

Bikel Stodghill

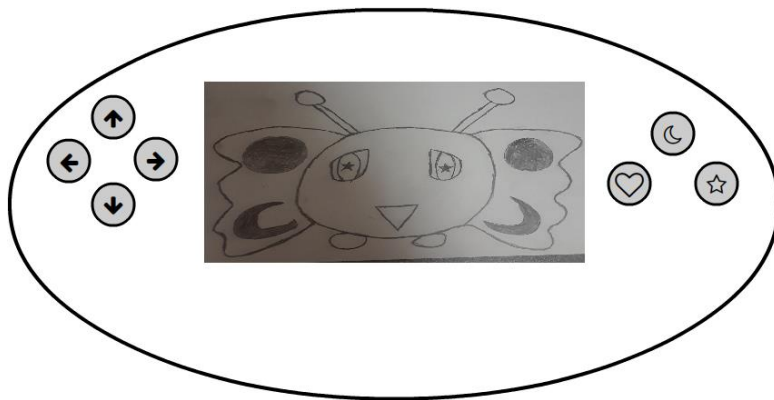
Zane Cochran

CRT 420

February 7, 2018

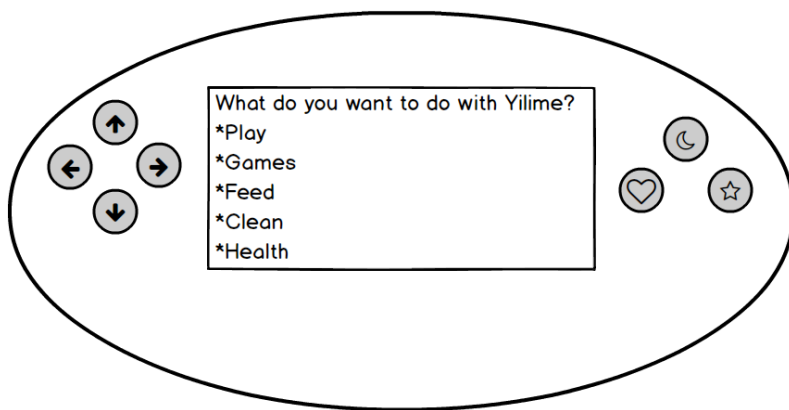
## Function Development

### Wireframe Storyboard



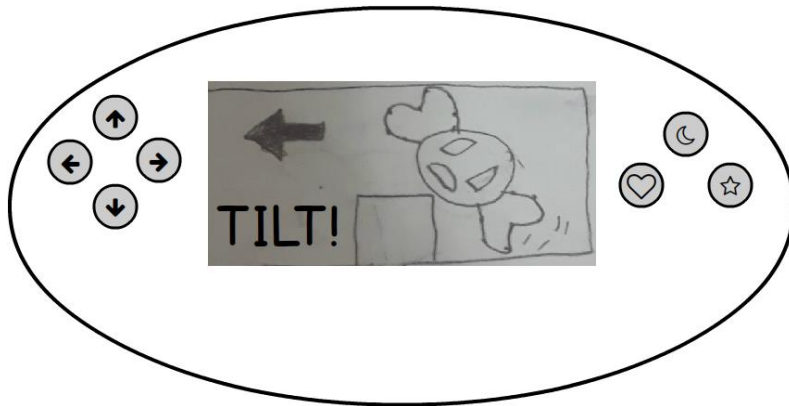
#### Splash Screen

This screen will greet the user with a simple animation and pleasant piezo tone. This will be the main screen the user will look at.



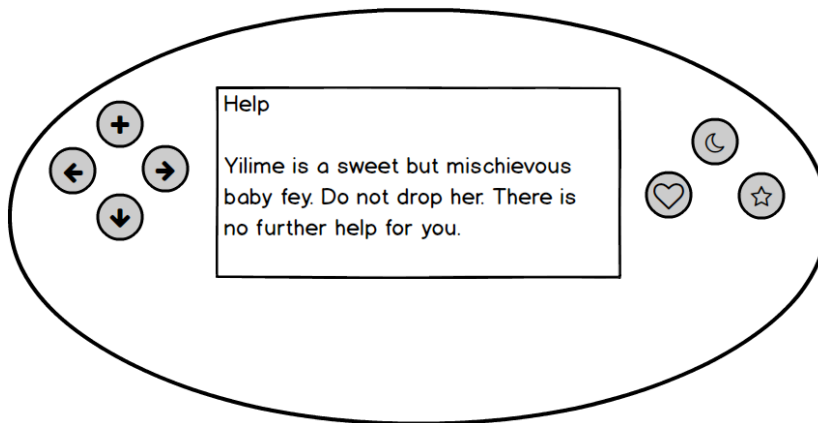
#### Main Menu

By pressing the heart button, this menu screen pulls up. The user can navigate through the screen using the joystick and selecting an action using the star button.



