

POWERBANK RENTAL SYSTEM

GROUP-1
ENGINEERING DESIGN

OUR MOTIVATION

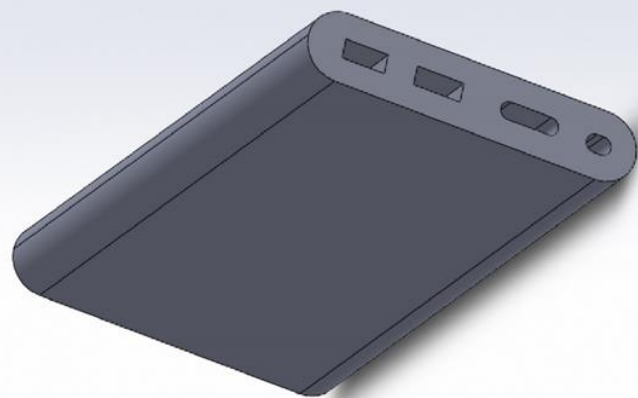
1. Portable electronic devices, particularly cellular/mobile telephones, are widely used today.
2. It is difficult to recharge a battery in a public place or while traveling without access to a suitable power terminal. Further, such charging would require the user to also be traveling with a charger, which may be inconvenient or easily forgotten.
3. Thus a mobile power bank rental system (power bank vending machine) in public places can solve this problem.
4. This system allows a customer to rent the battery for a selected time period and return the power bank device at any different place where such types of power bank rental system unit has installed.

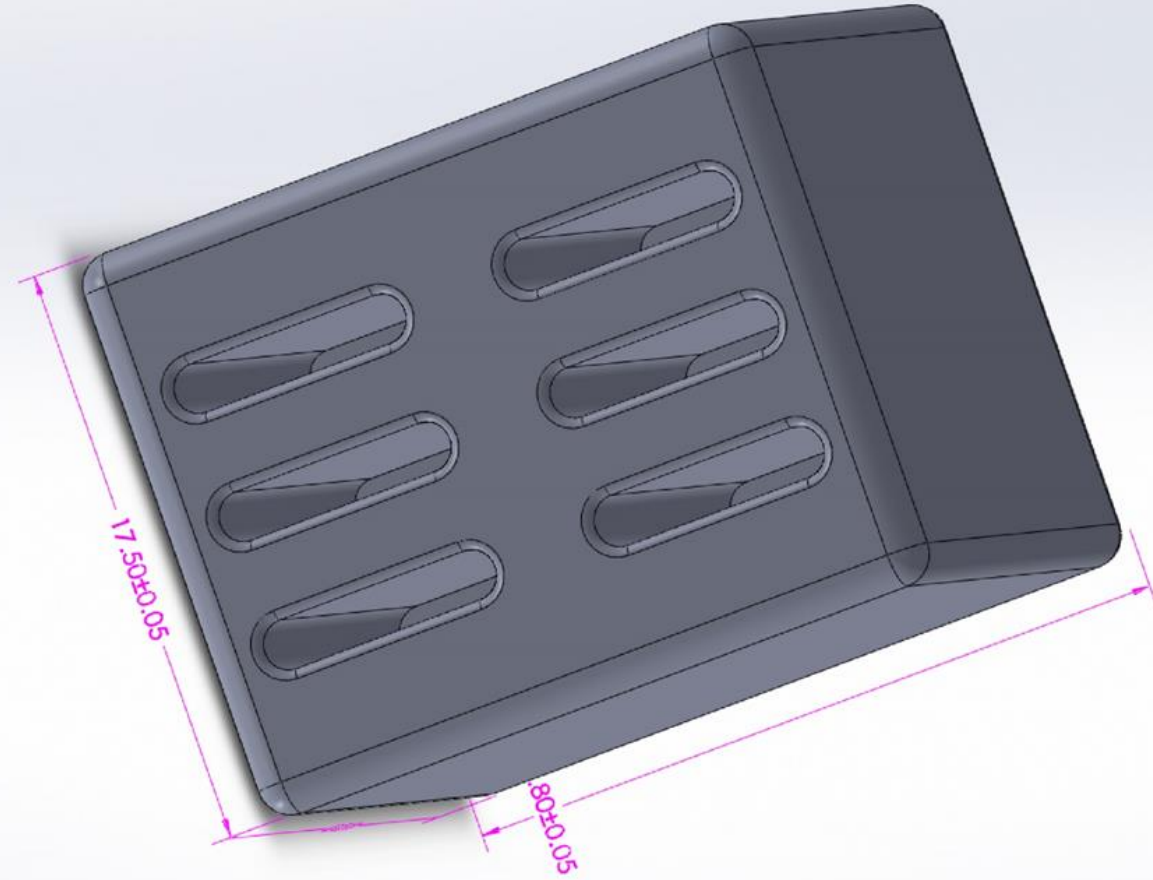
Primary reason we want to work on this project

