Case 11 - Braille slate
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Braille Slate Report
**Introduction**

Braille is a tactile writing system used by people who are blind and low vision. It is traditionally written with embossed paper. The blind can write braille with the original slate and stylus or type it on a braille writer, such as a portable braille note-taker, or on a computer that prints with a braille embosser.

**Problem Identification:**

In existing and highly user friendly braille slate, we have noticed that the slate used by the blind people(for writing purpose) is difficult to use. In the existed slate, blind people have to write Right to Left, i.e. they have to think in reverse, e.g. (They have to write PANKAJ then they will start from JAKNAP, every character or later) in initial days. Thus, they have to think twice, first, what they have to write and second, what is the reverse of that.

There is also another problem which is faced by the users. If they want to read what they have written, they have to pull out the sheet and read it. Then if they want to continue it's quite difficult to adjust the paper/sheet at the right place.

Thus, there are problems which required solution.

**Field Work / Pre Brainstorming Process**

The first field work was conducted in Blind Association Ahmedabad where I identified the problem faced by the blind people. The whole field work is based on observation analysis, I noticed that their methodology of typing is typical, and time taking i.e. process of double thinking. I go through with some research paper on braille slate and stylus where i got the insight of opportunity that need to be bring in the society.
**Existing Solution:**

Presently the design of existing braille slate is being used by the most of the people is above. There is normal braille slate which contain holes in half sphere and a stylus (Braille Pen) to write.

**Intervention (Proposed Solution):**

![Diagram of braille slate design](image)

The solution that bring by me is to change the design from existing slate or stylus or both by which we can avoid double thinking for both type of users in such a way that it does not affect it is standard parameter and made it user friendly.

We can Emboss the holes instead of engrave. We can make some changes in the stylus which can help the user to easily write it on the braille paper. We can put a hollow cylinder in front of the stylus. So it can punch the paper upper side instead of lower side.

**Product Design:**

![3D model of braille slate](image)
First of all to check our idea and feasibility of our idea we have designed a small prototype of the braille slate, so that we can’t waste time and resources. We have designed two parts, upper part and lower part. In upper part, there is rectangular cut to support the stylus and guide to write.

Then have used 3D printer to bring our imagination into reality. After print the parts we have locally tested it and we got good results. After getting good results from small parts of the braille slate, we have designed a complete slate.

In the complete slate, we have added a hinge to connect both parts. We have created hollow in front of stylus by help of pen refill. The sides of the slate is fillet, so that it can not harm someone.

**Benefits for Users:**

- Don’t have to think twice.
- They don’t have to turn sheet to read what they had written.
- Make quite easy to learn Braille for new user. **Testing / 2nd & Post Field Visit:**

After design the complete slate we have to test it with the concern user group. We can test it on Blind Association or in Blind School. We have already sent a mail regarding to testing to
Blind People’s Association, Ahmedabad. So it became quiet easy to test the prototype. We have found these points in the testing:

- It may be hard/difficult to adapt for old users but it’s really good for new users and Braille learner.
- It will avoid the double thinking, which is very important to avoid.
- The dots were less embossing, when they were writing/punching.
- They have to press the stylus with a certain force.
• The stylus also leaving a little impression in the other side of the page. • They were not getting much speed in the slate.

Completion with Resolved Issues:

The Testing Part of slate have done. Now the problems have to be resolved, which were facing by the users during using the product. The issues have resolved in the following manner:

• To decrease the diameter of the stylus.
• Increase the height of the dots.
• Increase the size of the rectangle of the upper part.
• Design in such a way so that it can be compatible with speed of user.

Now, we have to implement and change the above things in the design of the slate. We had made the above changes in the design and again printed the slate with help of 3D printer. Now the Prototype is completed.
Conclusion

After completing the testing process I reach the point that the design is good comparing to existing design but not that much feasible for the existing users. As well as both the designs i.e. currently in use and another one made by us requires lots of force to punch so, that still there is a need to made certain changes which made the design user friendly.

***THANK-YOU***