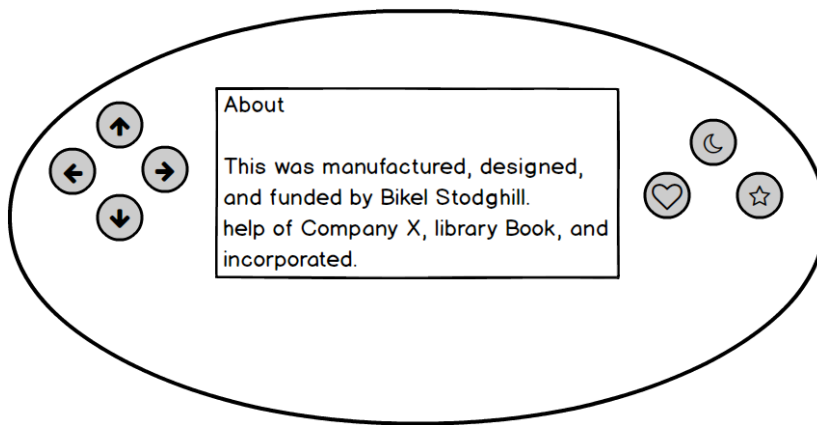
### Minigame Screen

This minigame uses the gyroscopic sensor. The user will tilt the device in the direction it orders him or her. There will be some simple animations going on and the piezo buzzer will be used.



### Help Screen

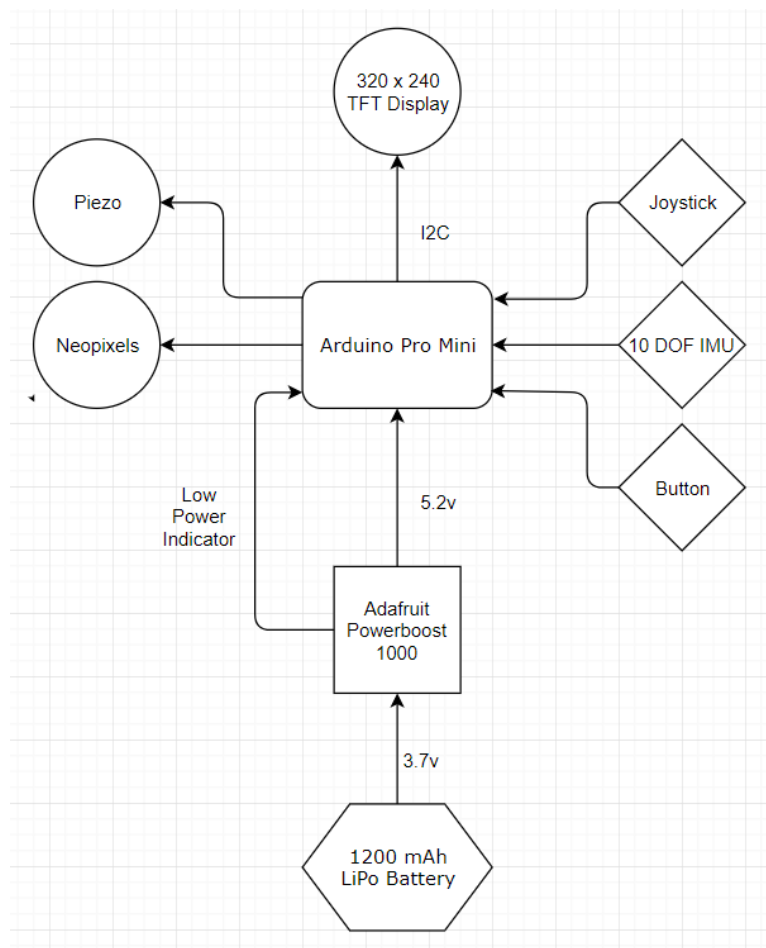
This screen will include simple instructions and hints.



### About Screen

This screen will credit myself, the libraries, and files I used to develop the device.

