

**Group Z3: Christian, Karl, Mika, Peter, Audrey**  
**Bill of Materials**

Item #	Name	Description	Quantity	Unit cost	Extended cost	Link
1	Arduino UNO R3	Microcontroller, with input/output pins, which will control the speaker, and the buttons	1	\$17	\$17	Makerstore
2	breadboard	It is solderless and can be used for prototype 2 and 3 to connect circuits and test them with arduino	1	\$2.50	\$2.50	makerstore
3	Mini speaker	Mini hamburger speaker rechargeable with extension cord	1	\$22.49 Or \$13.98	\$22.49 / \$13.98	<a href="https://well.ca/products/kikkerland-blue-micro-speaker_157009.html?gclid=EAIaIQobChMIzNjK8ff14gIVwh-GCh2hPATfEakYBiABEgJr7vD_BwE">https://well.ca/products/kikkerland-blue-micro-speaker_157009.html?gclid=EAIaIQobChMIzNjK8ff14gIVwh-GCh2hPATfEakYBiABEgJr7vD_BwE</a>  Or  <a href="https://www.amazon.ca/Speaker-Portable-Pillow-Exquisite-Appearance/dp/B07QL47V48/ref=sr_1_5?keywords=portable+speaker&amp;qid=1560969462&amp;refinements=p_85">https://www.amazon.ca/Speaker-Portable-Pillow-Exquisite-Appearance/dp/B07QL47V48/ref=sr_1_5?keywords=portable+speaker&amp;qid=1560969462&amp;refinements=p_85</a>

						<a href="https://www.adafruit.com/product/254">%3A5690392011&amp;rnid=5690384011&amp;rps=1&amp;s=gateway&amp;sr=8-5</a>
4	Battery	We haven't decided which batteries to use	-	--	-	makerstore
5	SD Card Module	MicroSD card breakout board+	1	\$7.50	\$7.50	<a href="https://www.adafruit.com/product/254">https://www.adafruit.com/product/254</a>
6	Mdf wood	18in x24 in for the map	1	\$4	\$4	makerstore
7	Jumper cables	To connect and solder the circuits	20	\$1 for 10	\$2	Makerstore
8	Push buttons	Tactile push switch(6mm)	20	-	\$5	Makerstore
9	protoboard	Snappable PC breadboard	1	\$7.60	\$7.60	<a href="https://www.amazon.ca/BusBoard-Prototype-Systems-SB4-BreadBoard/dp/B00PKVSQX2/ref=sr_1_3?crid=3P95KAZZIRNTY&amp;keywords=protoboard&amp;qid=1560985520&amp;refinements=p_85%3A5690392011&amp;rnid=5690384011&amp;rps=1&amp;s=gateway&amp;prefix=proto%2Caps%2C162&amp;sr=8-3">https://www.amazon.ca/BusBoard-Prototype-Systems-SB4-BreadBoard/dp/B00PKVSQX2/ref=sr_1_3?crid=3P95KAZZIRNTY&amp;keywords=protoboard&amp;qid=1560985520&amp;refinements=p_85%3A5690392011&amp;rnid=5690384011&amp;rps=1&amp;s=gateway&amp;prefix=proto%2Caps%2C162&amp;sr=8-3</a>
10	3D printing				\$0	Makerspace

	PLA					
11	Soldering				\$0	Makerspace
12	Laser cutting				\$0	Makerspace
<b>Total</b>					\$59.58	