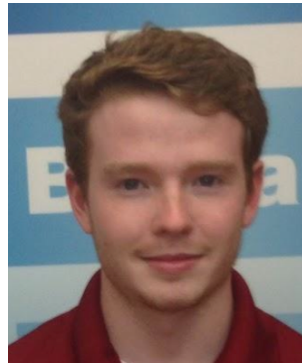


TrackStar:

Motion Tracking Stagelight Mount

Bradley Beady
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Jason Gurney
Tilman Wolf

The Wolf Pack



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Problem

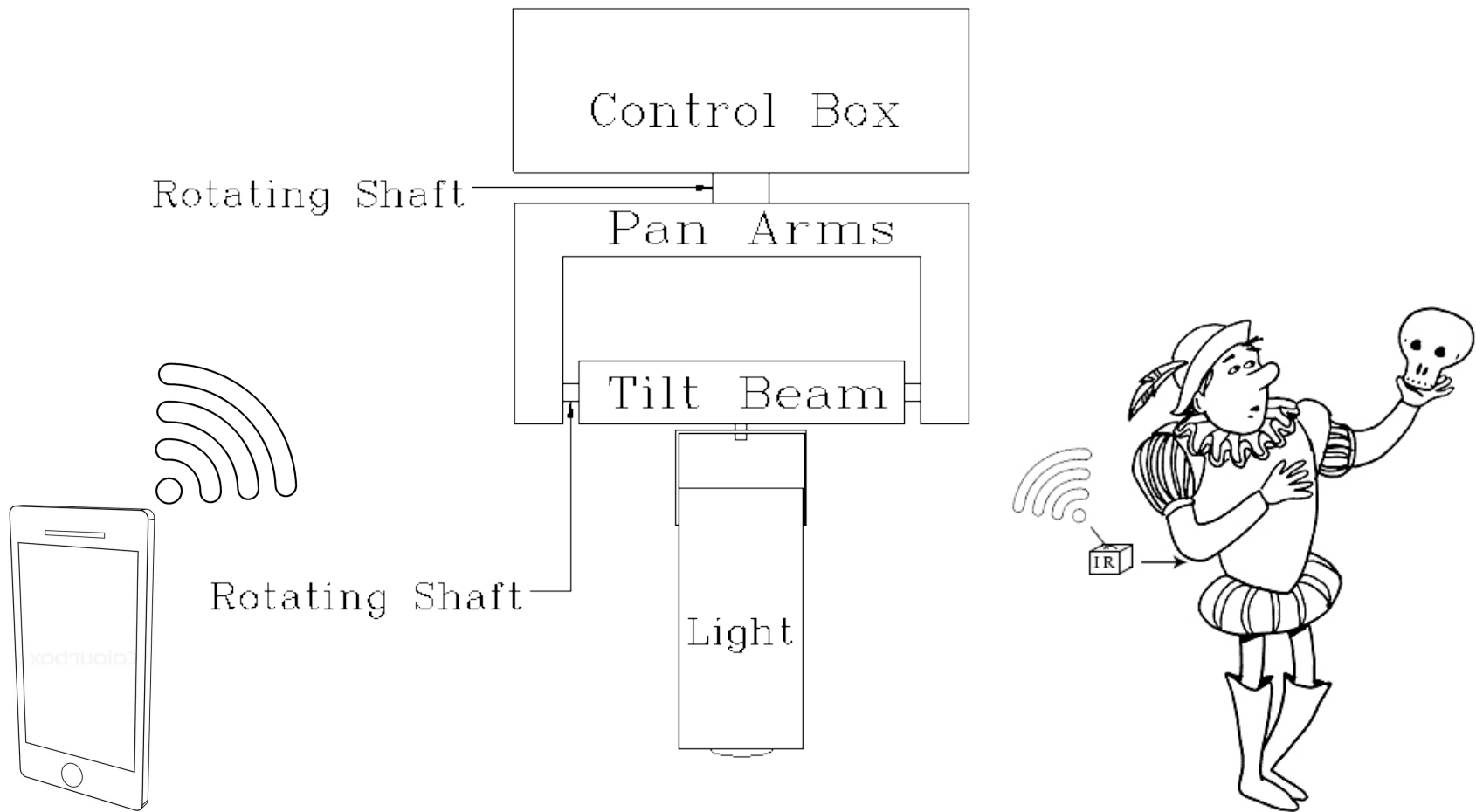


Significance of Problem

- Static
- Dangerous
- Time Consuming



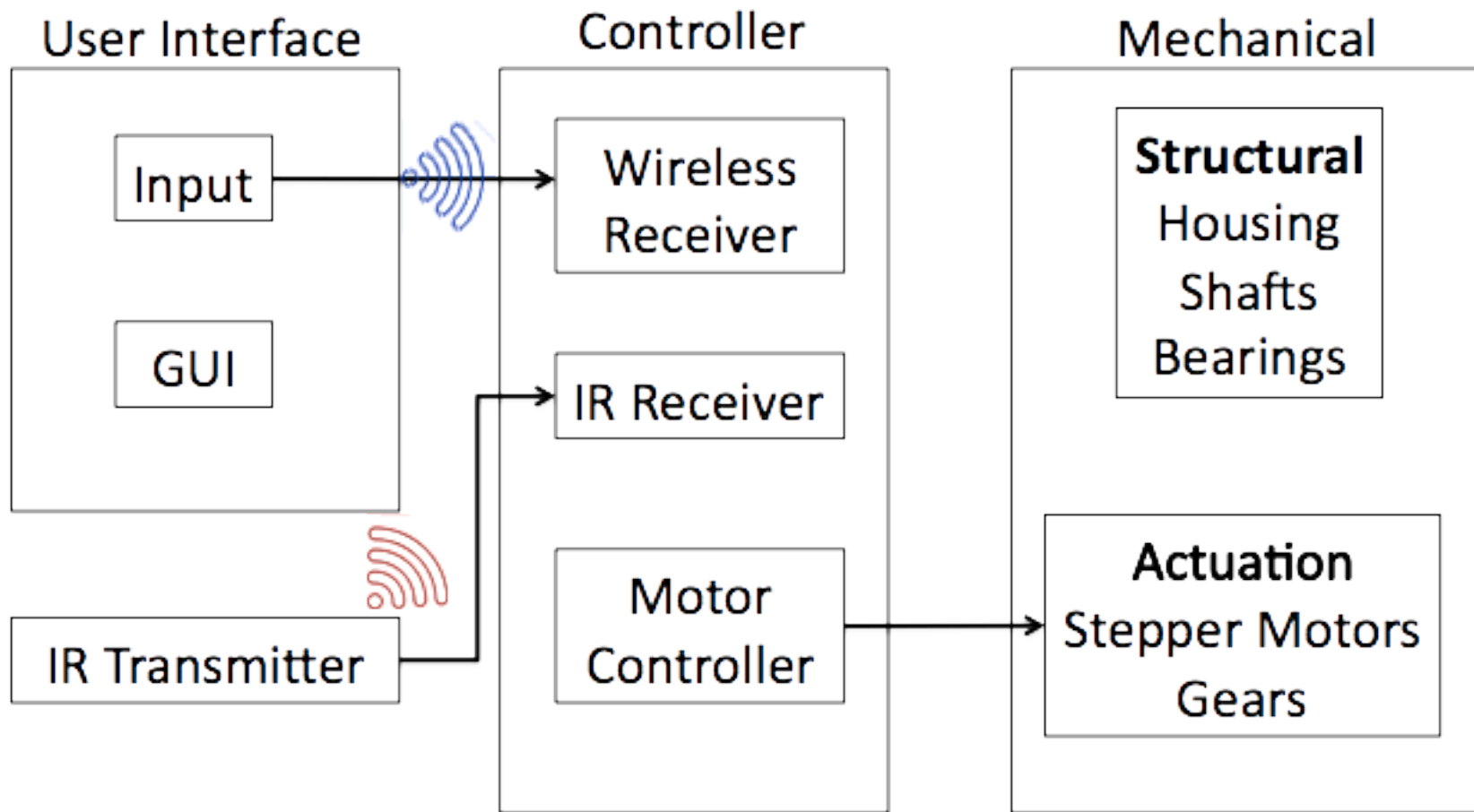
Our Solution – TrackStar



Current Solutions



Block Diagram



User Requirements

- Real-time motion tracking
- Full Range of Motion
 - 360° Pan (Yaw)
 - 90° Tilt (Pitch)
- Compatible with current lighting fixtures
 - Ellipsoidals, Fresnels, Washes
- Wireless configuration of individual lights
- Save/Load multiple configurations
- Quiet



Mechanical Requirements

- Housing
 - Support the weight of the light
 - Compatible with standard lighting mounts
 - Mount to scaffolding
- Motors
 - Supply appropriate torque and speed
 - Maintain light position
 - Minimal noise

Controller Requirements

- IR motion tracking
- Wireless input from UI
- Save/Load individual light configurations
- Drive stepper motors

User Interface Requirements

- Detect available lights
- Send wireless message to controller
- Save/Load scene configurations
- GUI

MDR Deliverables

- Mechanical
 - Pan arms and tilt beam with full range of motion
 - Capable of mounting to fixed light and scaffolding
- Controller
 - Send signals to drive motors
 - IR Detection
 - IR tracking with synthetic I/O
- UI
 - Mock UI
 - Send wireless message from UI to controller