Video:

Before we proceed to your project let us show a short clip about it.

[video] 1min 20 sec

Survey:

Let’s take a look at the surveys of disabilities and poverties all over the world, where we can see around 15% of world’s population have any kind of disability which is reported by WHO.

According to the World Bank, 15-20% of disable people live in developing countries and 80% of humanity earn less than 10$ per day and it highlights the ratio of poverty.

As India is one of the largest country in Asia, let’s picture the disability and the poverty in here.

You can see here that India’s census of 2011 reported that 2.21% which is 26 million people are suffering with disability.   
(5sec break)

And yeah among them 6 million people have movement disability which is 21.7% of disability rate.   
(5 sec break)

Take a look at the poverty rate of India as well. Here we can see, 1 in 5 Indian live below poverty line and earn less than 2$ a day. 80% of poor people live in rural area and most of them are from UP. For last few decades we can see technology is developing at a high rate both in urban and rural areas. On the other hand the health care support is not sufficient as per demand in rural areas.   
(5 sec break)

So we want to make a change on rural area health sector within 2030 by working with poverty and disability.

Trend:

The most basic idea that comes to our mind while working with the solution of disability is a wheel chair. The usual wheel chair available around is not a user friendly one. Moreover you always need a person to carry you around in the wheel chair, it makes a patient depend on others when the patient don’t have any hands. Moreover, We can see, there are different types of electronic chairs available in the market but they are hardly even affordable for middle class people. If you go to sites like amazon and ebay, you can easily find the minimum price of a electrical wheel chair is around 3,000USD.

[costing]  
Limitation of EWC:

So there is costing limitation for the chair as we are working against poverty. Again another limitation of these wheelchairs is they are hand-controlled so people with both hands disabled are unable to use it.  
(5 sec break)

Solution:

So we came up with a total compact of solution for all these problems. We propose this chair which anyone can run only by moving their head. In addition the chair have the capability to run both road and off road maintaining safety issue. And the best part is we can make the market value of this chair between 250-300$ only.  
(5 sec break)

Challenges:

To implement this wheel chair we had to come across a lot of challenges. To make the structure stable and light, to use eco-friendly equipment’s and to ensure road safety we had to go through difficulties. Specially, we faced problems while designing circuits. But the ultimate challenge was to make this whole chair cost efficient.

Intro:

We’ve successfully sorted out all the difficulties and finally implemented this project and named it as Cranial Control Wheel Chair.

Let us show how it works

[Run the prototype] (15 sec)

These are the components we have used to make this prototype

[Components of prototypes] (15 sec)

We didn’t bound ourself in the prototype, in order to check whether it works in real life or not, we’ve simulated it. It’s our simulation video.

[Simulation video] (20 sec)

Advantage:

Now you may think why anyone will prefer our chair. Well of course I’ll say cost efficiency. We have managed to keep the cost under 300$. Moreover, we will make it eco-friendly by using jute and bamboo and also by avoiding harmful devices. Further we will make it water proof with 100% efficiency as we have simulated. The rider can easily get side views without interrupting the movement. Our wheel chair is comfortable for the users as we are ensured by India’s some renowned doctor’s recommendation.

Dr. Shweta Kumari, one of the best physiotherapist in india, said, “The accepted range of motion for neck rotation is **60 to 80 degrees**.”

# we will fix the chair sitting angle by the recommendation of Dr. Philip Babu as he said to Adjust the back of the chair to a **100°-110°** reclined angle to sit comfortably in the chair.

and from a renowned psychologist of India, Dr. Shilpa Aggarwal, we came to know that **Self**-**reliance** is an inner state of knowing that you are robust, resilient and resourceful enough to tackle the challenges and difficulties.

Impact:

So what’s the impact of this chair? This chair won’t just make them self-reliance but also make them confident and mentally stable enough to not think themselves as a burden anymore. It will enhance their opportunity to participate in more social developments and activities. It will also bring out their hidden potentials. As Albert Einstein said, “every person is a genius”. We also know that every person has a god gifted power. So mobility enhancement due to our wheel chair among disable people will help them to expose their talent.

Safety:

Now let us ensure you about safety and health. To keep the user steady we will use wide tires in order to get more friction and smooth movement and ensuring further safety there will a seatbelt attached to the upper body of the chair. Considering their condition there will be suspension in the chair so that the user may proceed to run the vehicle in knaggy roads. Keeping in mind about their disability to prevent unwanted situations we will add an emergency brake system in terms of any system break down. So if the chair detect any obstacle within 15cm if will stop automatically. And at last we will ensure water-proof structure to keep our electrical components safe in the rainy days.

Cost Breakdown:

(20 sec break)

We were talking about our cost management from eternity {laugh}.   
here is our total estimated cost for our Cranial control wheel chair for making it in real life.

Limitation:

Well there is no absolute good without a little flaw. So yeah we have got some limitations too! Our chair is not suitable for paralyzed people, this is for people who have movement disability. In fact, Electrical devices are sensitive. It needs good quality equipment that we aren’t getting it from China. Moreover you can’t use it while it’s charging. And for obvious causes electrical equipment may deceit you anytime. Excess usage without maintaining recommendation can cause neck pain.

Roadmap:

Now let’s talk about some of our future plans about the chair we are working on and would the love to improve it with. It’s our road map for our future development of our project. We’re hopeful to make Cranial control chair along with a joystick on the seat so it’ll be both cranial and electrical wheel chair in the same time and we want to impede the estimated cost within 400USD. Moreover, If we notice we can see there is no special entry for wheel chairs in the residential buildings, let alone the official and others institutions. We dream the device may also run in the stairs without any side help. Furthermore, we also thinking to use the theory of regenerating energy {study about it} to charge the battery while riding.

Conclusion:

Our project is for that 4% people across the world who have movement disability and also struggling with poverty. We want to change their world by making impact in their life. Yeah, we wish to see our world within 2030 at a point where we will have disable co-workers in our offices and they will also have some real contribution to our nation.

Can you imagine a world in future where we can replace disability by the empowerment mobility?  
Imagine their life with this kind of device which they’ll live with independence, they’re exposing their hidden potential and living without a curse of listening “you’re a special child”.   
Can you Draw this Imagination on 2030?   
We can because this is our dream, Our VISION 2030.

The Team (drkar nai)

Last but not the least I would like to thank my team members for their co-operation and support.