

Team 11

I Choose You

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Project Concept and Motivation

- A Pokeball that opens upon landing, throws out an AR code, closes and rolls back to the player. Just like the well-known and beloved game.
- Users use 3Ds to read AR codes and play game with AR images (app pre-installed on devices)
- Pokemon games' sales statistics suggests great commercial potential
- Can also be implemented for other games or purposes. i.e. other games, sports, events, shows, etc

Competitive Analysis

- Niche market
- Products closest to this concept are simple plastic pokeball toys
- Sphero
- Rollo bots

Requirements

- Tracking device of the player's location
- Mechanism of rolling, spinning, opening and closing
- Ability to shoot out AR code in direction of 3DS camera
- Shock proof

Technical Specification

Exterior

- Inner sphere: A plastic ball cut into half and hinged together with springs to keep closed
- Outer sphere: Interior insulation foam, balloons, yoga ball skin, etc

Interior

- Two vertical axles attached to wheels
- Motors
- Plastic substance to hold circuitry and batteries
- Linear actuator to open ball
- Line trackers to find the front of the ball
- Tracking system
 - imu + GPS
 - Imu only

Sample Structures

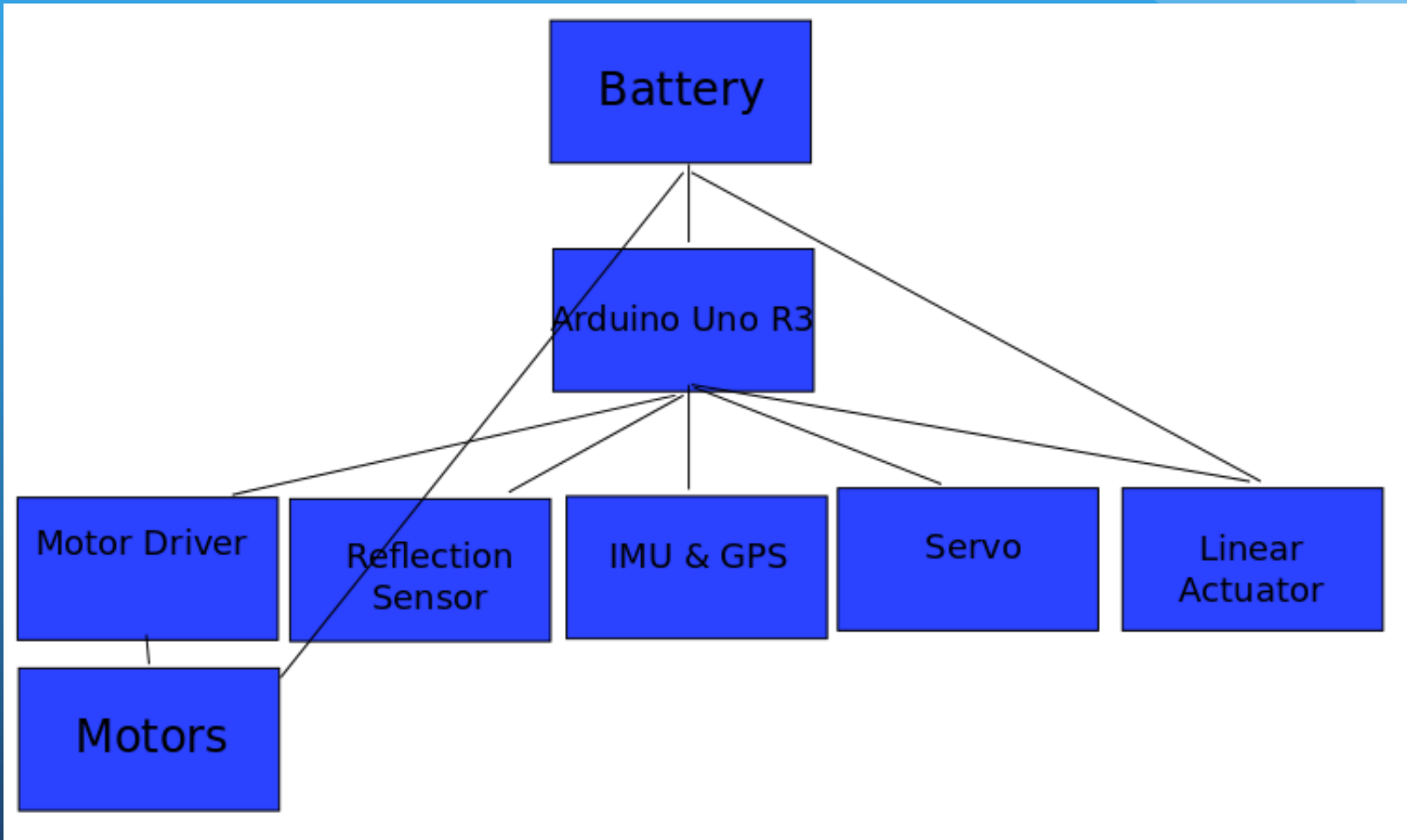
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Technical Specifications Continued

- Arduino Uno - R3 (braaaiinnssss)
- USB Cable A to B - 6 Foot
- IMU Digital Combo Board - 6 Degrees of Freedom
ITG3200/ADXL345 (Location tracking)
- 3 x QTR-1RC Reflectance Sensor (line tracker for inside of
outer sphere)
- Interior insulation foam
- Linear actuator
- Servos

Architecture



Anticipated Risks and Mitigation Strategies

- Physical behavior
- Physical housing
- Open and close Pokeball
- Precision of the tracking system
- Looking for available SDK to modify AR apps