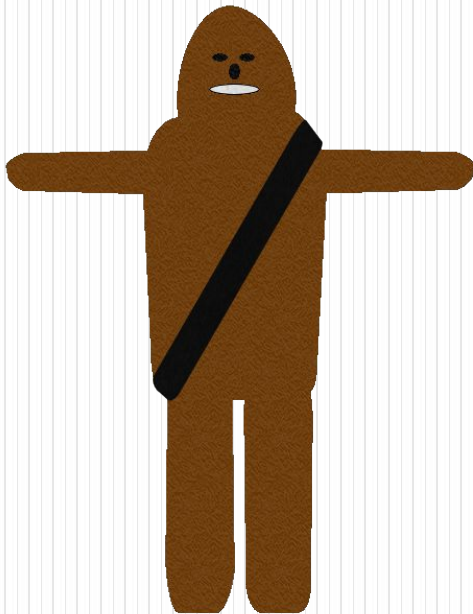


SCC.240

IT FOR CREATIVE INDUSTRIES INNOVATION CHALLENGE GROUP PROJECT

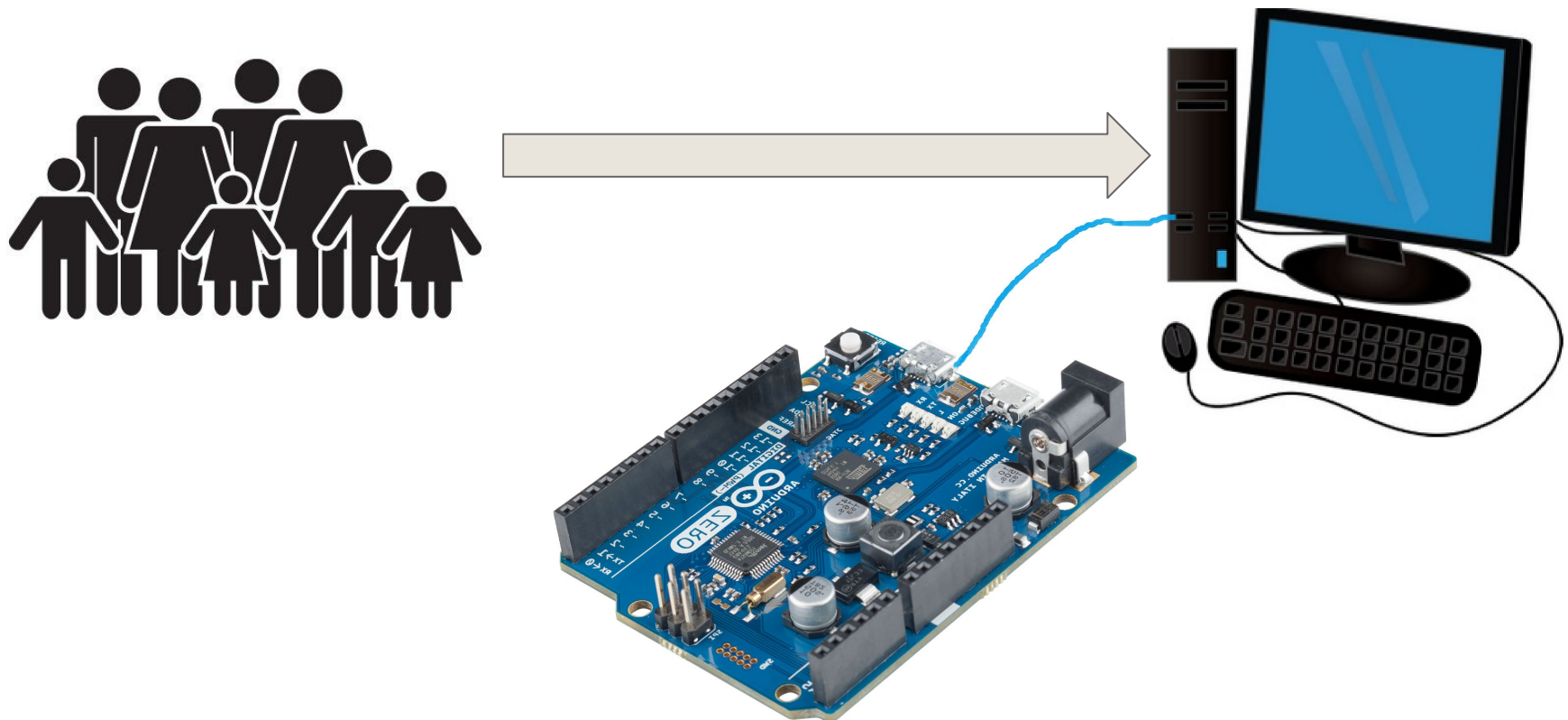


Luke Brown
Jake Dunbar
Samuel Ibironke

*Interactive Scarecrow
Project*



System Overview



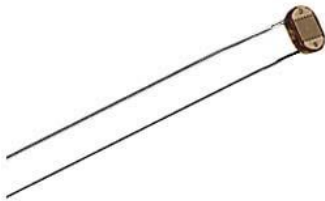
Our target user group (families) interact with the scarecrow at a distance. The scarecrow arduino board is connected via USB to the computer, from which the virtual interaction they would see is displayed.

