Fantasy meets new-age technology and design in the Intelimini: a computer that can do wonders, yet, fits in half the palm of a hand!

The Intelimini

A conceptual innovation

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The Intelimini: Showcase

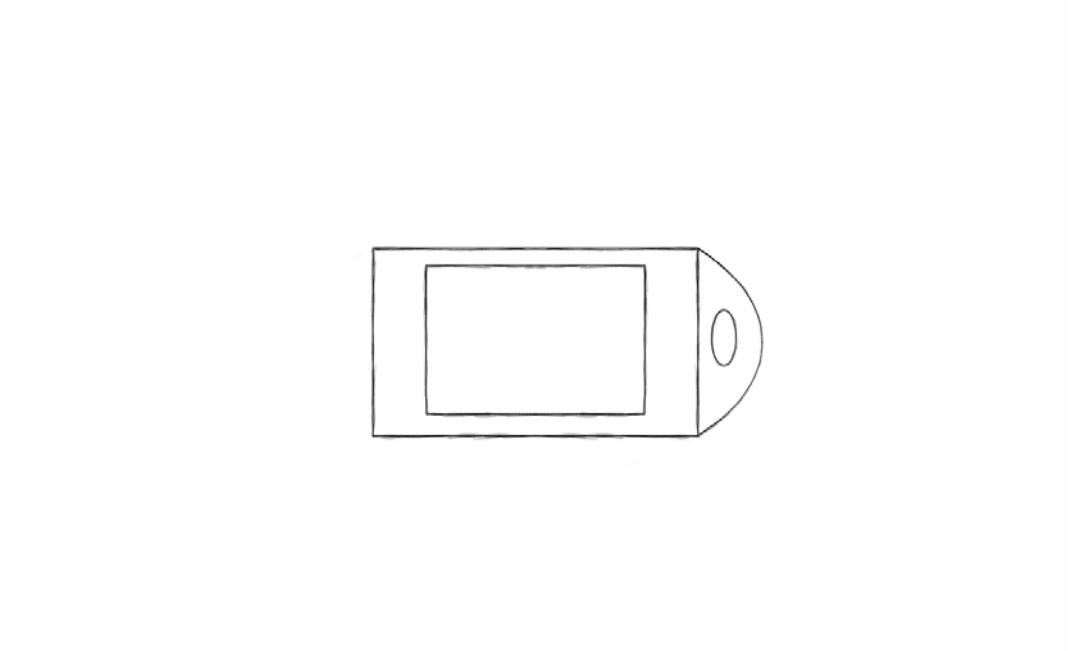


Figure 1 and 2: The preliminary prototype and wireframe of the Intelimini.

