



Magic Mirror

ShowMi Technology Inc.

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Outline

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Overview





Goals

- ▶ Target, clothing store
- ▶ User friendly
- ▶ Fashion, replace traditional clothing store
- ▶ Labor saving
- ▶ Convenient, save customer's time

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Background

- ▶ Most clothing stores, especially during big event:



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Motivation

- ▶ Inspired by save-on food self check out system
- ▶ The product could be widely used in the clothing stores
- ▶ Huge chain clothing business or even private shop owners
- ▶ Multiple features also match modern information era
- ▶ Self-checkout shopping—interaction with a normal object in the store

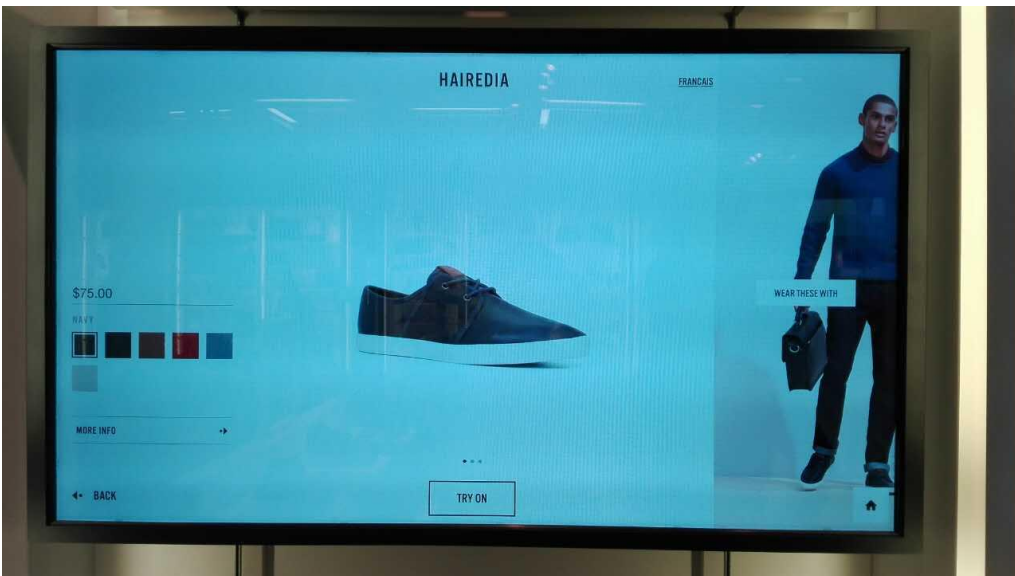


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Existing Solutions--ALDO

- ▶ Inventory check monitor
- ▶ →but it is in a shoes store
- ▶ →Full-length mirror is not very necessary
- ▶ →No check out system