When a technical sensor is triggered, behaviour is seen on the screen.

Technology Overview



Microphone



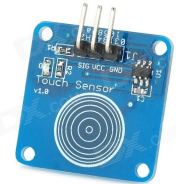
Light Sensor



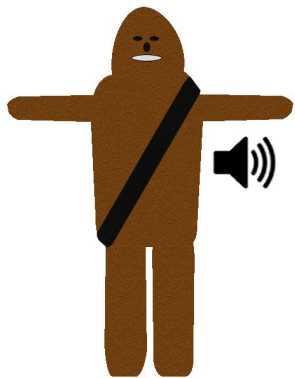
Proximity Sensor



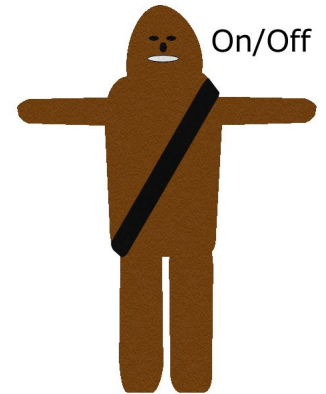
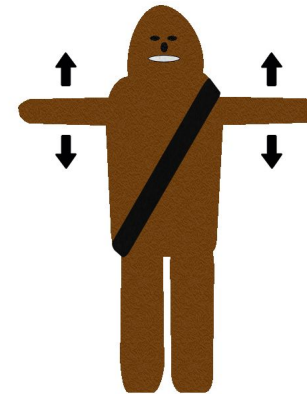
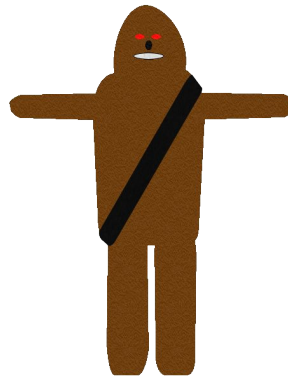
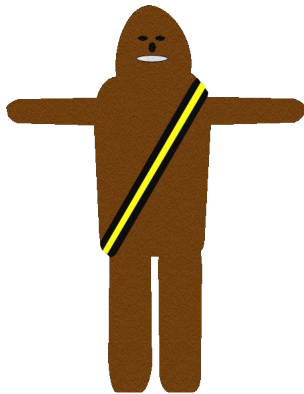
Motion Sensor



