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Abstract

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Installation Development Project Documentation

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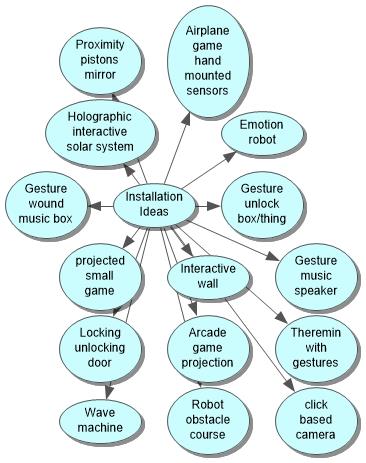
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# Concept

## Vision

## Asset List

# Ideation



## Designs

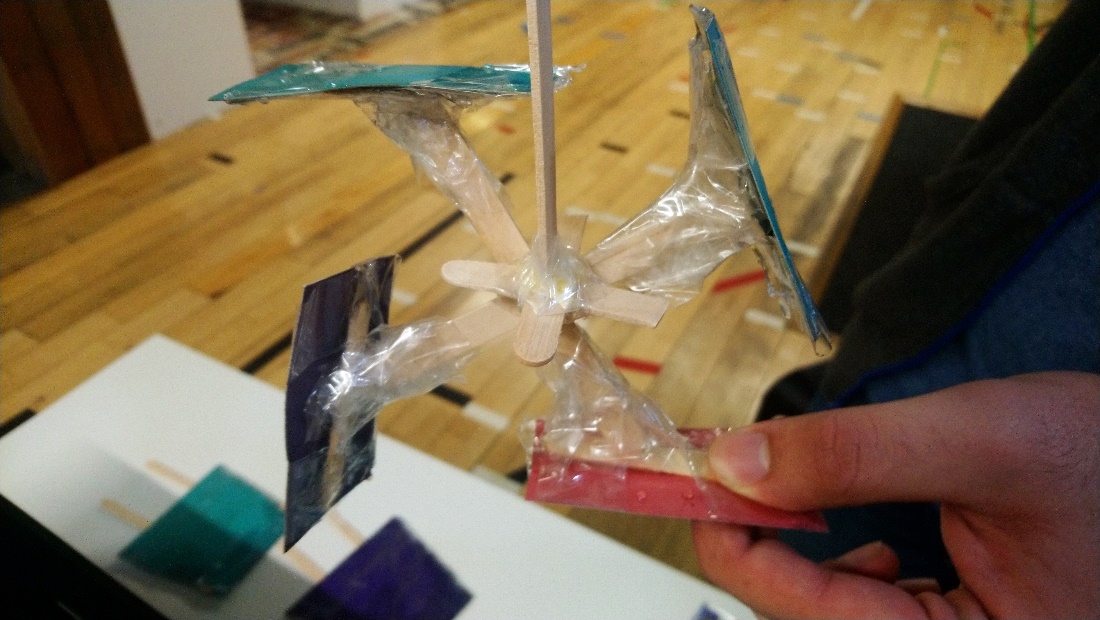
# Prototypes

## Prototype Tests

### Making Waves

These prototypes were created in order to test two different solutions to creating waves for the final project.