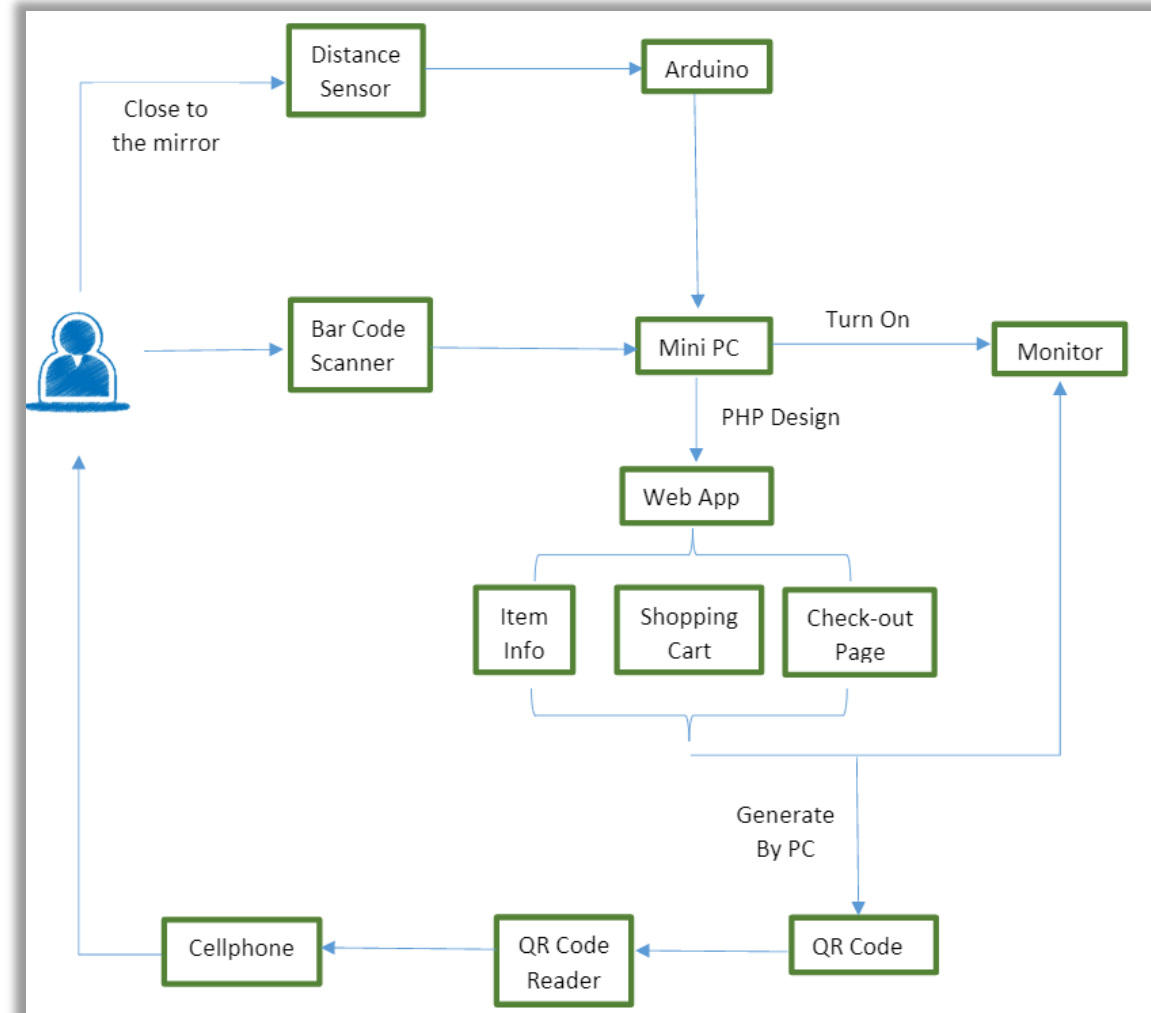
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Main Features

