1

Define your problem statement

In our society, we have people with disabilities. The technology is developing day by day but no significant developments are undertaken for the betterment of these people. Communications between deaf-mute and a normal person has always been a challenging task. It is very difficult for mute people to convey their message to normal people. Since normal people are not trained on hand sign language. In emergency times conveying their message is very difficult. The human friend has remained a popular choice to convey information in situations where other forms like speech cannot be used. Voice Conversion System with Hand Gesture Recognition and translation will be very useful to have a proper conversation between a normal person and an impaired person in any language.
The project aims to develop a system that converts the sign language into a human hearing voice in the desired language to convey a message to normal people, as well as convert speech into understandable sign language for the deaf and dumb. We are making use of a convolution neural network to create a model that is trained on different hand gestures. An app is built which uses this model. This app enables deaf and dumb people to convey their information using signs which get converted to human-understandable language and speech is given as output..

5 minutes

PROBLEM

How might we [your problem statement]?

Key rules of brainstorming

To run an smooth and productive session

- Stay in topic.
- Defer judgment.
- Go for volume.
- Encourage wild ideas.
- Listen to others.
- If possible, be visual.

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

1Always speak face-to-face
2.Use normal lip movement(lip reading)
3.Speak clearly, slowly and steadily
4.Do not cover your mouth or look around while speaking.
5.Use written notes or diagrams(Paper and Pen)
6.Check noise and lighting-Make sure your face is not in shadow and there are no strong lights or sunshine in their eyes.
7.Segmenting the text and ordering segments:
8.Sign Language interpretation and Sign Language translation are not to be confused.
9. provide different convertible forms for better understandablity
10.Modify the converted forms based on language and other criterias.
11.Incorporate feedback mechanism to make the model more robust.
12.options to change language with incorporatring efficient user interaction.
13.Avoid standing in front of a light source, which can make it difficult to see your face clearly
14.Use gestures and body language
15.Reduce distractions (Ensuring the radio or TV aren't loud)
16.Use written notes

SASI VARMA

13 14 15 16

SASIDHARAN

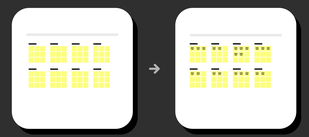
5 6 7 8

SAI HARIHARAN

1 2 3 4

SAI NISHIT

9 10 11 12



3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

USER INTERFACE

11 9 15 12

FEASIBILITY

7 6 2 13 14 1

EFFICIENCY

16 4 3

RESPONSIVE

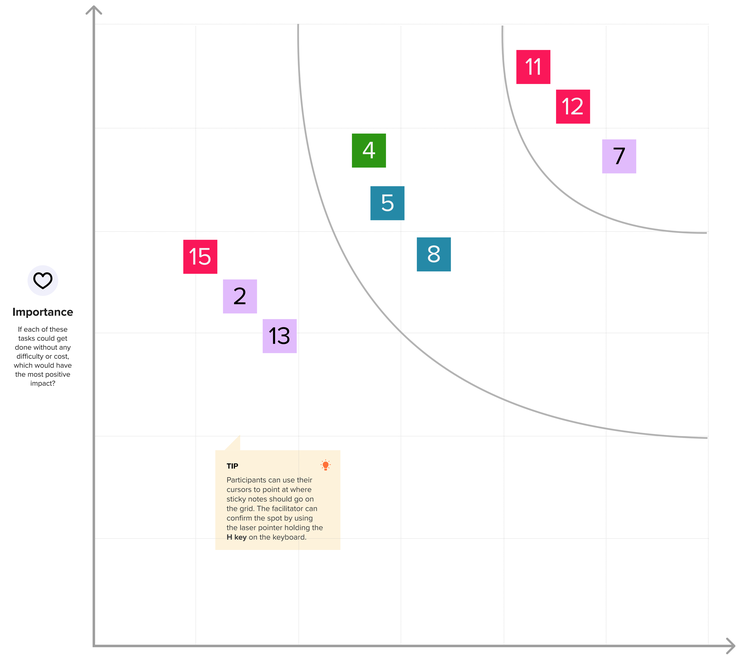
5 8 10

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes



Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)