Overview

In this project, my team was planned on innovating the engroair chair with the combination of AI technology which make it a unique feature that none other engroair chairs have. The idea is that we will replicate many of the engroair chair models available on market and create a new appearance for our product along with a range of features. The additional features and improvement are designed to resolve issues regarding the spine especially Herniated Disc and Scoliosis. In order to achieve that, that’s when my team uses computing method and machine learning so that it will be able to operate efficiently and effortlessly. Next, for the production process we chose to cooperate with D'ERGO to manufacture the engroair chair. Lastly, would be the calculation of investment expenses to minimize as much as possible since the additional adjustment package and the embedded technology behind it. Therefore, becoming a high-quality product however, the accomplishment will not be true without a significant quality assurance process.

As having researched the market, we can state the uniqueness of our engroair chair is truly incomparable in which can resolve the issue in spine problems especially in young adults. Using our product will bring most comfortable feelings despite hours of sitting or occasional movement with different positions. Overall, it will relieve many of user’s fatigue body parts like head, neck and arm especially provide protection to your spine and reduce the pain of your lower back. Therefore, with the creation of the engroair chair we hope to bring benefits and satisfaction to consumer especially the solution to correct positioning seating. The final stage is to cooperate with D'ERGO to produce the product bringing to commercial use. If everything goes according to the plan, we highly believe it become a breakthrough in relation to smart furniture. The impact of it on society will be a significant contribution since taking into consideration it’s not only a smart chair, but also becoming a supportive and healthcare figure.

Motivation

The intention of our project is to make improvements as regards to the engroair chair includes the AI technology to address the issue of scoliosis mainly happens in wrong seating position especially in young people. During the Covid – 19 quarantine, people have to study or work remotely. Therefore, not only working – people, but students as well which they aren’t used to seat over a long period of time to learn, it might cause back pain and reduce the learning motivation. Although the ergonomic chairs were widely used among offices and home user to address these issues, Scoliosis still exists and on the rise. Because of the pandemic quarantine, students have to seat in whatever chair they have to study online. The effectiveness of the ergonomic chairs wasn’t enough since children tends to bore or tire with the lecture or sitting for long period causing back fatigue and sometimes there’re children who moves around or put their leg on the table and lean back due to back pain. In order to prevent that, the AI Ergonomic Chair project was created to resolve many spine issues typically Herniated Disc and Scoliosis. My team had integrated AI into our engroair chair so it’s able to constantly adjust the back of it to correspond with the user’s back. As the product, my team were using one of the latest technology which is artificial intelligence. It mostly uses the visual assistance similar to Google Assistant, Siri, and Alexa. The implementation of the project requires the effort of teamwork which includes AI development using Python programming, Technical design, and quality assurance.

Landscape

As mentioned, the differentiation within our product compared to others on the market is that the wide range of adjustment and the most important feature is AI integration. Firstly, we added the adjustment package which will provide customer many adjustable features. Those are height and seat depth adjustment; customer can also move around easily with the adjustability of the independent seat angle and back angle. Another important feature of the engroair chair is the synchro tilt mechanism which allow customer to lean back independently with the support of recline function. Overall, it will give the customer a comfortable seating with adjustable armrest and headrest, the back will receive the most comfort feeling especially the protection of a straight spine. The most important feature of our product is the AI integration which will control all the movement automatically. The integrated AI is what differentiate our product and others on the market. The AI functionality is as it will scan the back of user and control the chair back position to the correct shape of the user’s back. For example, if the user makes any movement regarding the back like seat straight , the engroair chair will automatically adjust to follow the back’s movement of the user.

Aims

Our main goal will be considered successful if there is a reduction in the number of people which might or will be suffering from Scoliosis importantly the children. Due to the fact that the bone issue regarding the spine which is one of the most crucial parts needed for early development in children’s growth. Not to mention the benefits of bringing the most comfortable moments in terms of stress relief and relaxation on the whole body especially your back. Additionally, it’s known that whenever your body feels relief and joyful people will become energetic in doing things, therefore, increase the productivity of working or learning. We have high hope that our project will make a good impact of individuals typically office workers and also parents whom in search for reliable equipment to support their children online study. There is needless to state that it may be considered in the future a scientific invention.