Clever Closet

Team 7

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Project Concept

The Clever Closet eliminates the daily confusion of “what should I wear today?”. It manages the consumer’s wardrobe by integrating with the daily clothing needs of the consumer (based on calendar, weather, etc.) and suggesting clothes appropriate for the occasion.

Motivation
Historically, picking the right clothes for the occasion have been a problem. The Clever Closet integrates with the personal calendar and the weather and highlights suggestions for the consumer.

Competitive Analysis

Products	Storage	Software	Feasibility	Cost
Easy Closet	✓		✓	$1500
What to wear?		✓	✓	Free
Snappy Dresser	✓	✓	Concept Only	Unimplemented
Clever Closet	✓	✓	✓	$200

The Clever Closet is a unique and cost effective product that combines a custom clothing recommendation system with the storage offered by a conventional closet to provide users with an easy way to select clothes.

Requirements

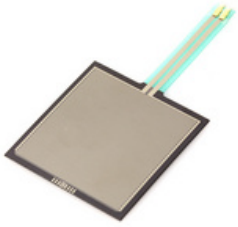
- **Usability:** Allows user to enter and scan RFID information
- **Memory:** Maps clothes to hangers
- **Intelligent:** Checks the current weather and synchronizes with the users calendar
- **Responsive:** Lights up LED's on the hanger rod to suggest what clothes the user should wear
- **Robust:** Learns the users preferences over time
- **Timing**: Provides a response within three seconds of the user opening the closet
- **Reliability**: Continues to provide service even if there are no clothes on some of the hangers
- **Performance**: The closet will learn the users preferences based on previous suggestions.

Technical Specifications

- RFID Tag – 125 kHz
- RFID USB Reader
- RFID Reader ID-20 (125kHz)
- Multicolor LED's
- Arduino Uno SMD
- GainSpan Wi-Fi Breakout
- Force Sensitive Resistor - Square
- USB Host Shield
- Analog/Digital MUX Breakout

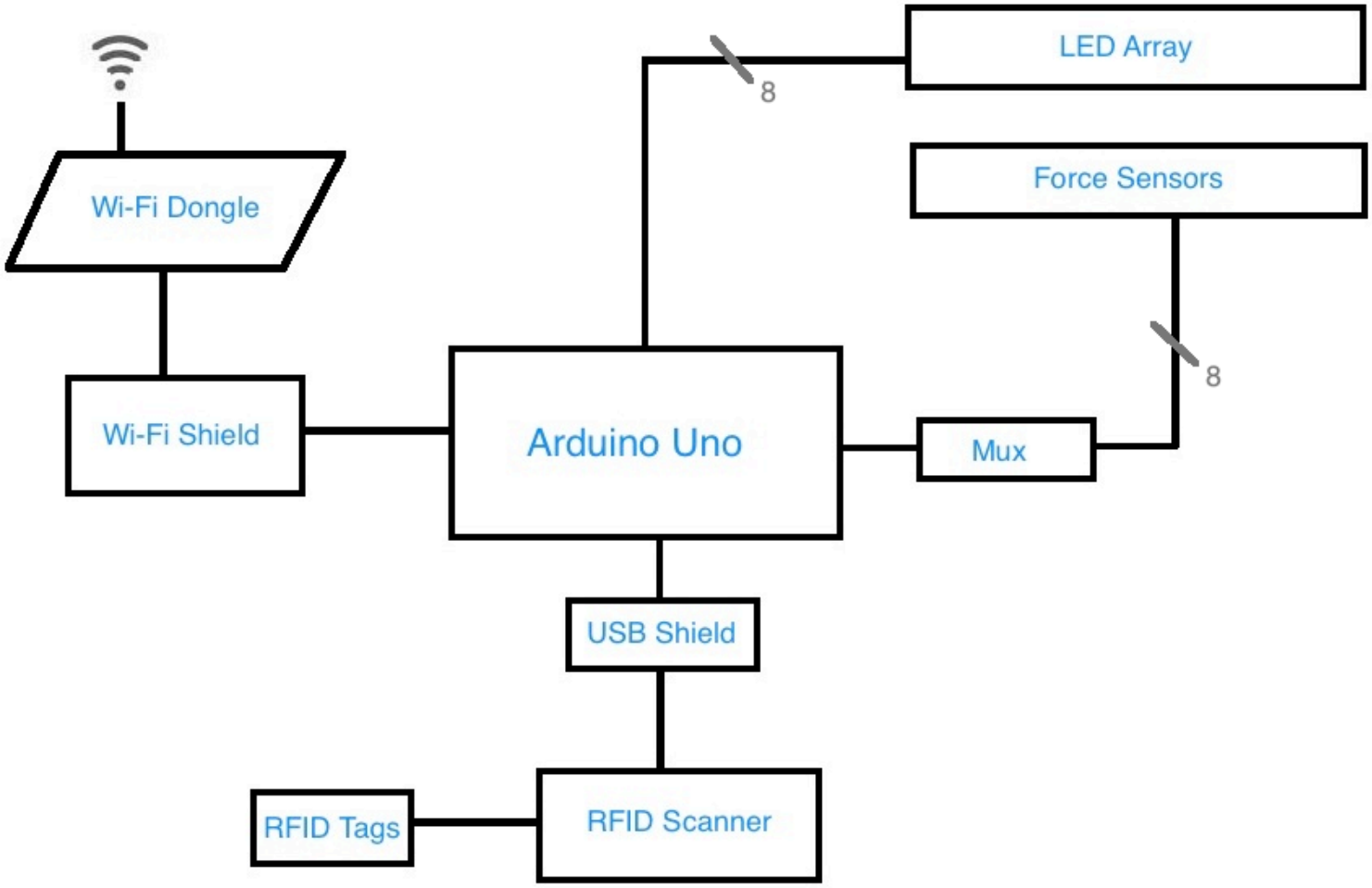
- Database (MySQL)
- Linux Server
- Clothing recommendation system (Python)
- Proprietary communication protocol




* All parts bought from www.sparkfun.com

Architecture



Risks and Mitigation Strategy

Risks	Mitigation Strategy
User effort	Provide an easy to use online UI
Insufficient user preference information	Provide a pre-configured training set (demographic profiles)
Ambiguous Calendar Entries	Cross-reference with the internet
Slow response time	Do on-server computation
Issues with RFID reader	Thorough field testing

Questions?