

ELEVACAR

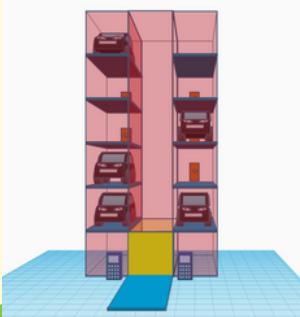
Ivy League Wait For Me



TECHNICAL MANAGER

Responsible for the technology: Researching and planning the operation of Elevacar, and creating a 2D and a 3D model

3D MODEL OF ELEVACAR



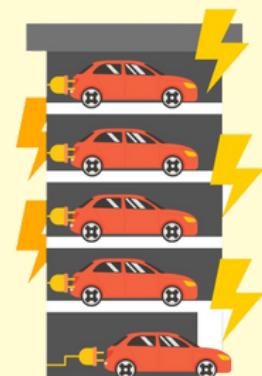
FINANCIAL MANAGER

Responsible for the finances: collaborating with other organizations for funding, and outlining the estimated amount of money needed

CEO & MARKETING DIRECTOR

Makes sure the company is functioning well as a whole, and responsible for the marketing: promoting the business to other people and organizations, and creating the final written & digital report

2D MODEL OF ELEVACAR



ABOUT US

We are three 8th-grade students from Korea International School Jeju. We are from South Korea, and our dream is to get to study in the Ivy League one day. Although we are middle school students, that didn't stop us from coming up with an idea that will help make the world a better place. Our idea is familiar but new, as we are combining concepts that have already appeared in our world to create an entirely different project.

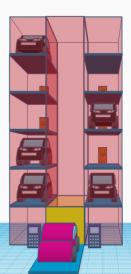
AIM

Our main aim is to create an infrastructure that will charge electric cars much more easily accessible and quicker. Electric cars are vehicles that consume electricity instead of

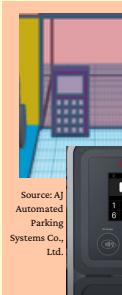
gasoline or fuels for energy. Unlike general vehicles, electric cars do not produce harmful greenhouse gases in the environment such as carbon dioxide. Fortunately, especially in South Korea, the demand for electric cars has increased over the past few years. However, compared to the increased demands, the number of electric charging stations are in lacking. While a total of 250,000 electric cars are estimated to be used in South Korea, there are only under 10,000 electric charging stations and these are mostly located only in the capital areas. With this trend, the lack of electric charging stations will be a huge disadvantage for people who choose to buy electric cars, and can eventually lead to a decreased number of sales. This can be detrimental to the environment as a lower number of electric cars indicate a higher number of gasoline cars. To prevent that, our team's goal is to build an infrastructure that will help people to charge electric cars much more conveniently, increase the awareness of the advantages of electric cars, and in time, lead more people to choose to buy electric cars instead of gasoline cars.

OUR PROJECT

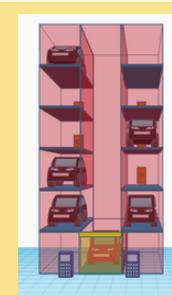
Our project will be an electric car charging station that can be found easily around us, can be accessible to anyone, and provides amusement for car owners to spend their time, instead of just waiting for their car to get charged. Indeed, charging an electric car takes much longer than fueling a gasoline car. To satisfy all of those criteria, here is what we came up with:



(1) An electric car comes into the station and steps on the flat blue base.



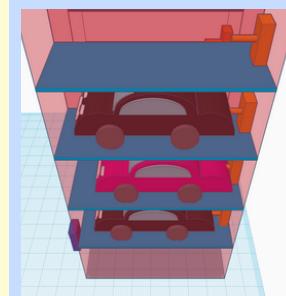
(2) Car owner types his car number, phone number, and payment (around \$10 ~ \$30 based on the amount of charging) into the machine next to the car.



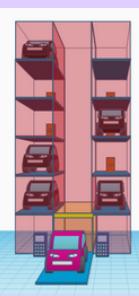
(3) Once payment is finished, the door will be opened, and the blue base will automatically take the car into the Elevacar. From here, the car owner doesn't have to do anything and can hand it around. When the car goes in, it is turned around 180 degrees to make it easier for the owner to ride the car after charging.



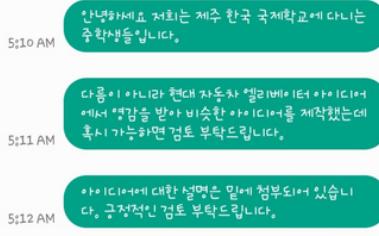
(4) The blue base moves to a floor that has empty space and replaces the blue base with the car with the blue base that was originally in the empty space. During the replacement, the car also gets moved to the empty space. After that, the rift goes to the 1st floor to receive more customers.



(5) The electric car starts to get charged automatically using the charging machine.



(6) After charging, a message is sent to the phone of the owner, and when the owner types his car number in the machine, the car comes to the 1st floor for the owner.



Hi we are middle school students from Korea International School Jeju.

We got inspired by the Hyundai car elevator idea and came up with a similar idea. We would appreciate it if you could take a quick look over it.

The information about the idea is attached below. Thank you so much and have a great day.



