

Contract R16STEMA

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The Robo Sapiens

Arpita Abrol and Thivya Srikumar



<http://cdn.instructables.com/FBC/E41A/ICE1SWNS/FBCE41AICE1SWNS.LARGE.jpg>



http://thingiverse-production-new.s3.amazonaws.com/renders/00/8b/3c/1a/d7/20140416_004715_preview_featured.jpg

Projected Designs



Original Content

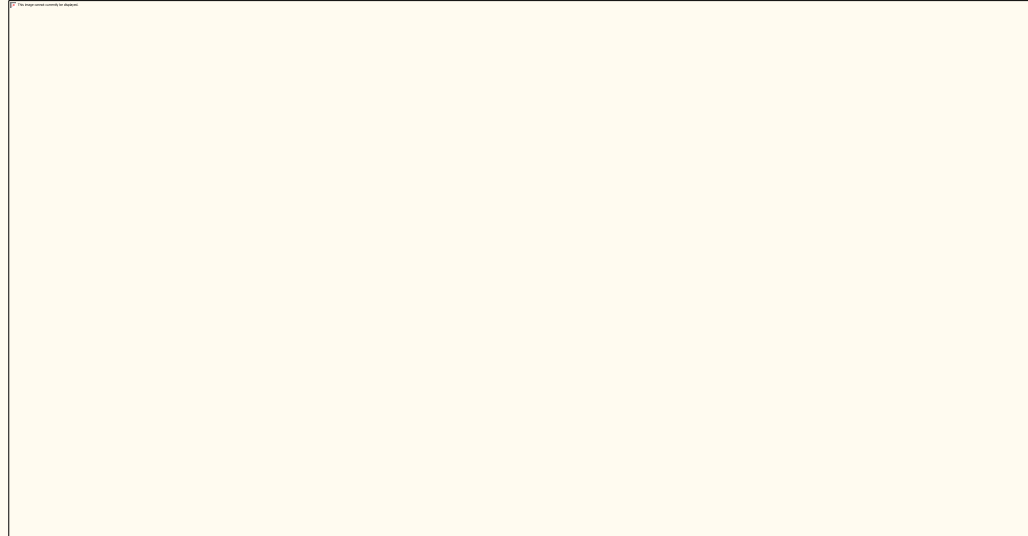
Final Design

Workload Distribution

- Arpita was in charge of all the programming, and assisted with wiring the game console and designing the case.
- Thivya was in charge of the mechanical side of the project- she used CAD software to design the case and soldered the console together.

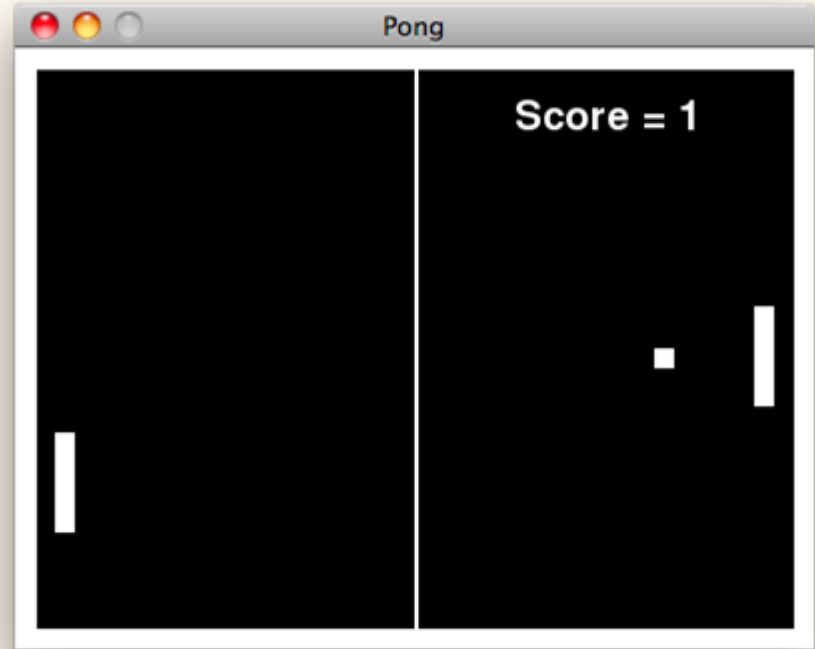
3D Printed Case

We designed the case for our game console using the Computer Aided Design software, Solidworks. The case was then printed, and the push buttons and joystick were soldered into place and connected via wires to the Raspberry Pi.



