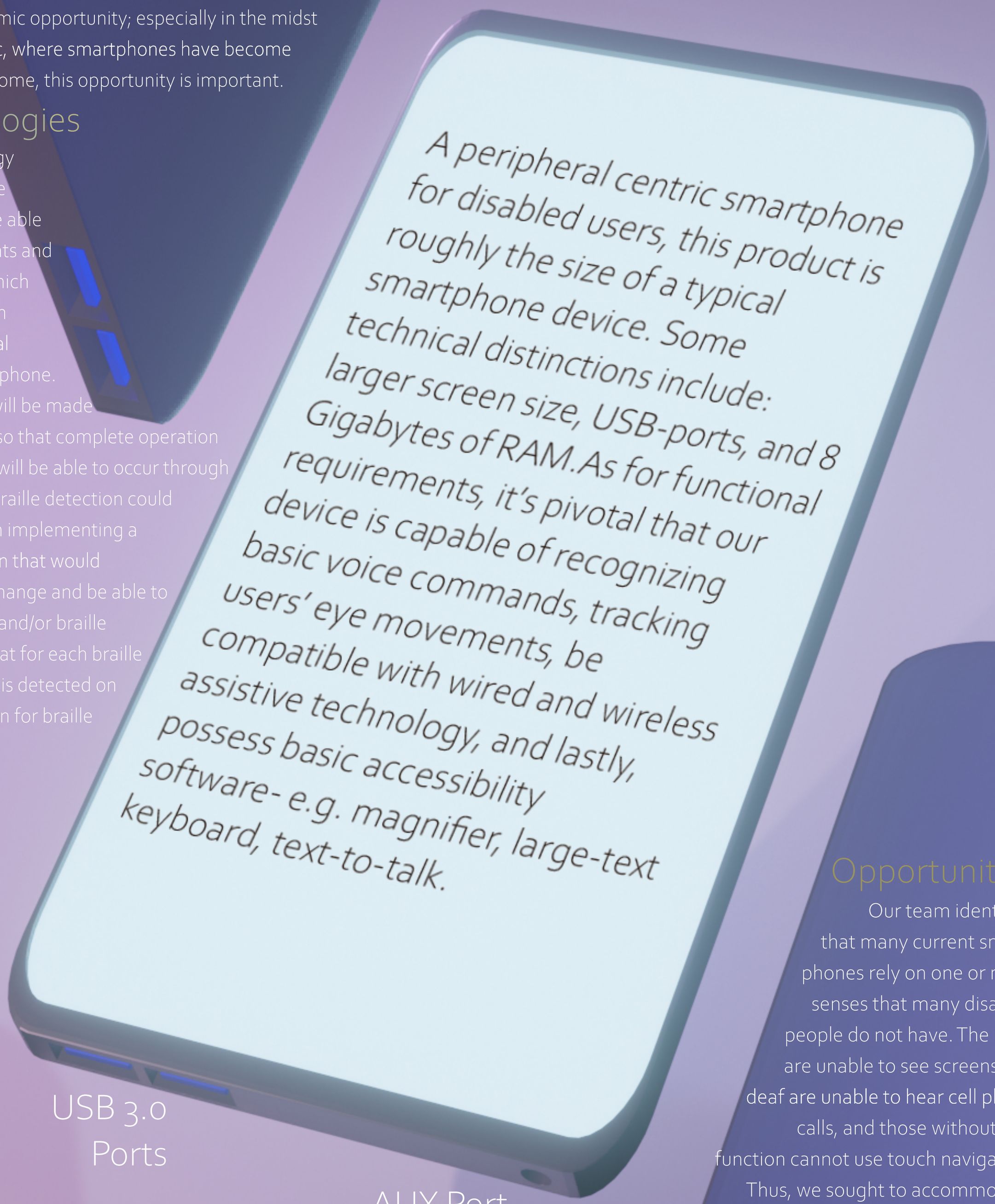
An Accessible Phone For the Disabled

Societal Impacts

Once implemented, the device could yield societal impacts such as, 1) Societal- Providing normalcy to those who otherwise might be marginalized, 2) Ethical- By returning some normalcy to the user, we level the "playing field" when it comes to social independence, 3)Economic- with social independence comes economic opportunity; especially in the midst of a pandemic, where smartphones have become sources of income, this opportunity is important.

Technologies

This technology would let voice recognition be able to parse accents and languages, which would result in complete vocal control of the phone. Eye tracking will be made more precise so that complete operation of the phone will be able to occur through eye control. Braille detection could occur through implementing a physical screen that would dynamically change and be able to make bumps and/or braille symbols so that for each braille spot a button is detected on the application for braille feedback.



Opportunities

Our team identified that many current smart-phones rely on one or more senses that many disabled people do not have. The blind are unable to see screens, the deaf are unable to hear cell phone calls, and those without arm function cannot use touch navigation. Thus, we sought to accommodate these users with an accessible smartphone compatible with peripheral accessibility devices.

Societal Challenges

The three societal challenges we can identify are cost, acceptance, and accessibility. When the phone releases, it and its supported peripherals must be priced reasonably, but still be priced high enough to make a profit. If the manufacturers of the peripherals drive up their prices, this could lead to the phone's user base leaving due to a lack of affordability. Acceptance is also an issue, as many disabled people struggle to come to terms with their disability, especially when it comes to announcing it publicly. As these phones would be rather easy to identify, it could lead to some who have a need for the phone being reluctant to buy a model. Lastly, accessibility is another issue. It's extremely difficult to account for all potential troubles a disabled user could encounter with using a phone, so frequent accessibility updates would need to be done in order to maintain systems and add more accessibility features.

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