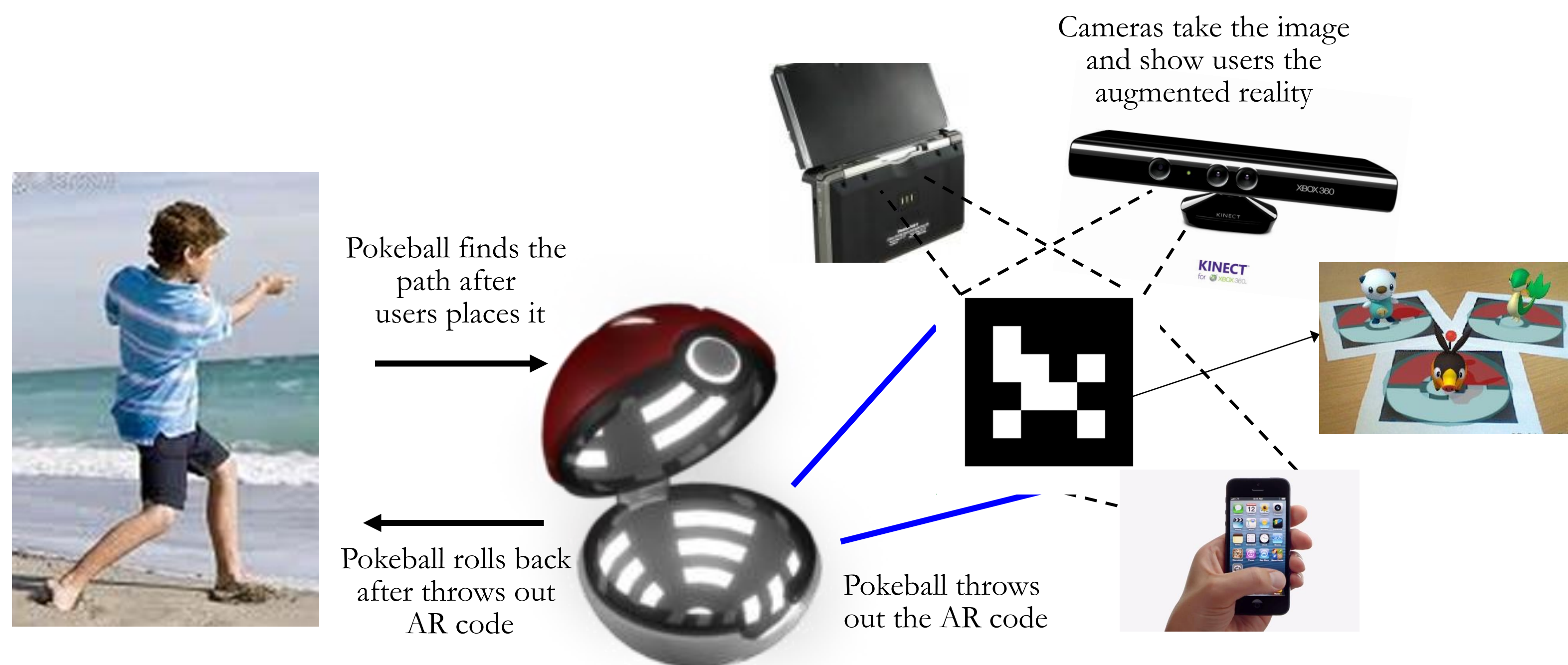




I Choose you – Pokeball

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Motivation & Concepts



Objective

- Interactive, creative gaming device
- Materialize the most popular Nintendo game
- Fully incorporate mechanical, electrical and computer engineering design