Touch Sensor



Play Sound



On/Off

Our Development Process

Phase 1

Research

- Interviews
- Questionnaire
- Videos/Images
- Context Mapping

User Profiling

- Children
- Families
- Hobbyists
- Animal Owners

Phase 2

User Requirements

Technical Requirements

Prototyping

Phase 3

Development

Phase 4

Testing



Phase 1



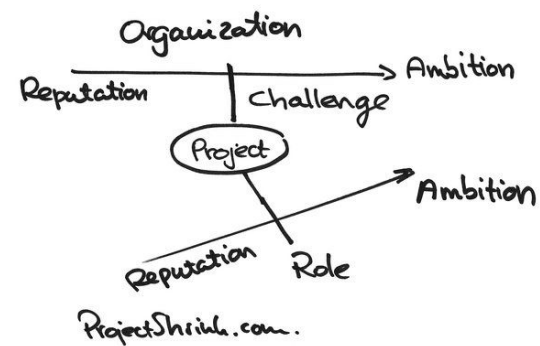
Interviews



Questionnaire



Seeing what others have done



User Journey Mapping

Phase 2

Families

Interactions

- The interaction must foster good relationships between users
- Long and simple enough interaction to gain the user's attention.
- Must easy for the different users to understand
- Must be about to respond to the user's action

Environment

- Must be used in variety of locations
- System must be hard wearing-weather
- Must be able to accommodated different circumstances

Safety

- Must be safe for children and take in consideration user situation.
- Must notify the user or user guardian the situation that it may be in.

Phase 2

- System to System

- The system should know when it's off or on
- System must be safe for itself.

- System to User

- System should display information to user visually
- System should interact with the user through sound
- System can use mechanical arm to interact with user
- System must be safe for the user to use.

- User to System

- System need to detect user movement
- System can hear users sound and use it
- System should be able to feel the user touch

- System to Environment

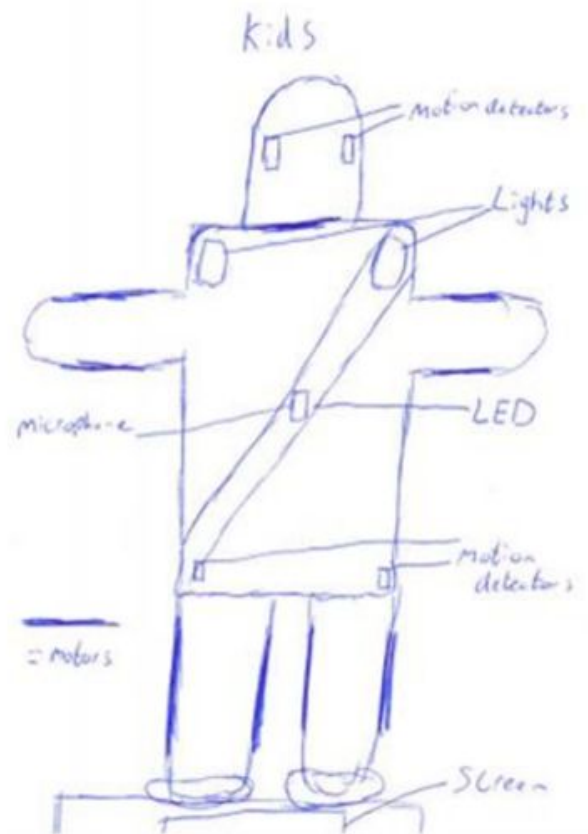
- System must be ready intended environment situations
- System must be movable for different situations.







