

Impedance Cardiography

Clients:

Prof. John Webster

Elena S. Bezrukova

Team Members:

Kim Safarik (Leader)

Jacob Meyer (Communicator)

Terra Gahlman (BSAC)

David Schreier (BWIG)

Oct 30th to Nov 5th

Project Statement:

Impedance cardiography is a medical procedure utilized in order to noninvasively analyze and depict the flow of blood through the body. Traditionally, four electrodes are attached to the body, two on the neck and two on the chest, which take beat by beat measurements of blood volume and velocity changes in the aorta. However, this system suffers from degrees of inaccuracy, possibly due to the fact that the electrodes are placed too far from the heart. As a result, it is our collective goal to design an accurate, reusable, and spatially specific impedance cardiograph system that ensures accurate and reliable readings.

Current Design Goals:

- Order relevant materials
- Finalize initial prototype

Project Status Summary:

During this week of design our team has begun to take steps toward formulating an initial prototype. We built our circuit amplifier with Elena last week Thursday. All of us worked as a team, taking careful examination of how the amplifier is set up. However, once we finished building we tested the amplifier and discovered that it was not working properly, so now we need to trouble shoot the circuitry. Also, we took time to order materials; however, we discovered the material we needed will take an extremely long time to arrive so we are searching

to order it on other websites. After we have the amplifier and our material we will have our preliminary prototype and we can begin testing it.

Future Design Expectations:

- Perform testing on prototype
- Begin working on ventricle detection aspect of the project
- Integrate circuitry and Prototype

Work Hours:

Name	Work Performed	No. of Hours/Task	Total Hours
Kim Safarik	Design Consideration	½ hr	2 ½ hrs
	Materials Research	1hr	
	Progress Report	1hr	
Terra Gahlman	Design Consideration	1 hr	2 hrs
	BSAC meeting	1 hr	
Jacob Meyer	Communication	½ hr	2 hrs
	Materials/Budget	1 ½ hrs	
	Consideration		
David Schreier	Website updates	½ hr	2 hrs
	Design Consideration	1 ½hr	
Team	Aplifier construction	½ hr	9 hrs