- ❓ Power banks are widely available nowadays but there is always a high chance of a person not carrying a power bank with them or what if the power bank is not charged or there is some problem with it.
- ❓ People generally don't realize that they need a power bank until they do, and it is not available to them at that point.
- ❓ Hence, we want to provide a very widespread an easy way for people to avail power banks whenever they need it.
- ❓ For this we want to create a user friendly app and smooth distribution system.

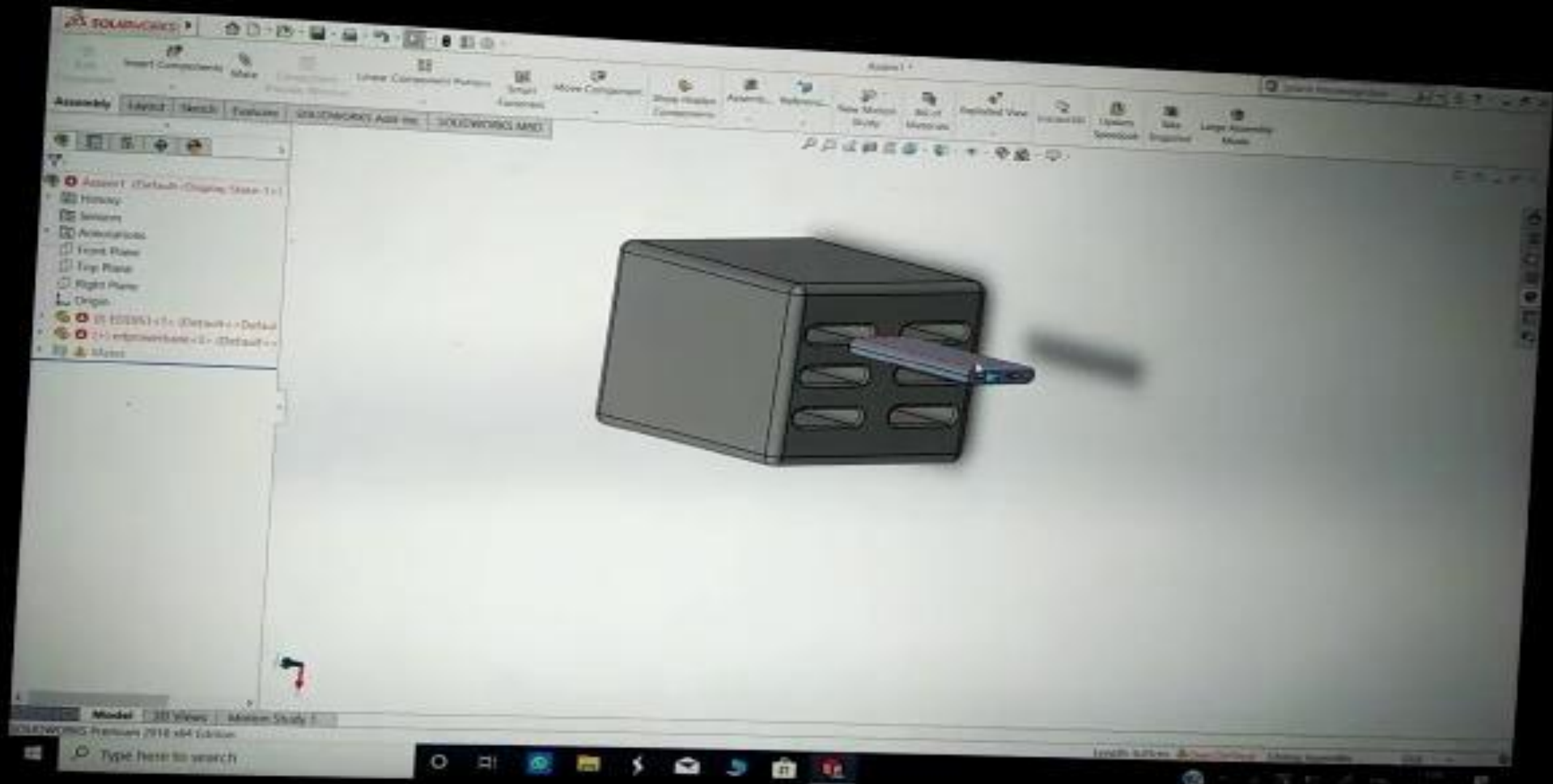
WHAT TO DO WE OFFER TO THE CUSTOMER?