Project theme

Design

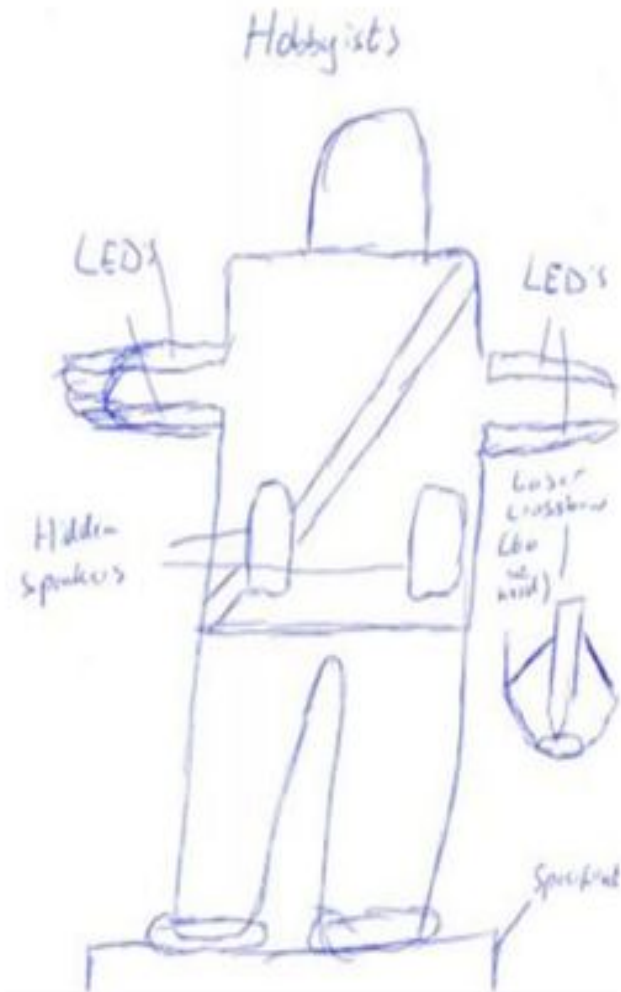


Ideas - Kids







Title: Kids					
1.	2.	3.	4.	5.	6.
					
Motion detectors - will move when someone triggers the sensor - sensor trigger the robot with similar usage.	Lights - will come from its chest when the sensors are triggered when on the home on day.	LED's - LED light will appear when the sensor is triggered.	umbrella - rain will not affect the sensor - still function.	motors/screen: Can be controlled by a hand monitor (shadow) to move it around - fun for children.	Microphone - will interact with children clapping, noise and singing.

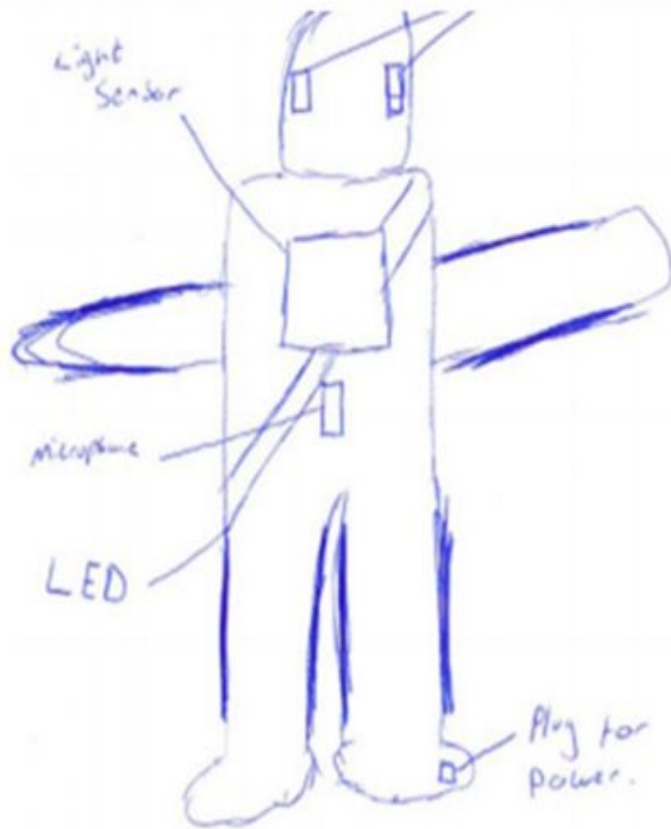
Ideas - Hobbyists



Title: Hobbyist

1.	2.	3.
		
Wozniak will be pose with the crossbow in hand	The crossbow will shoot out no harmful lasers	A Screen will show all the different information about the hobbyists
4.	5.	6.
		