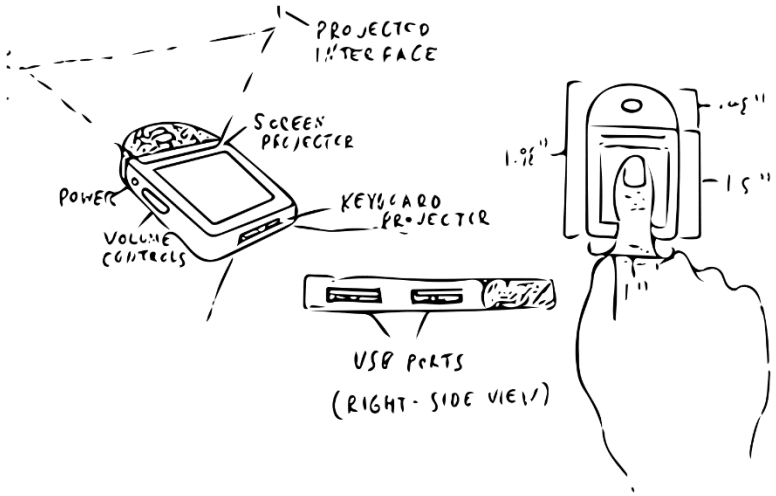
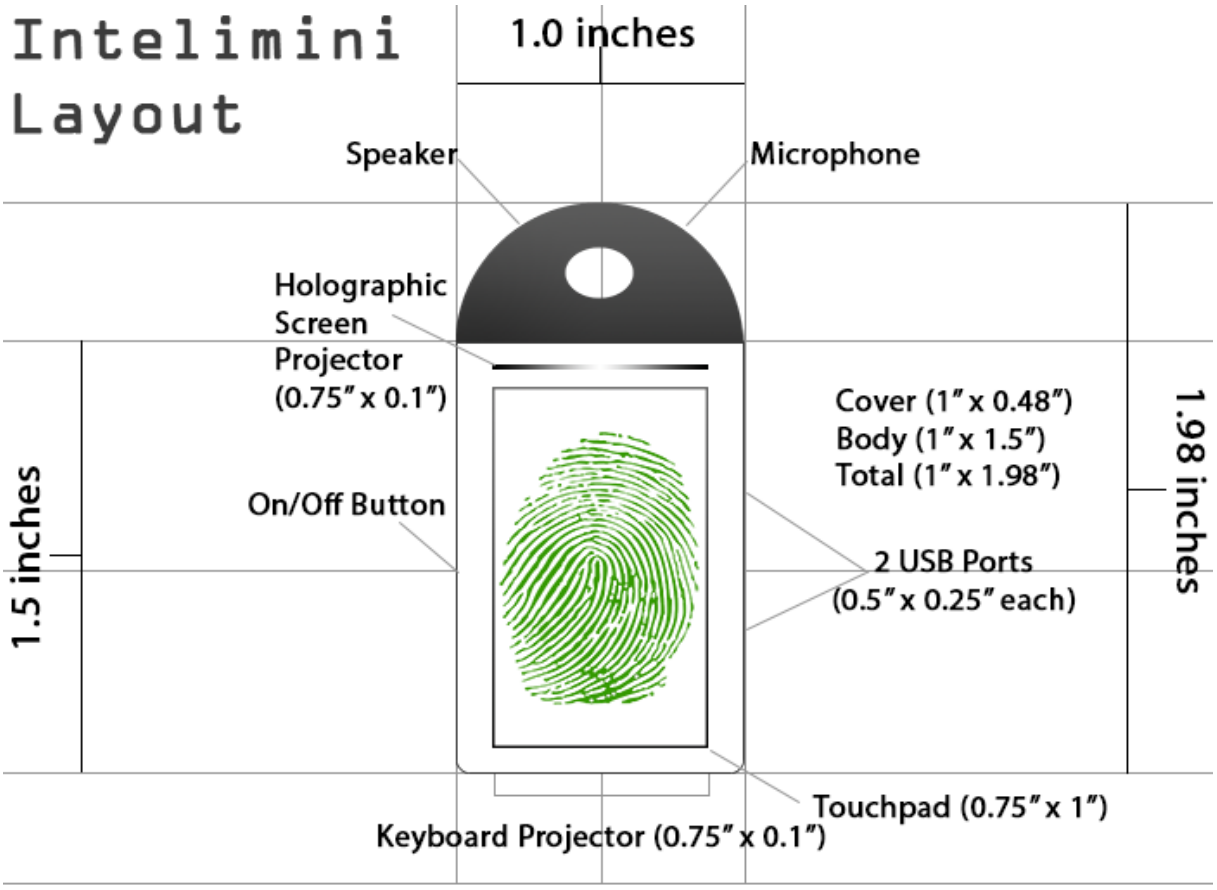
