In the U.S. alone, over 175,000 people become visually impaired every year. Of the millions of people who are blind or visually impaired, only 5% can currently read Braille.

Research suggests that Braille readers achieve higher education and are significantly more likely to be employed. We aim to improve the lives of the other 95%.

LetterBug as easy as learning a,b,c,d

> Switch on Alphabetical Mode teaches the user the alphabet sequentially

#### One Cell

that allows the user to learn every configuration for both the alphabetical systems

Switch on Random Mode quizzes the user when they are ready

Audio Interaction

notifies the user which mode they are in

#### Shape

makes it easy for the user to sit down and use as well as carry Letter Bug with them

#### **Next Button**

reads the alphabet in sequential mode for easy learning

**Repeat Button** allows the user to go back when something is missed

### Easy to learn

Audio interaction

Letter Bug allows users to learn on their own and at their own pace, as well as eases their transition into conventional-sized braille

### Portability

Lightweight and ergonomic

Letter Bug is easy to transport, from the classroom to home, its ergonomic design is usable by children and adults alike

# Affordable

Unique form of actuation

Letter Bug uses stationary motors to rotate an offcenter cam which then moves the braille pin up and down, bringing down its production cost to \$30

## Simplicity

Clean user interface Letter Bug consists of only two buttons and a sliding switch to allow for two modes of operation



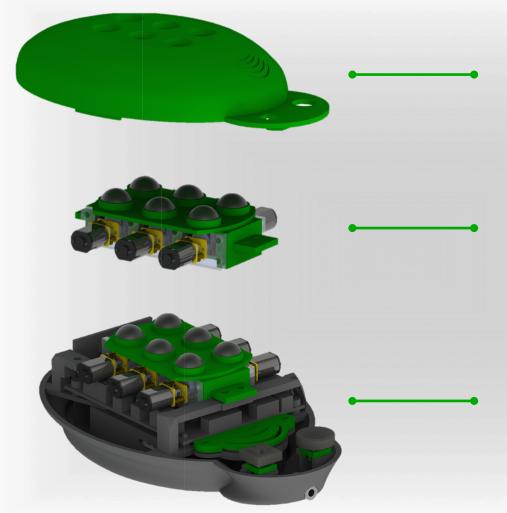
Visually Impaired



Current technology used to teach braille cost upward of \$1,000. Letter Bug is affordable and accessible. By setting up a Non-Profit organization combined with our current design, each unit will have a production cost of \$30. Using a buyback and refurbishment program, we can cover operational costs with a sale price of \$80.



# User Interface



Letter Bug has been designed keeping robustness in mind by having every internal component mounted and fastened securely.

Affordable method of actuation uses eccentric cam mechanisms. These mechanisms are composed of a stationary motor which rotates an off-center cam. As the cam rotates, it is able to raise and lower the Braille pin.

Because the motors are lowconsumption and require about 1W of power per Braille pin actuation, Letter Bug is easily powered by 4 AA batteries. This means our user will have enough energy to last 150 hours of use before needing replacement batteries.

### 2.009 Green Team

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Thank You