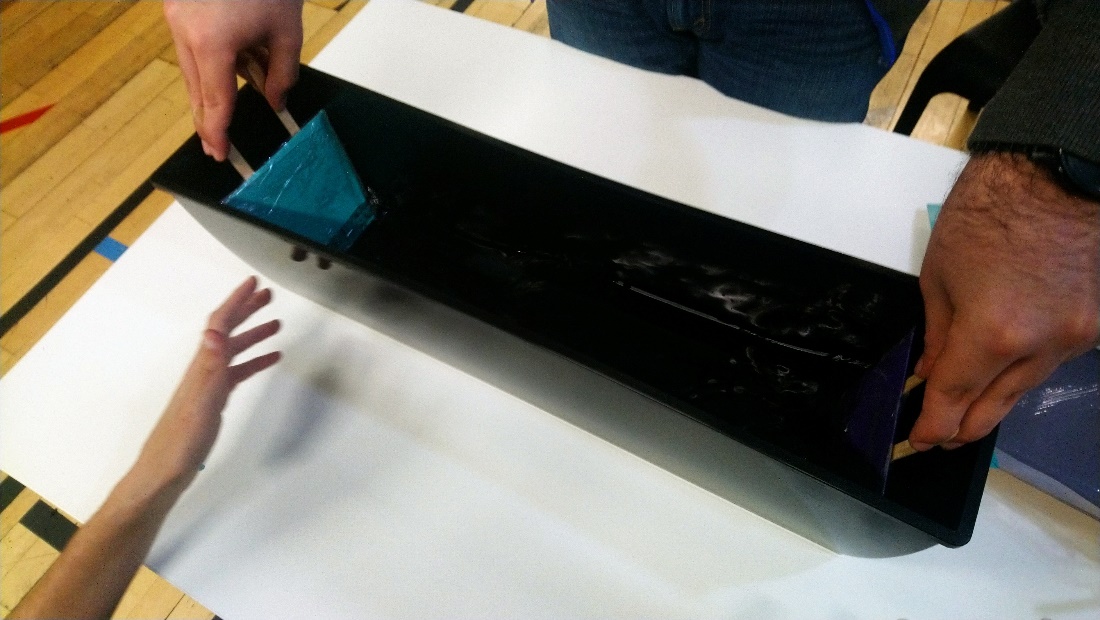


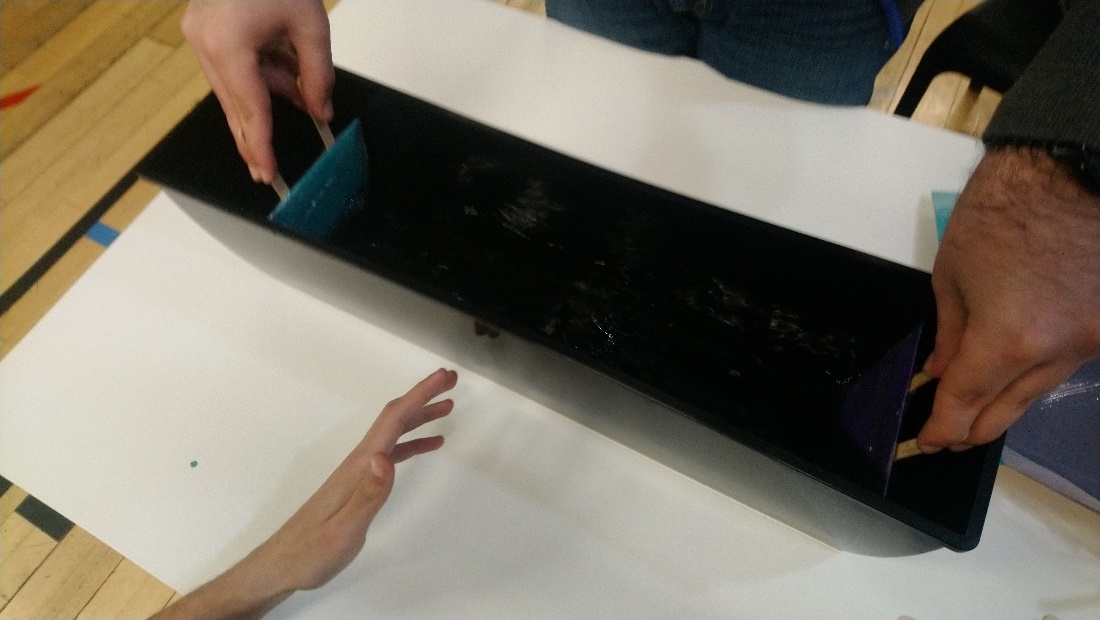


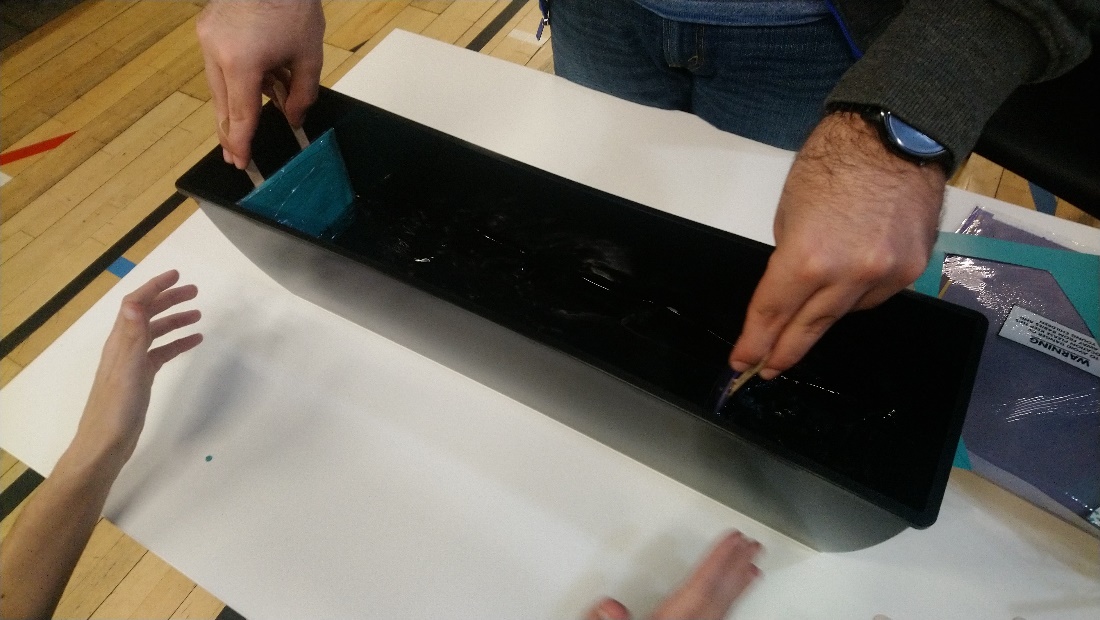




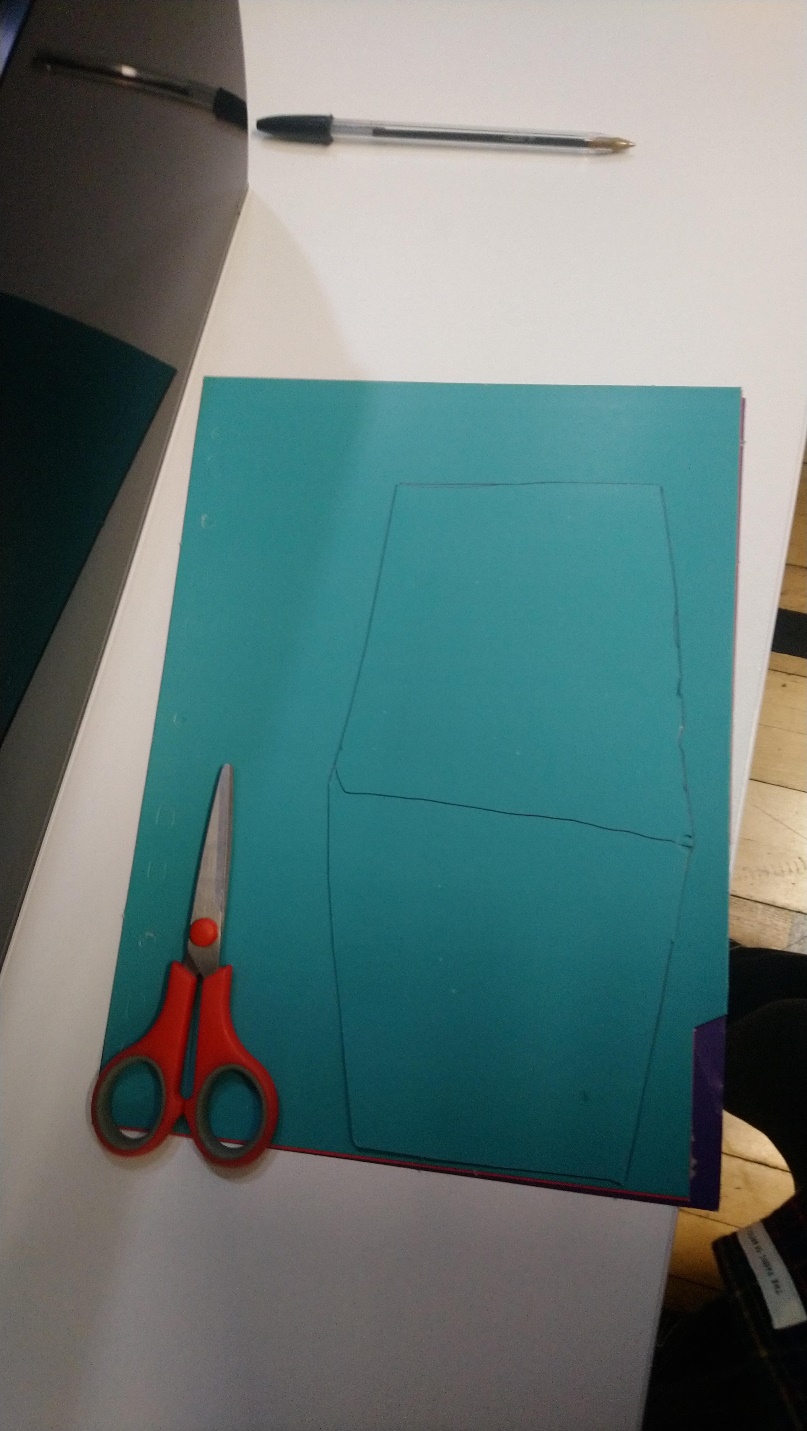












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# Equipment List:

## Water tank

The project revolves around using gestures to manipulate water, with water being one of the essential components it will require a container for it to be used.

### Water tank requirements:

* **Square or rectangular shaped water tank** – A square or rectangular shaped water tank will allow for easier manipulation over the water flow when it is being pushed in a single direction. A circular or round water tank has more space for the water to move around, dispersing all around towards the edges causing the water to seem more stagnant compared to a square or rectangular water tank.
* **Water tank must be able to hold at least 200 Litres worth of water** – The water tank must have enough room to fit in equipment such as the paddles and actuators along with the water itself. There also must be enough room for the water to flow from initial impact from being hit by a paddle to