Hi we are middle school students from Korea International School Jeju.

We got inspired by the AJ Automated Parking System and came up with a similar idea. We would appreciate it if you could take a quick look over it.

The information about the idea is attached below. Thank you so much and have a great day.



Hi we are middle school students from Korea International School Jeju. We have an idea that was inspired by your electric car business.

We would be happy if you could perhaps take a look at it. The explanation of the idea is attached below. Thank you for reading and have a great day.

FUNDS

As our project is building an infrastructure, it is impossible to do it on our own. It costs more than 10 million won (8000 dollars) to build a building, will require permission from the government, and the process will be too complex for middle school students. Instead, we will collaborate with Hyundai, the No. 1 car brand in South Korea, and No.6 globally, and AJ Automated Parking System because it has a very similar technology compared to our project. Considering globalization, we are also planning to collaborate with Tesla, the brand that popularized electric cars. We think we will have a very similar perspective, idea, and future as these companies we selected.

HIGHLIGHTS

- Members of our team got COVID-19, so most of the conferences were done online; only 2 conferences were done offline.
- We managed to communicate with one of the biggest companies worldwide including Hyundai and Tesla.
- As we investigated around our city to find possible places to construct our infrastructure, we noticed that a lot of empty spaces are not being used in a productive way and that we can take advantage of them.
- There were more owners of electric cars than we expected, and that motivated us to increase the number of electric car owners even more and promote the advantages of electric cars.

OUTCOMES

Indeed, we are not yet finished with our project. We still have a lot to do. We have to confirm funding with the companies, keep communicating with them, look for a place to install Elevacar, and so on. However, that doesn't mean that we failed on our project. We actually made a lot of progress with it, and we are planning to work on it continuously in the future. The outcomes so far are that we created our digital reports of our project, communicated with huge organizations for funding, created a poster that will be used for promoting Elevacar, created 2D and 3D models that demonstrate our product, learned a lot of new knowledge and gained a lot of new skills. Also, we experienced various new things with our project. Some failures are that we weren't able to manage our social media properly because we were busy with the other work, and we didn't have a lot of things to post on Social Media. We wanted to push the Social Media to later when Elevacar is actually constructed, and use it to promote people to come to Elevacar.

IMPACTS

We know that our product has impacted people based on the survey we sent out to people in our city who own a car. The results of the survey, as shown below, present that 27.3% out of 22 which will be approximately 6 people only from our city will be using Elevacar. Also, about 59.1% of respondents said that they think Elevacar is making the world a better place. (13 people) These responses show that Elevacar is definitely making an impact in our city, engaging people to use Elevacar and showing how Electric cars are making the world a better place. Talking about South Korea as a whole, the number of vehicles that are registered are 231 thousand in 2021. This shows that when our project increases with the help of funding from other organizations and our infrastructure increases in number, there is a high possibility that our project will impact all of these users of electric cars, allowing them to charge their electric cars in a much quicker, more comfortable, and more easily accessible way.



LEARNING

As a team, we did a lot of research about our topic, and the electric car usage in South Korea. Major learnings were that the number of people with electric cars is increasing exponentially, while the electric car charging stations are in lack of, and not provided in less crowded areas. Also, our Elevacar is based on the elevator system, as can be predicted from the title. Besides an elevator format, there are horizontal and crane formats as well. Moreover, the restriction for constructing buildings in our city is no more than 40m, which caused us to change the height and number of floors of our infrastructure.

POSTER

This is a poster of our Elevacar. The purpose was not to earn money by selling the posters but to promote our business once the Elevacar is launched as an official infrastructure.

SUSTAINABLE DEVELOPMENT GOALS

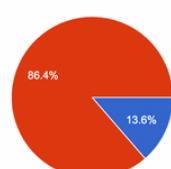


We aimed for No.7 for promoting the usage of clean electric fuels, No.9 for building infrastructure, No.11 for working towards sustainable communities with sustainable energy, and No.13 for reducing the amount of greenhouse gases for the climate.

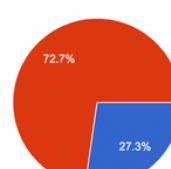
SKILLS

- We improved in a lot of digital communication, as most of our conferences were done via Zoom or Google Meet due to COVID-19.
- We also improved in communication in terms of writing, as we used messages to contact organizations for feedback and funding.
- Collaboration was a big part of our learning as well, dividing our roles and parts, combining our opinions and thoughts into a single project, and respecting each other's abilities and constraints were crucial throughout.
- We noticed the importance of planning ahead, especially when there is a lot of time given, it is easy to waste that time so planning thoroughly is very important.
- We earned the skill of perseverance and hardworking with a lot of concentration and productivity.
- Our research skills have increased as we looked for various examples of projects that are similar to our idea.
- We gained critical thinking skills as we had to analyze through the research, and also only put the most important information when creating our final written and digital product.
- We improved our English grammar and punctuation, as we were looking for incorrect parts in our project.
- Lastly, our technical skills have improved, working with Canva, Tinkercad, and many other websites to create 2D and 3D models.

Do you have an electric car?
22 responses



Are you willing to use Elevacar once launched?
22 responses



Do you think Elevacar is making the world a better place?
22 responses