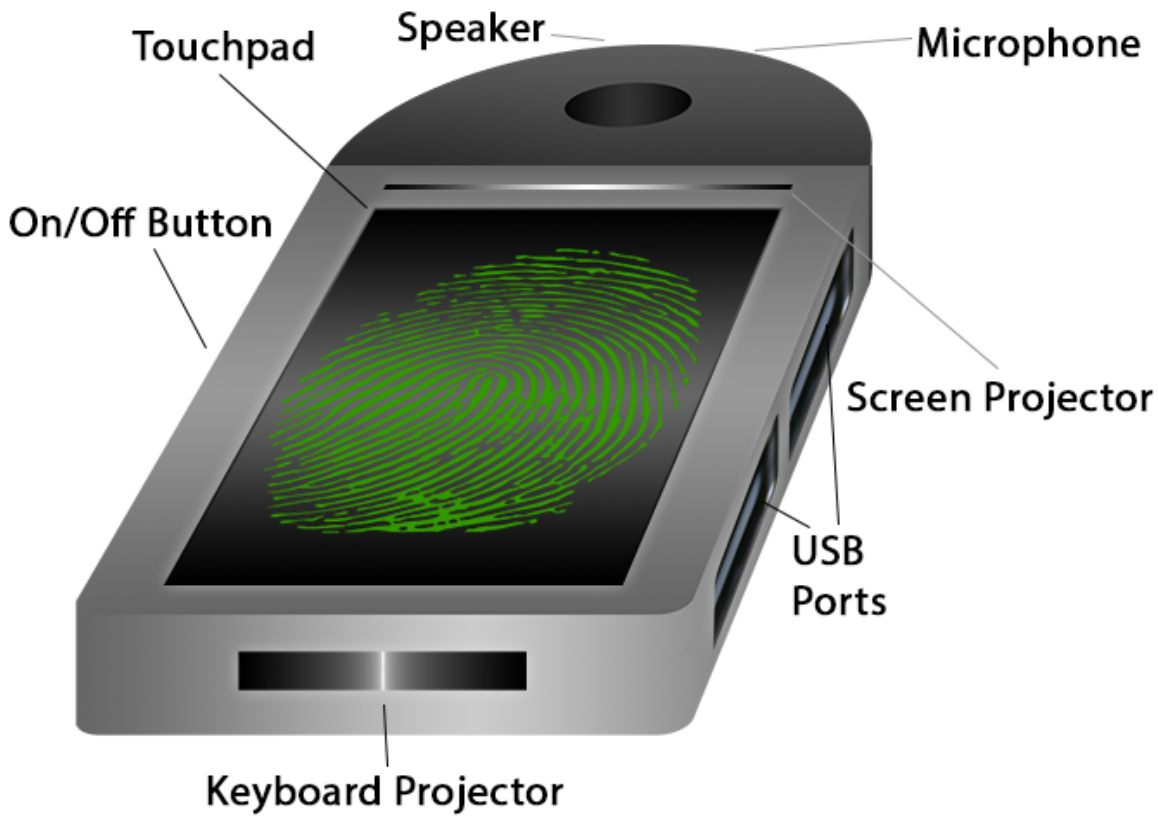