► System Overview

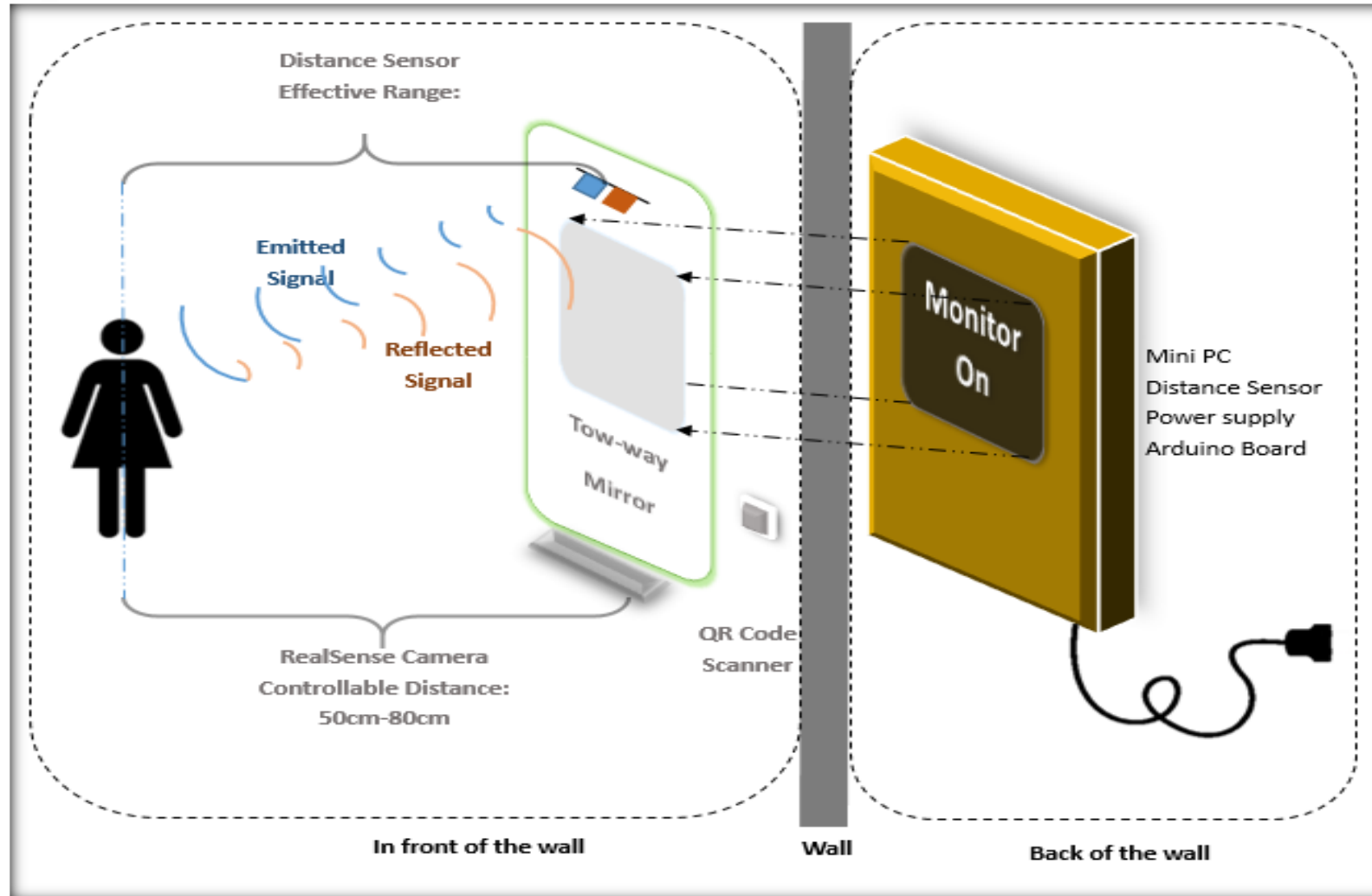
<https://www.youtube.com/watch?v=Z9Fj8loizNw>



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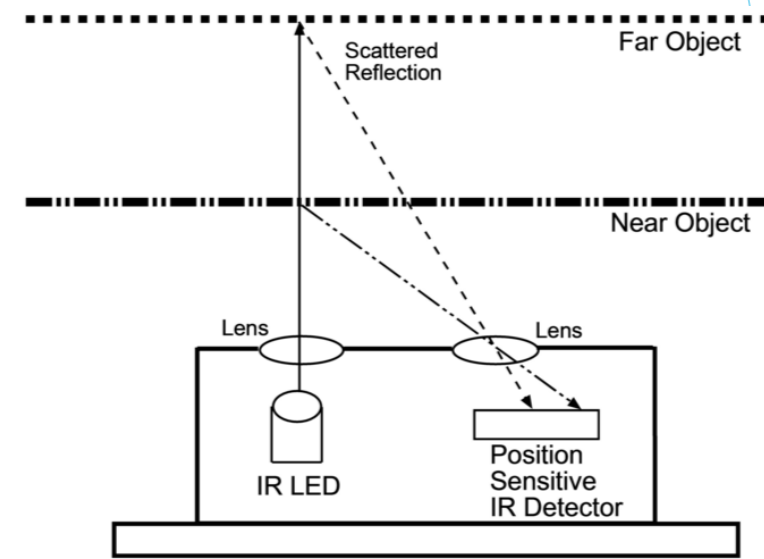
General Demonstration





1. Screen Turns-on Automatically

- ▶ Key component: Distance Sensor
 - ▶ Detect the distance between customer and the mirror.
 - ▶ Once the distance is less than a certain range, the monitor will be turned on. Otherwise, the monitor is off.