reaching towards the edge of the water tank without causing the water to immediate crash. However, it is also ideal to reduce the size of the water tank and the volume of the water to increase the efficiency to power the actuators. By keeping the water volume and tank size to a minimum, the chances that a relay or alternative power source as well as more powerful and expensive actuators to be used for the artefact are reduced, which will lower the cost of production as well as making it simpler to plan and power the equipment.
* **Water tank with an open top –** An open top water tank will enable equipment such as paddles and actuators to be fitted inside the water tank.
* **Water tank lid –** Because the water inside the tank will be moving a lot during its use, a lid will be required to contain the water inside its tank. Reason for why this is important are: to avoid water loss for prolonged usage, to avoid damaging the electrical equipment outside of the tank, to avoid water coming into contact with the user and ruining their clothes, and to avoid creating an electrical hazard for when water meets electricity.

## Access to a water source

The artefact will require water for it function. Tap water is the preferred option as it is more easily accessible from local toiletries as well as being the most cost-effective option compared to other liquids such as purchasing and using bottled mineral water.

## Arduino

The Arduino is another essential component for the artefact to function. The Arduino is a cheaper alternative to the raspberry pi, with another advantage being a larger source of innate power available to be used for external hardware. Whilst the Arduino is not as powerful as the raspberry pi, the programming used for the artefact should be simple enough for the Arduino to follow through.

## Actuators

An actuator that can push and pull water with a paddle attached to it is required for the artefact to work.

## Sensors

* Ultrasonic Distance Sensor – By using this type of sensor, it can tell the distance between a user’s hand from the water tank, which suits to needs of the artefact perfectly.

## Paddle

A paddle is required as it will be attached to an actuator. The increase in surface mass will allow for easier water manipulation compared to using an actuator on its own.