Figure 3: Box cover design for the Intelimini


Intelimini Layout
1.0 inches
Speaker
Microphone
Holographic Screen Projector (0.75″ x 0.1″)
Cover (1″ x 0.48″)
Body (1″ x 1.5″)
Total (1″ x 1.98″)
1.98 inches
1.5 inches
On/Off Button
2 USB Ports (0.5″ x 0.25″ each)
Touchpad (0.75″ x 1″)
Keyboard Projector (0.75″ x 0.1″)


Touchpad
Speaker
Microphone
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Screen Projector
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Keyboard Projector

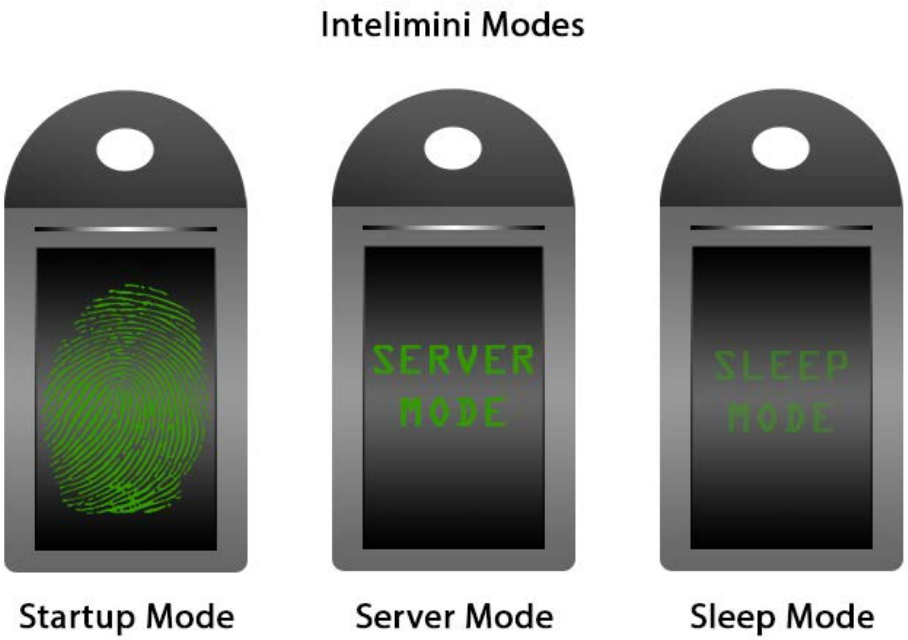


Figure 4: The different modes of the Intelimini as shown on the touchpad

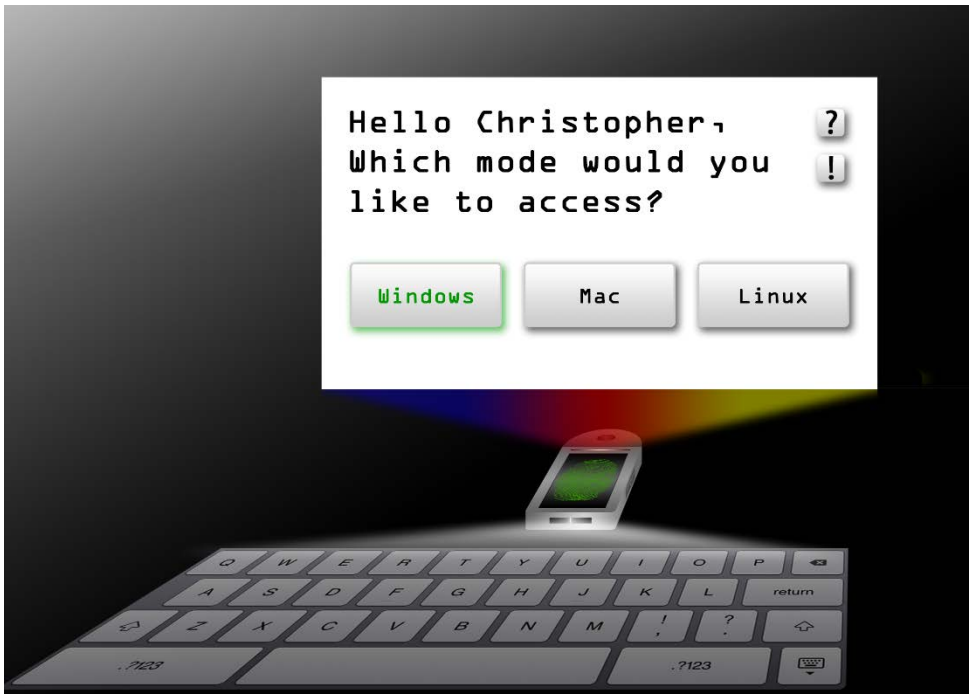


Figure 5: A diagram simulation of startup mode for the Intelimini

Figure 6: A diagram simulation of server mode of the Intelimini featuring the Windows 10 OS

Concept

The Intelimini is a combination of the latest technology and a sleek, portable, yet durable, design. The concept of the Intelimini references the popular idea of holograms which, to some degree, already has a presence in the market. However, in the mainstream, the public has only seen holograms as part of tributes to musicians or other famous figures and not yet as a widely-accessible, intricate consumer product. The conceptual idea of the Intelimini is an innovative creation wherein, presumably, the public is ready for the use of the magnitude of laser technology that holograms require and it is implied to be the creation of a time when nanotechnology has progressed to the point that a 1.98" x 1.00" x 0.5" device could hold an entire server with 4 TB of memory and 24 GB of RAM. The Intelimini will feature a 10" x 4" keyboard projector as well as a resizable holographic screen projector with a maximum 17" diagonal size, 1920 x 1200-pixel screen resolution, and 2.30 viewable megapixels. However, the default would be a 12.1" diagonal size, 1280 x 800-pixel screen resolution, and 1.02 viewable megapixels.