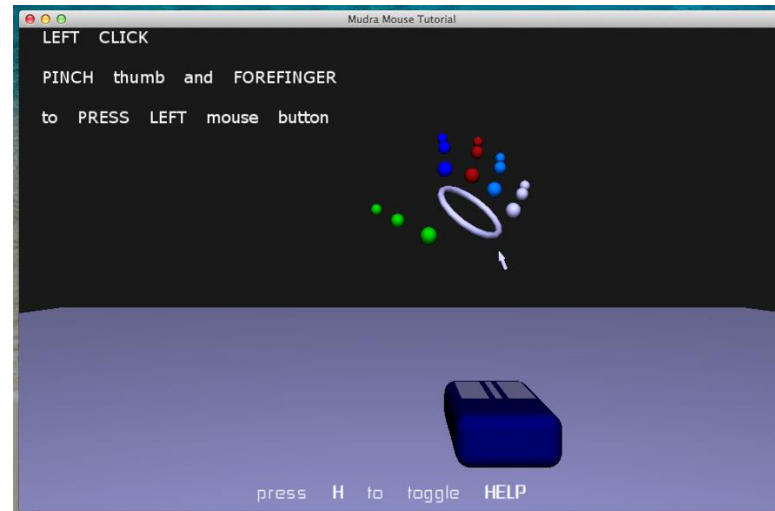
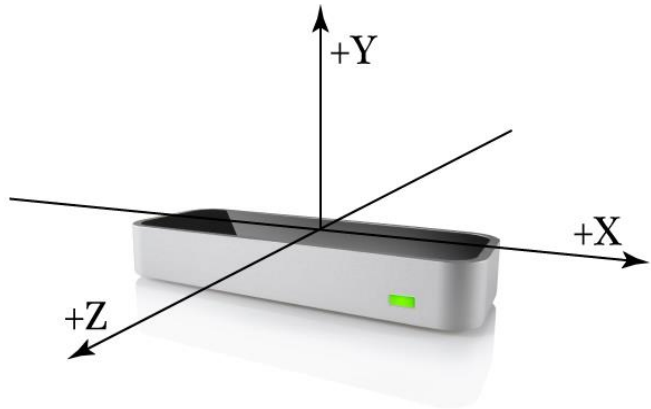


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2. RealSense Controller


- ▶ Key component: hand gesture—Leap motion
 - ▶ Users can control the self-checkout system by the hand signals

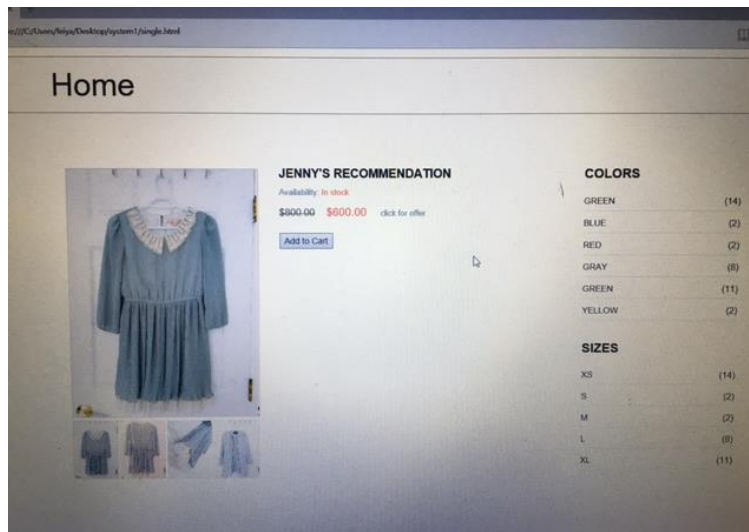
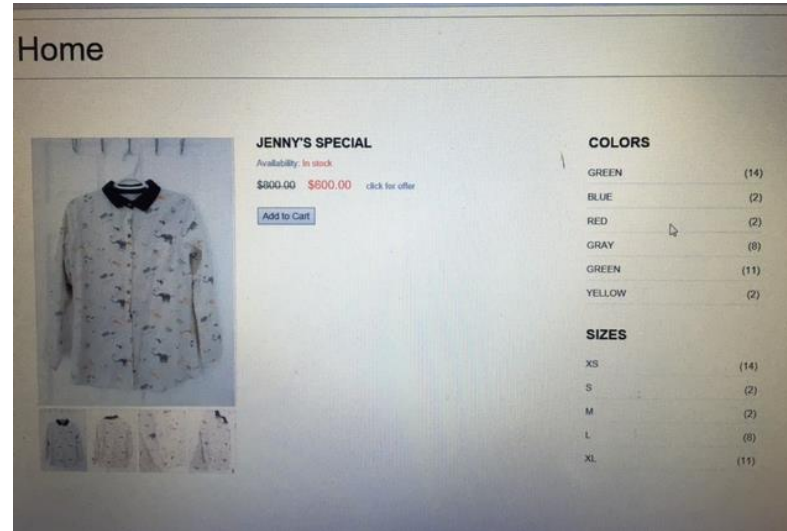