- ❓ IN THIS PROJECT WE OFFER A POWERBANK TO THE CUSTOMER WHICH CAN BE ACCESSED FROM SEVERAL POWER BANK VENDING UNITS WHICH WILL BE INSTALLED AT FREQUENTLY CROWDED PLACES FOR STARTING PHASE PLACES SUCH AS LHC, CANTEEN, LIBRARY, INSIDE NEWLY BUILT SPORTS ARENA.
- ❓ THE SERVICE WILL BE FREE FOR A LIMITED PERIOD OF TIME AND AFTER THAT NOMINAL CHARGES WILL BE APPLIED.





SOLIDWORKS ANIMATION



HOW IS REVENUE CREATED?

- ❓ FOR THE FIRST INITIAL 30 MINUTES THE CUSTOMER CAN USE THE POWERBANK FOR FREE.
- ❓ AFTER THAT WE CHARGE CUSTOMER A NOMINAL PRICE OF 20/- RUPEES PER 30 MINUTES.
- ❓ AS SOON AS THE CUSTOMER REGISTERS WE PROMPT THEM TO ADD SOME MINIMUM AMOUNT IN THE WALLET WHICH WILL HELP US TO RECOVER THE FINE FOR EXTRA USAGE.
- ❓ IF THE CHARGE ADDS UP TO THE PRICE OF THE POWERBANK THE CUSTOMER HAS OPTION TO PAY THE FINE OR TO GIVE AN ADDITIONAL 100/- RUPEES TO BUY THE POWERBANK.
- ❓ THE CUSTOMER HAS TO RETURN TO POWERBANK WITHIN A SPECIFIED PERIOD OF TIME

PROBLEMS FACED

1. We are currently not able to know the exact the left over charge in the powerbank.
2. Several push and pop mechanisms have been tried and some are being tried.
3. We would ny the end of completion of our first fully operating model require a large investment (close to 15000 according to our estimates as of now).
4. Since our project has a large hardware component we are facing difficulties in creating it's outer body.

MILESTONES ACHIEVED

We have made a software render of the design of the powerbank dispenser along with an animation of how the powerbank would fit into the system.

We have made a website as well for mobile users to access this interface.

Some group members are currently learning about app development to deploy our mobile app as soon as possible.

We have thought of the push pop and locking mechanism.

We have also prepared a documentation for the mechanism as well.

Word Of Thanks

We would like to thank Sir and ma'am as well as everyone else present here for hearing us and our ideas out. We welcome any constructive criticism and any ideas which would help further realize our goals.

The Members:-

- Sandesh Singh
- Suyash Agnihotri
- Shivam Sharma
- Sreejash Aryan
- Shashi Prakash
- Shubh Doshi
- Savani Hard
- Vaibhav Meena