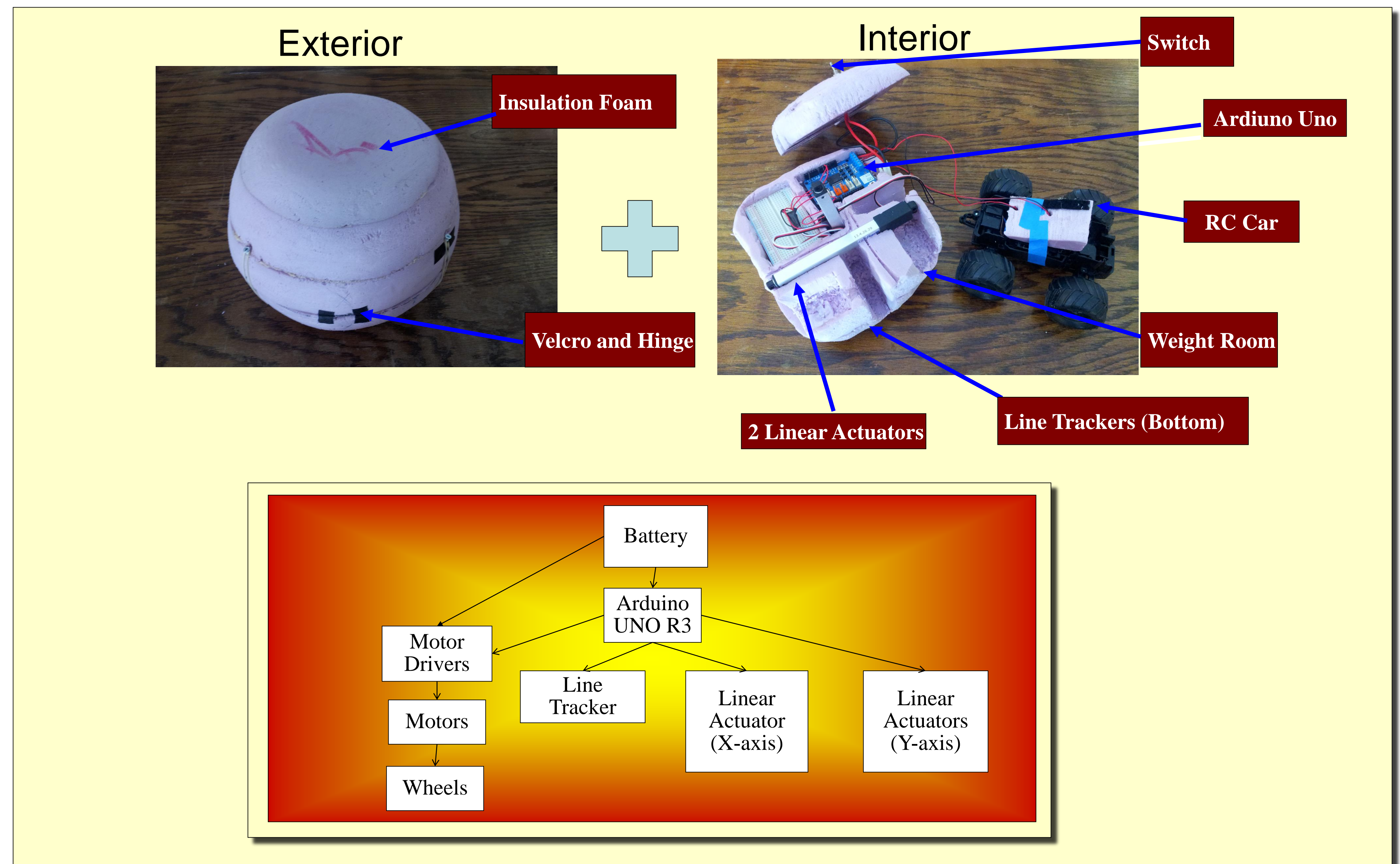
User Case

- User places the Pokeball at the target gaming device or camera
- The Pokeball rolls on the ground following directed path
- The Pokeball reorients, opens up and throws out an AR code

Design & Implementation

- **Arduino UNO R3 Kit** – Central Control Unit
- **QRE1113 Line Tracker** – Detect path based on contrast
- **Insulation Foam** – Physical cover for shock proof
- **RC Car** – Programmed engine for the Pokeball
- **Linear Actuators** (100mm, 210:1 ratio) – Open the Pokeball cover in 2 directions

Architecture & Parts



Results

Movement

- Move at constant speed on non-carpeted floor
- Detect designated path based on color contrast
- Removed IMU because of the difficulties in instantaneous calibration

Feature

- Open and close the exterior layer automatically in static mode
- Launch indoor Frisbee (AR code attached) in certain angles
- Self-balance the inertia when turning and after the break