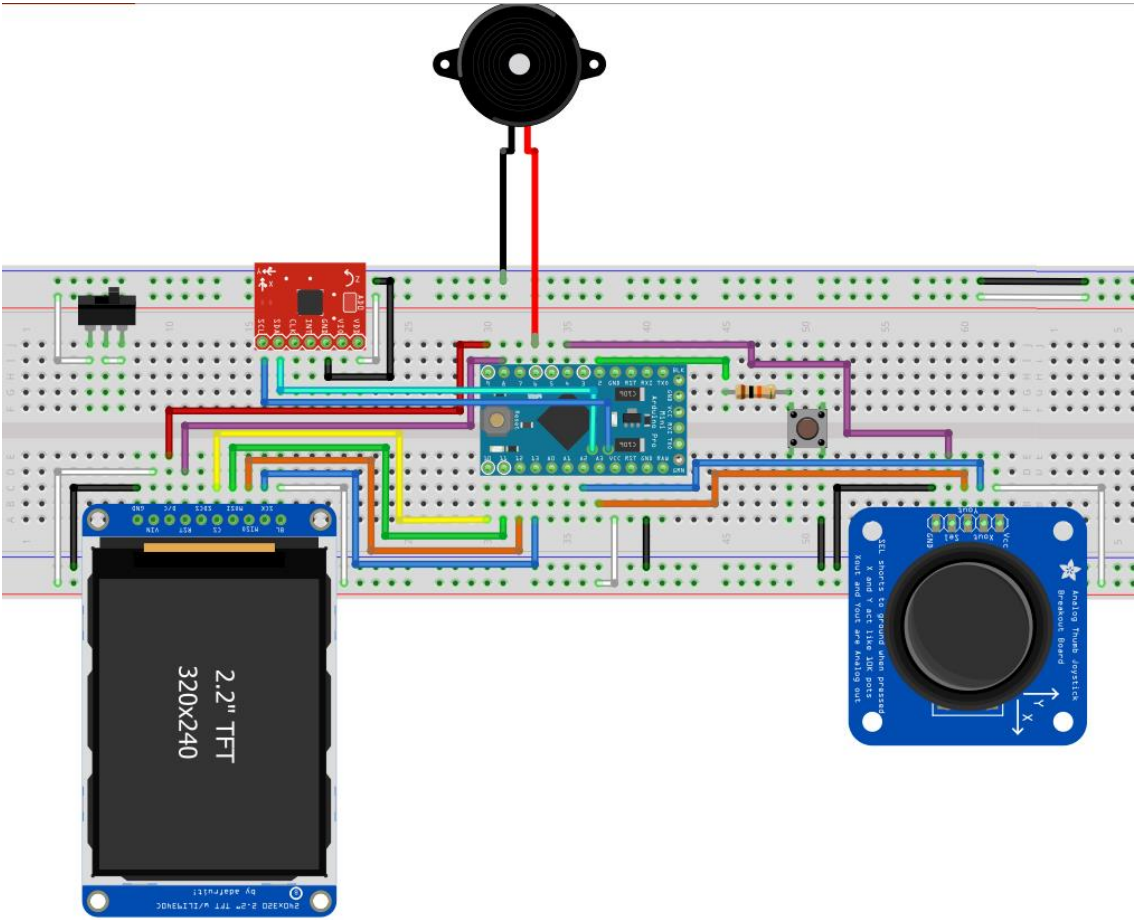
### Component Sketch



# Bill of Materials

Name	Source	URL	Qty.	Cost
Accel/Mag/Gyro+Temp Breakout Board	Adafruit	<a href="https://www.adafruit.com/product/3387">https://www.adafruit.com/product/3387</a>	1	\$14.95
2.2" LCD display with microSD card	Adafruit	<a href="https://www.adafruit.com/product/1480">https://www.adafruit.com/product/1480</a>	1	\$24.95
2-Axis Joystick	Adafruit	<a href="https://www.adafruit.com/product/245">https://www.adafruit.com/product/245</a>	1	\$6.95
LiPo Charger/Boost Converter	Ebay	<a href="https://www.ebay.com/itm/191990401129">https://www.ebay.com/itm/191990401129</a>	1	\$2.19
Push Button	Amazon	<a href="https://www.amazon.com/PP-NEST-Pieces-Waterproof-Momentary-ANKG-01/dp/B074MN56W2/ref=sr_1_13?ie=UTF8&amp;qid=1517861665&amp;sr=8-13&amp;keywords=push+button">https://www.amazon.com/PP-NEST-Pieces-Waterproof-Momentary-ANKG-01/dp/B074MN56W2/ref=sr_1_13?ie=UTF8&amp;qid=1517861665&amp;sr=8-13&amp;keywords=push+button</a>	2	\$8.99
Piezo Buzzer	Adafruit	<a href="https://www.adafruit.com/product/160">https://www.adafruit.com/product/160</a>	1	\$1.50
Neopixels	Patrick Groh		3	
Arduino Pro Mini	Adafruit	<a href="https://www.adafruit.com/product/2378">https://www.adafruit.com/product/2378</a>	1	\$9.95
Lithium Ion Battery - 3.7v 2000mAh	Adafruit	<a href="https://www.adafruit.com/product/2011">https://www.adafruit.com/product/2011</a>	1	\$12.50

Breadboard



Schematic