The Intelimini will feature the advances of nanotechnology the most in that it will contain three different powerful Intel core processors which explains the Windows, Mac, and Linux

options for the server mode while memory is shared among the three server options. Thus, the need for 4 TB of memory and 24 GB of RAM is justified since the necessary core software, media plug-ins, etc., for each server mode to efficiently run an Intelimini are of absolute necessity to prevent server crashes and loss of memory. The beauty in the nature of this system is that, resources can be allocated according to usage. For instance, because there is so much memory and ram included with the Intelimini, 1 TB of memory and 6 GB of RAM can easily be consumed by the Intelimini during its times of operation in order to create a balance between user capabilities and server maintenance.

Demographically, this device is aimed at as much of the populace as possible. For instance, the Intelimini will aid individuals of upper-income brackets as a lifestyle device as its functionality as a portable computer allows users to bring their business on-the-go. Additionally, its Bluetooth capabilities allow for the development of apps that can be directly utilized for this particular device which will, in turn, allow for the development of products that target the Intelimini. For middle-class and lower-income users, those developments will also benefit them, as well as allow them the opportunity to create the apps themselves and potentially change their financial status and truly allow for social mobility. However, I would like this device to benefit marginalized communities, such as lower-income communities, communities of color, the disability community, etc., as the potential affordability, accessibility, and portability of a device such as the Intelimini can change lives!

Design and Interface

So what exactly will the Intelimini do? It can basically be anything the user wants it to be! Its main draw is that it may be utilized as a Bluetooth device that is able to directly draw data from any Bluetooth-enabled that has access to the Intelimini device through a secure system of audio, type, image, or combination-based password and encryption methods (in order to address any potential accessibility issues). However, at this point of time, it will be possible for a device this small to hold the standard 4GB RAM and 1TB SSD storage space that's commonplace in modern laptops and so clearly the Intelimini may also be utilized simply as a personal computer. What truly makes the Intelimini versatile is its touchpad. The touchpad allows the user an additional option for encryption and password protection while it can also serve as a front-facing camera as well as a touch-sensitive trackpad that functions in a similar fashion as touchscreens on a phone. However, the holographic screen is also touch-sensitive as the laser sensors are directly moveable with the touch of a finger as well. Additionally, dynamic activities, such as rollovers, will be fully functional for instances such as programmed interactivity on websites as well as through the use of most buttons during startup mode. However, the rollovers used will be as simple as the ones I utilized for the yellow buttons on my website at http://fornesa.co which will act in this behavior when the touchpad is utilized

as a mouse. It will also be activated as such when the user directly engages the holographic screen for tasks such as clicking a link, image, clicking on a shortcut (the holographic screen unfortunately cannot allow for double clicking as the need to do so will reduce its overall efficiency) or scrolling up and down on a browser. Furthermore, at the bottom of the Intelimini is a set of additional laser sensors that allow you to the experience of a virtual keyboard, technology that currently does exist, albeit in a much larger capacity that a 1.98" x 1" x 0.5" device! This set of laser sensors may also be used to host a virtual keyboard piano as well which would be included as a program that comes with the device itself.

While the fonts and color palette utilized in the Intelimini are at the discretion of each server that the user intends to access, startup mode will feature the OCR A Extended Regular font, which is a monospaced typeface. This is also the same font that will be shown in chartreuse (yellow-green hue with stronger green tints) on the touchpad during either server mode or sleep mode while the fingerprint will be shown during startup mode. The use of a monospace typeface is justified by the fact that proportional spacing, wherein "each character is allotted a width proportional to its natural geometry" which "is appropriate, because it enhances legibility" (McCracken 179), another accessible choice in the design of the Intelimini for the accommodation of disabled users.