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3. Pay via Phone


**PLEASE USE THE SCANNER ON THE SIDE TO CHECK
THE ITEM'S DETAILS**



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Schedule

	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION	PERIODS	4-Jan	11-Jan	18-Jan	25-Jan	1-Feb	8-Feb	15-Feb	22-Feb	29-Feb	7-Mar	14-Mar	21-Mar	28-Mar	4-Apr	
PHASES																				
Primary Research & Plannin	22-Dec	28	22-Dec	35																
Parts Ordering	11-Jan	35	11-Jan	35																
Design	11-Jan	14	11-Jan	21																
Software Development	25-Jan	35	25-Jan	42																
Hardware Development	1-Feb	35	1-Feb	42																
Mechanical Development	1-Feb	35	15-Feb	35																
Integration	29-Feb	21	29-Feb	14																
Testing	7-Mar	28	15-Feb	42																





Budget

ITEM	ESTIMATE COST	ACTUAL COST
Ardunio Uno(x2)	40 (x2)	33
Screw Driver Set	20	22.39
Ultrasonic Range Sensor	20	19
USB Cable(x2)	3(x2)	3.05+3.86
Bluetooth	30	35
Breadboard Jumper	15	2.2
Potentiometer	2	2
Distance Sensor (x4)	20(x4)	15.5(x4)
Jumper Wire	2	1.75
Two-way Mirror	120	106.85
Barcode Scanner	100	78.30
Mini PC	100	97
Wood	50	48.9
Leap Motion	50	25
LED	2	1
TOTAL	665	577

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Business

- ▶ Potential Cooperative Enterprise
 - ▶ H&M
 - ▶ Forever 21
 - ▶ Topshop
 - ▶
 - ▶ Any clothing stores

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Alterations

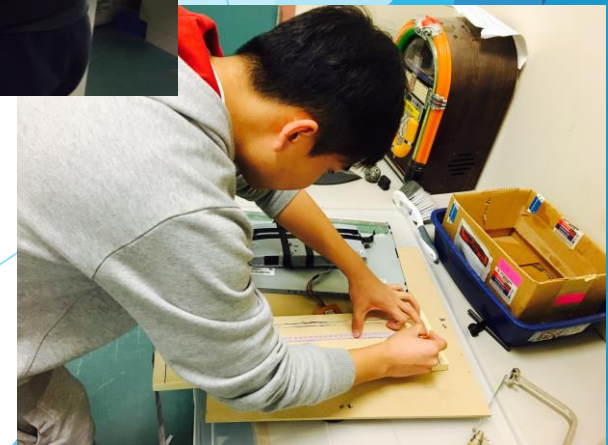
- ▶ Future Additions and Limitations
 - ▶ Lager size—full-length mirror
 - ▶ Establish connection with ambient light
 - ▶ Web page more user friendly (customized)
 - ▶ Better sensor (filter, high quality)
 - ▶ Better RealSense Camera or even touch screen

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Alterations

- ▶ Learning Outcome
 - ▶ Team cooperation
 - ▶ Communication
 - ▶ Project management
 - ▶ Integration takes longer than expected
 - ▶ Problem solving
 - ▶ Technical
 - ▶ Mechanical Operation Process





Questions?





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- ▶ Dr. Andrew Rawicz
- ▶ Steve Whitmore
- ▶ Jamal Bahari
- ▶ Hsiu-Yang Tseng