Quiz about Star wars will be send to other		

Ideas - Families

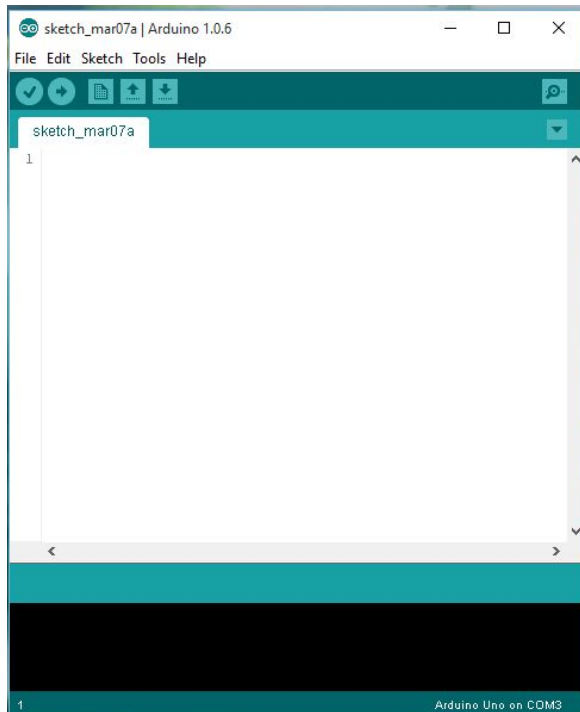


Title: <u>Family</u>					
1.	2.	3.			
Wave hand up when see words "motion" in	will start to pose in different moves	It changes moves every 3 mins			
4.	5.	6.			
LED light will light up in some poses in low light	Sound will be playing in the background in the whole scene				