The color palette featured in startup and sleep modes will be monochromatic with the consistent use of #339800 in both the holographic screen and the touchpad as it is light enough to be clearly visible on the touchpad while simultaneously, both light and dark enough to highlight a specific button in startup mode on the holographic screen. The reasoning for this is to enhance "the sense of cohesiveness of the overall layout" (McCracken 158) while, unlike the case with most uses of the monochromatic scheme, the Intelimini will feature a consistent hue, saturation and brightness of #339800 as this color is only meant to highlight both the brightness of the #FFF holographic screen in startup mode and the darkness of the #000 touchpad in startup, server, and sleep modes as it is imperative to have "a large contrast between the text and background colors." (McCracken 165) The design of the holographic screen in startup mode will, furthermore, have #339800 as an accent for the overall brightness of the interface which also features black text and a #7b7b7b outer glow for the slightly darker #cecece buttons. This overall high contrast interface allows for improved visibility and accommodates partially blind users. However, it should be noted once more that in server mode, the color palette of the holographic screen is solely at the discretion of the creators of the operating system the user chooses to engage and that of the user according to their own preferences.

As for the design of the Intelimini itself, the main body will have a chrome (#7c7c7c) finish that's common among similar portable devices. The top .48" cover of the Intelimini (which contains the majority of the brains and wiring for this device) will have a #3b3b3b finish to maintain the integrity of the Intelimini's design. The holographic screen projector, keyboard

projector, and touchpad will all be #000 to accent the brightness of the default bright model of the Intelimini and provide a cohesive scheme in the dark model of the Intelimini.

However, one concern that has been brought up about the Intelimini is the level of privacy a user is allowed. The Intelimini is a device that will be meant for usage in both the public and private settings and so important safety protocols will be enacted by the creators of the Intelimini. One important front, in terms of security, will be systematic vulnerabilities. For this, the Intelimini will enact adopt similar security protocols to the system that Apple and Whatsapp utilize wherein account and system login information will be encrypted while similar schemes that Facebook and Google use in paying hackers to find and report vulnerabilities will also be implemented. To fund these efforts, it would suggested that spending about 10 – 25% of all profit margins of the Intelimini and any associated products on developing and improving these security protocols in order to be a step ahead of even the most successful hackers by hiring top digital security analysts, the best independent hackers, and forming partnerships with top security forms which would occur, initially, through the opportunity to invest time and money in the development of such a product itself and, then, more so through attainable and tangible financial rewards. The other front for security involving the Intelimini would involve the physical user experience. The holographic screen is an imperative aspect of the Intelimini and some concerns have included the ability of users, not in front of the device, to see the contents of a user's screen. For this device, the touch capabilities of the holographic screen is important and so one option for the Intelimini is to implement two heat sensors, one in the touchpad and another one in the keyboard projector, that only allows the screen to be activated via touch when each sensor can detect a person directly (horizontally for the keyboard sensor and vertically for the touchpad) within a 12 inch proximity. Additionally, when a finger is directly in contact with the touchpad, the holographic touch screen cannot be activated through touch as this device is only meant for single use. As for the concern of a leak of public or private information, the holographic touch screen will have the capability to spend some resources on the back of the screen and its customization. What this means is that the back of the screen will be capable of displaying aesthetic items such as a screensaver, image background, etc. This feature enables the user to both express their individuality while using their Intelimini and also a layer of security in terms of direct privacy! All of these security features are also attainable due to the Intelimini's massive storage and RAM capacity despite its portability.

This combination of the latest technology and the advantage that comes with nanotechnology allows the Intelimini to be a viable solution for many individuals! Not only is it a new way of working but it also makes work much more portable, with only the necessity of a relatively flat surface. Its capabilities as a Bluetooth device also makes data completely portable as the only cloud that a user needs to access is their own!