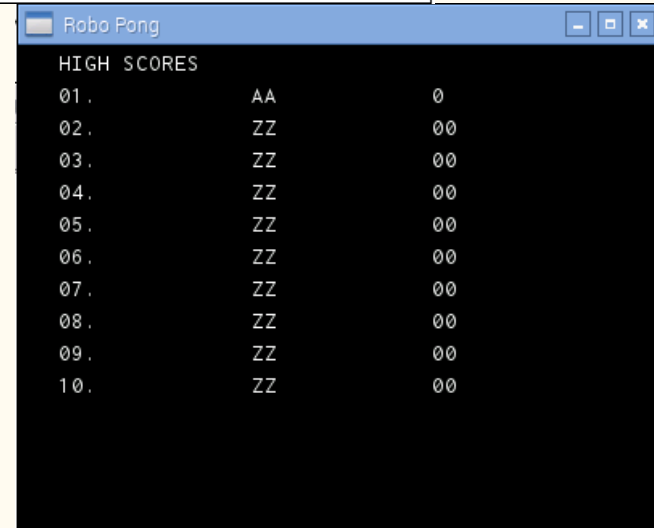
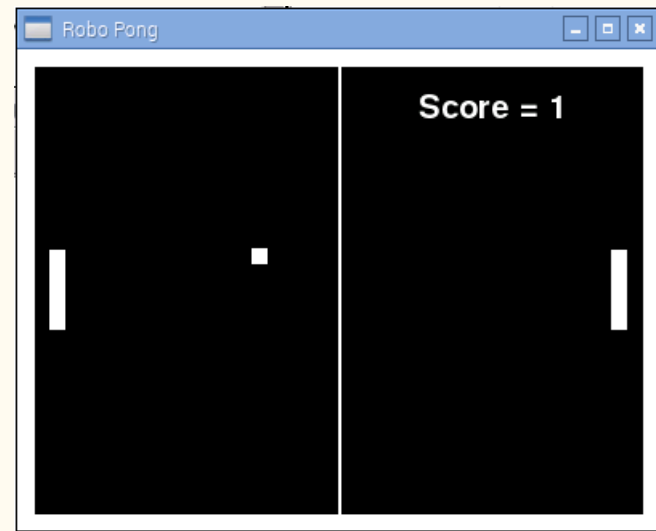
Original Idea: Ping-Pong

Our first idea was to create a simple ping-pong style game. The player will challenge an AI and have to use buttons to move their paddle.



Final idea: Robo Pong

We ultimately kept mostly true to our design. We created a replica of the arcade game, Pong, where a player challenges an AI-based competitor in order to score as many points as possible. We also added in a high score feature.



List of Parts

- One(1) Raspberry Pi 2
- Four (4) push buttons
- One (1) joystick
- One (1) 3D printed case
- Wires and Jumper Wires

Citations

- 3Derp (2014). Portaberry Pi (Handheld Raspberry Pi Emulator). *Thingiverse*. Retrieved from <http://www.thingiverse.com/thing:321624>
- Appleton, T. (2014). Writing Python using Python and Pygame. *Trevor Appleton: Tutorials, Hints, and Tips about the Raspberry Pi and Python*. Retrieved from <http://trevorappleton.blogspot.com/2014/04/writing-pong-using-python-and-pygame.html>
- PiJuice (2015). Raspberry Pi Portable Games Console. *Instructables*. Retrieved from <http://www.instructables.com/id/Raspberry-Pi-Portable-Games-Console/>
- Swan, C. (2012). Raspberry Pi GPIO Joystick. *Chris Swan's Weblog*. Retrieved from <http://blog.thestateofme.com/2012/08/10/raspberry-pi-gpio-joystick/>