— = motion

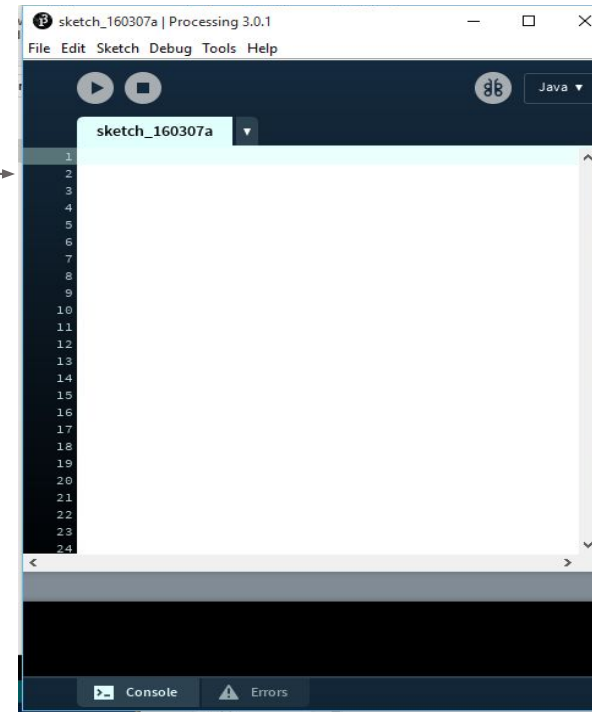
● Implementation - Software

Arduino

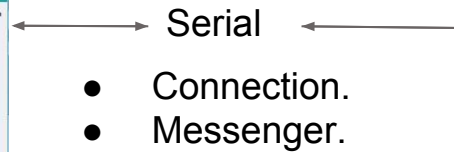


- Mechanical
- User Inputs
- Calculations

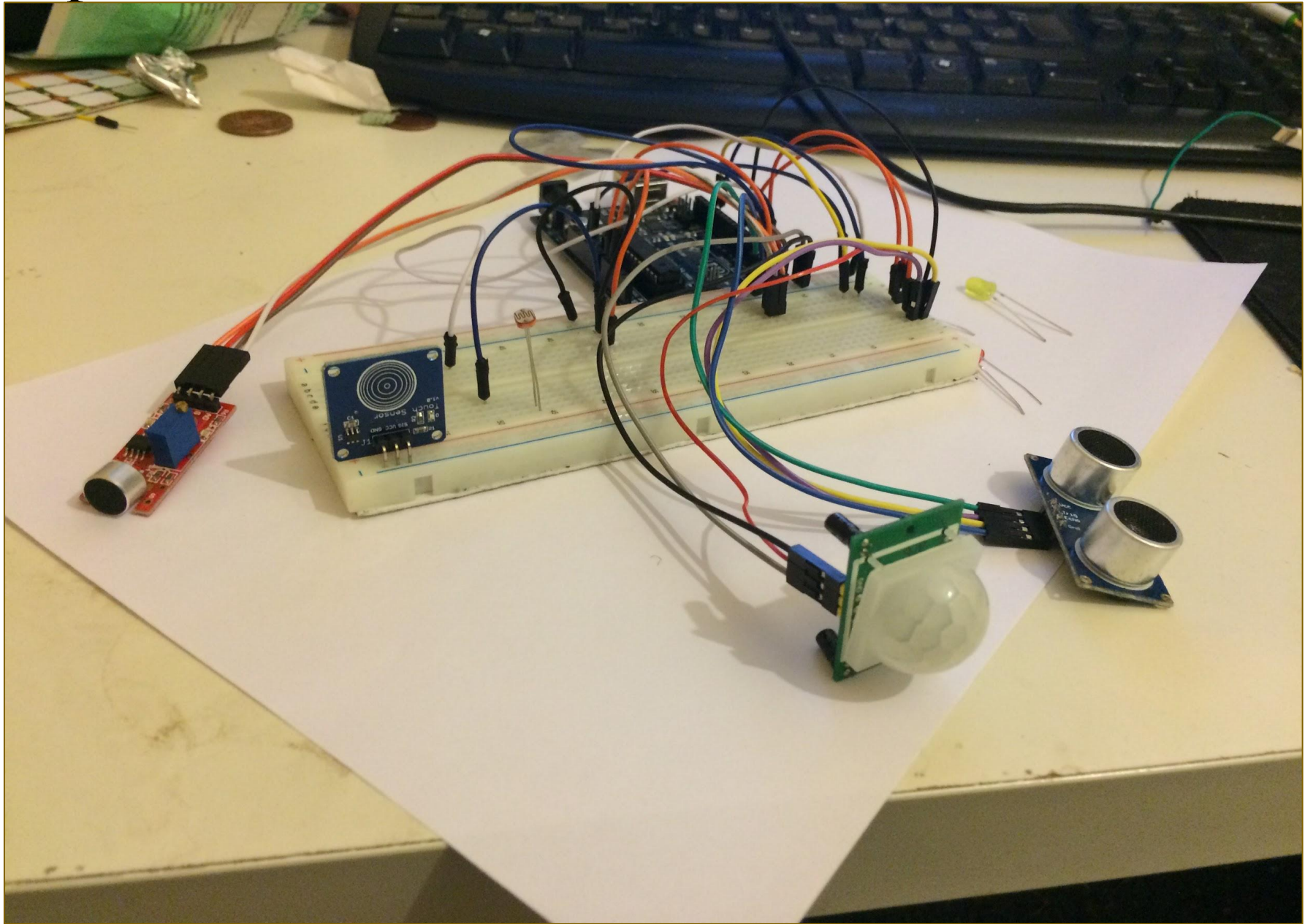
Processing



- Animations
- Timing of events
- Scarecrow outputs



Implementation - Hardware

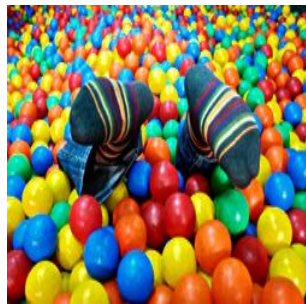
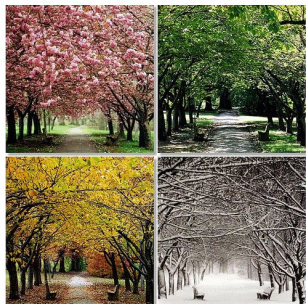