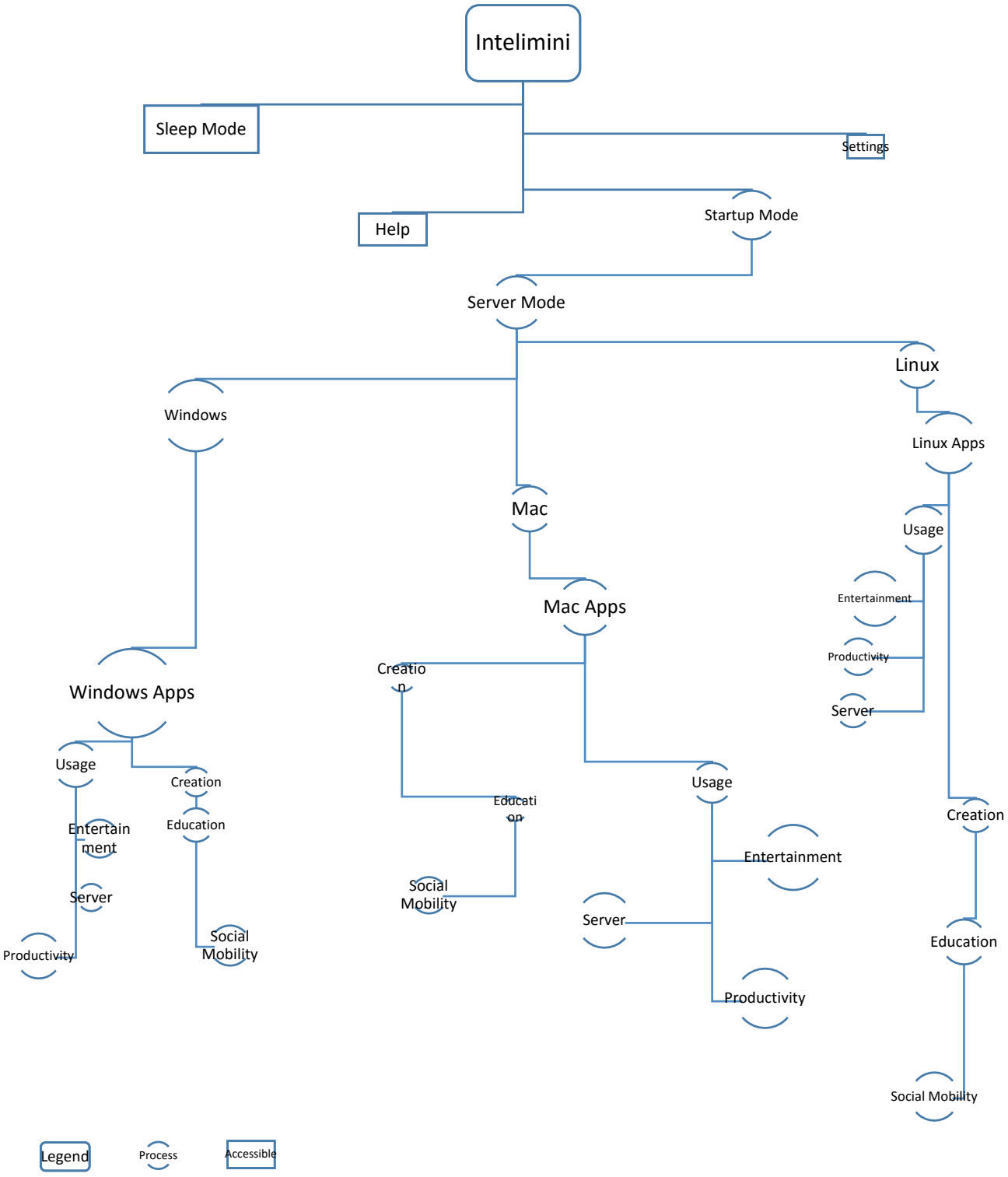
Accessibility

Part of the reasoning for this device to also be able to act as a Bluetooth device is to improve accessibility for potential users with disabilities. Blind users will benefit in the accessibility software I would include in the Intelimini such as an embedded reader (accessible via the Information button). For autistic consumers, such as the creator of this concept device, technology in this form be of great benefit as the fact that this device is so portable could allow these consumers to render any environment as the setting for the Intelimini. As many individuals who are autistic are able to feel more comfort with their sense of touch, this is beneficial by allowing the autistic user, as well as users with any sensory-based sensitivities or disabilities, to choose their own environment for use with the Intelimini. Information settings, which are accessible via the Information button, will also contain brightness settings (which will also be included in the keyboard) and touch sensitivity settings to make such sensations even more comfortable and accessible.

In any good interface, according to Krug's first law of usability, there needs to be "(1) a clear navigation system, (2) avoid visual clutter with meaningless graphics, (3) readable text." (WebStyle Guide) Taking into account a variety of users with disabilities and possible impairments that may affect usability for users who may struggle with conventional usage of this project and so accessibility software, the use of textures on the touchpad, and the utilization of mic and audio features in the relatively small real estate of this device helps these users greatly! For instance, for those with issues of vision or are blind to any degree, I would implement a plethora of options such as: the ability to view the interface in grayscale or lower saturated colors, block animations from occurring, automatic screen magnifier, and a built in screen reader. This combats both the fact that "information displayed on a conventional computer monitor is simply not available to people who are blind" (McCracken 211), allows people who "have some, but not all, of their sight" (McCracken 217), prevent "accessibility problems for people" who are colorblind, and people for whom "Flashing images can cause photoconvulsions, also known as photosensitive epileptic seizures" (McCracken 219) to access their Intelimini. Accessibility is also improved upon in the fact that such a small device will have the ability to be used always anywhere that a proper flat, dry and clean surface is available. I also took into consideration the diversity of the users whom I would like to have access to this device which is another factor for why this device happens to be so small in size so that fewer parts are necessary for its proper functioning. The need for fewer, smaller parts helps keep costs low, the high quality of the parts used will mean that this device will not need to be replaced as easily which also aids in accessibility as less money will need to be used and the environmental cost for such a device will also be low! All of this can streamline the use of the Intelimini in many ways ranging from the public sector to improving the lives of disabled consumers.

The motive for designing a piece as small as this is because it will likely use less resources, despite the ability for more variety, which will, in turn, cost less than the average laptop does today - making it much more distributable and accessible to low-income individuals. This gives a better advantage for financially marginalized communities as well as communities of color while, at the same time, also provides quality products and gives generations of low-income families their first chance for access to state-of-the-art innovation due to both the Intelimini's portability and affordability.

Intelimini Navigation



In the flowchart above, the circled text are considered part of the process while those in rectangles are accessible from anywhere no matter where the user happens to be in their use of the Intelimini.

The navigation system of the Intelimini will depend on the user's tastes. However, with any of the options chosen by the user, there will be options to ensure the user will easily know what to find and how to get there. In the Intelimini, the user will have three server options for use with their device: Windows, Mac, and Linux, corresponding with a specific server type that they would like to utilize for that session. From there, the user can essentially do whatever they please with their Intelimini. However, the social model of the Intelimini is as follows. The Intelimini may be utilized for either personal use or creation. Where the user chooses to use their device for personal use, hopefully, the user will find entertainment, productivity, or server uses for their device. While the first two are self-explanatory, the server usage of the Intelimini is basically the use of this device in order to host a website server and software, such as FTP, diagnostics, etc. will be included with the device in addition to entertainment and productivity tools such as the Microsoft Office suite or Adobe Creative Cloud which will allow for accessible usage of such software as the Intelimini will ideally give users discounted rates for corresponding usage. Users will also have software included which will allow users to create applications for any of the operating systems for the Intelimini which will likely be based on modern-day programming languages such as Swift and C++. The purpose for this is because the Intelimini is, first and foremost, a device that will improve social mobility among its users by making their lives easier or giving them a steady stream of income.

The main buttons accessible to users will be the "Help" and "Information" buttons.
The "Help" button sends you to an embedded help guide which is stored within the server for accessibility reasons in order to aid users in the process of getting to know the device and will feature help videos, text, and audio to accommodate as many users as possible.
The "Information" button allows you to modify the settings, usage, functionality and other aspects of your Intelimini. A personal digital aide, similar to "Siri" or "Cortana" is available for the user according to such settings and will primarily cater to users with disabilities as well as users who want to streamline work on their device as, in this point of time, it is theorized that artificial intelligence will have advances to make this possible.
This will also make navigation via the Intelimini accessible to disabled users as well.

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