Implementation - Hardware

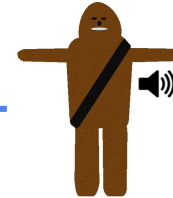


- How we met our requirements

Phase 3



Interactions



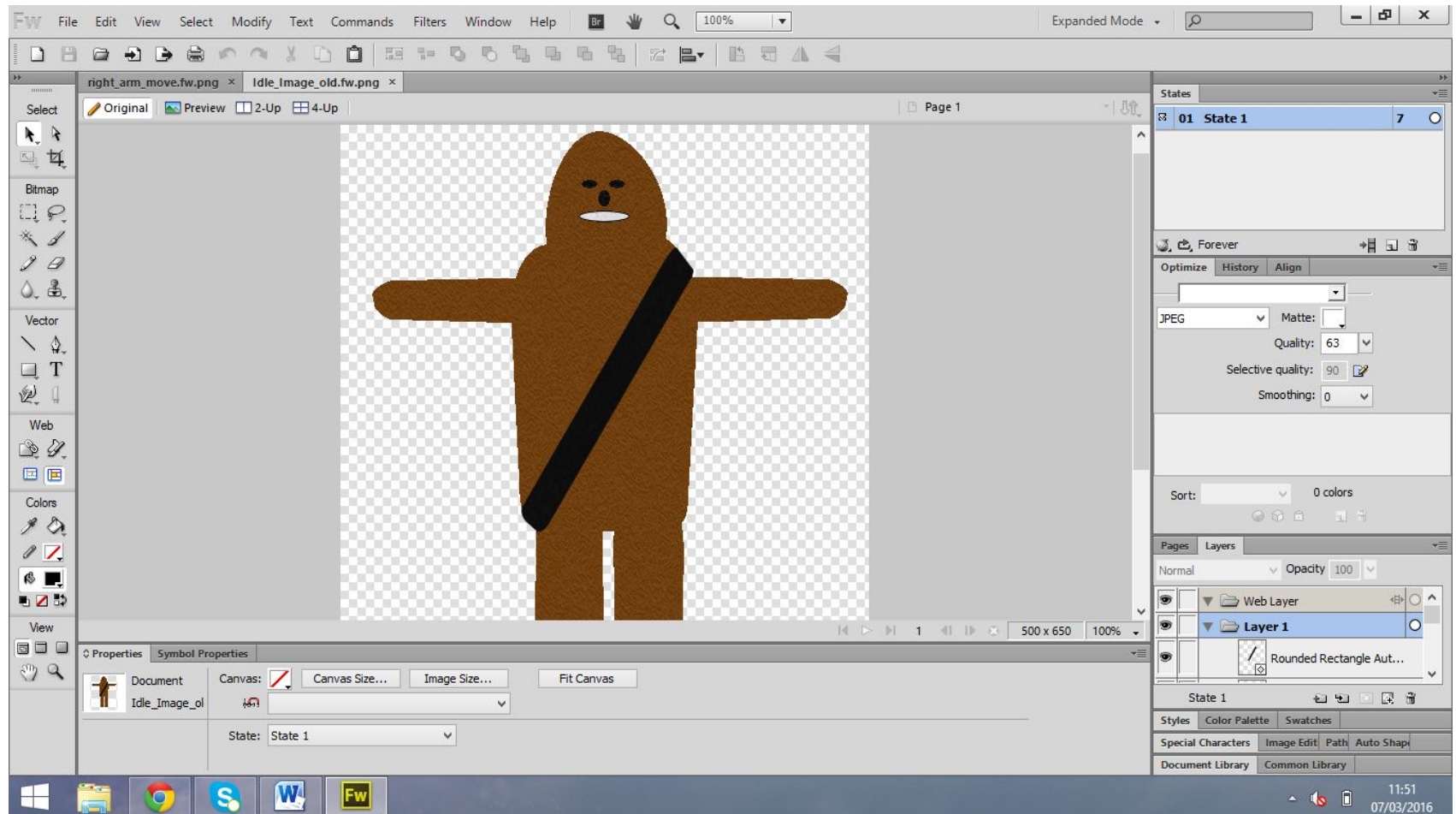
Environment



Safety



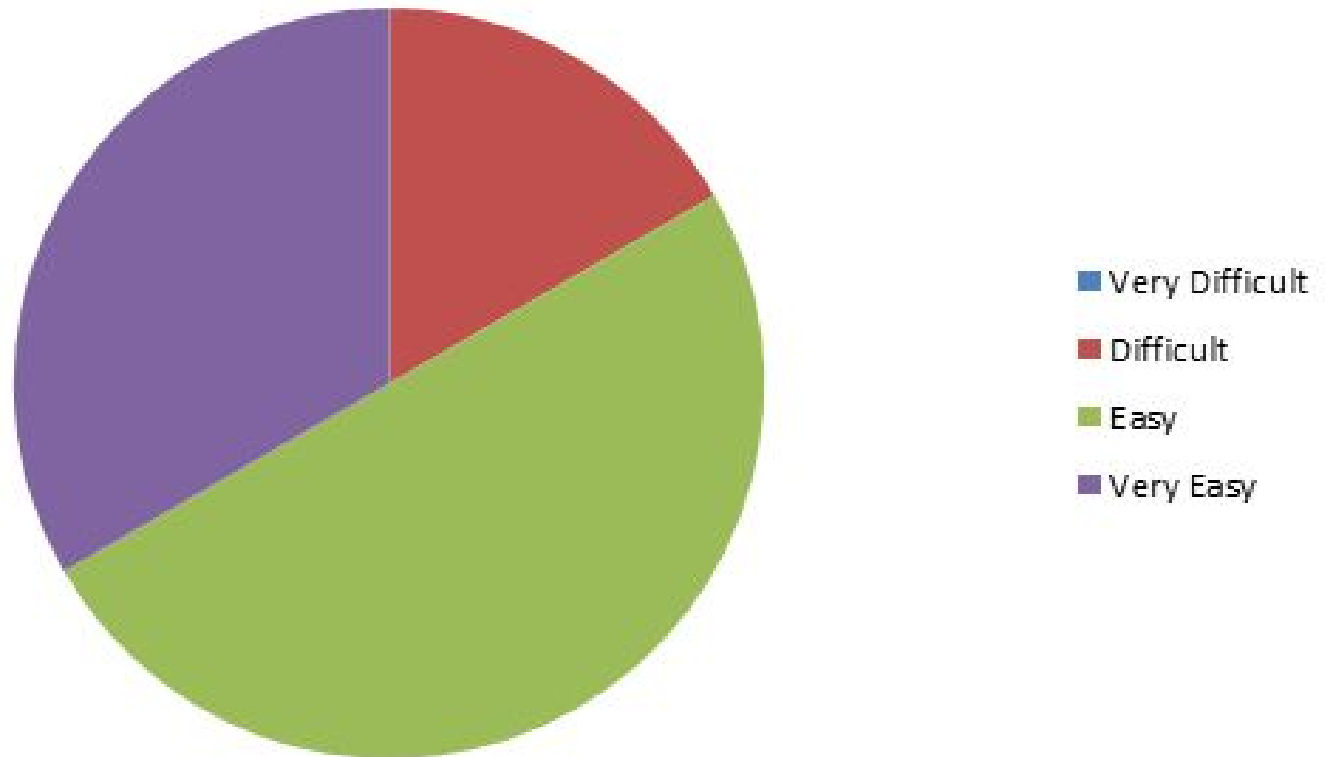
Creating the animation



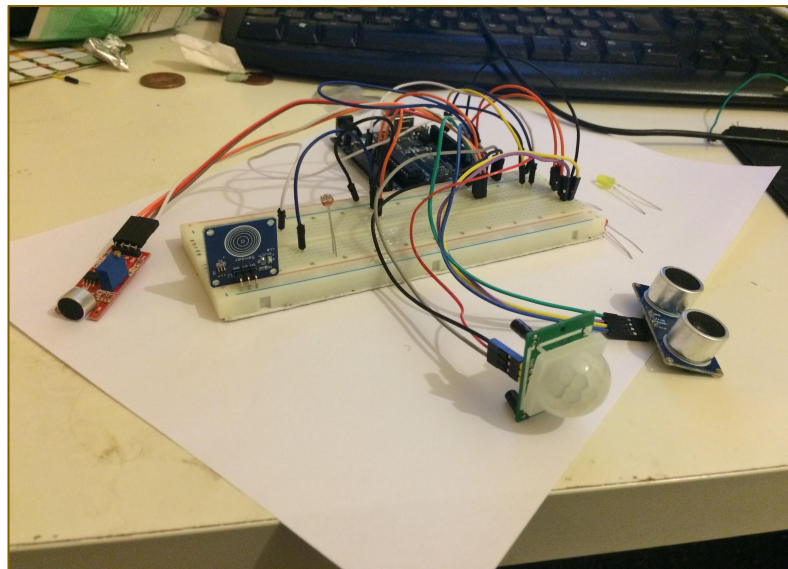
Phase 4

- Usability Testing

How easy was the system to use?



Conclusion



THANKS FOR LISTENING!

ANY QUESTIONS?