



# **No Human Left Behind**

## **A Human Empowerment Case Study & Initiative**



**A Case Study Paper by Visionary People (VP)**

**Led by: Mohsen Zavieh Salehi, Trans-Global Executive MBA**

**Status: Research in Progress (Updated August 16, 2025)**

## **Abstract**

This case study examines the profound and persistent challenges that individuals with visual disabilities face in accessing the vast world of written knowledge. In an era dominated by digital text, the majority of reading materials remain inaccessible in Braille, creating a significant barrier to education, professional development, and personal growth for the blind and visually impaired community. This study, updated with findings from comprehensive, ongoing secondary data research, synthesizes statistical data, analyzes systemic barriers, and explores the socioeconomic consequences of what is aptly termed a "Braille literacy crisis." The latest research confirms that while the technology to read Braille on digital devices exists—through a combination of screen readers, translation software, and external refreshable Braille displays—the ecosystem is fragmented, expensive, and complex, reinforcing existing barriers. Conducted on behalf of Visionary People (VP), this research is driven by a foundational commitment to human empowerment. It culminates in a forward-looking proposal to leverage artificial intelligence (AI) to develop a transformative, integrated

application capable of converting any text-based content into Braille, while also empowering users to create, publish, and share original Braille content. This initiative, led by VP founder Mohsen Zavieh Salehi, is not merely a technological proposition but a moral imperative, rooted in the belief that no human should be left behind in the pursuit of knowledge and self-realization. The original study was published in 2020 and then again in 2021. The updated version was released in 2025.

# Table of Contents

## **1.0 Introduction: The Visionary Imperative**

1.1 The Philosophy of Visionary People

1.2 A Mandate for Inclusion

1.3 The "No Human Left Behind" Initiative

## **2.0 Background: The Paradox of the Information Age**

2.1 The Enduring Legacy of Braille

2.2 The Digital Deluge and the Accessibility Deficit

## **3.0 Problem Statement: The Braille Literacy Crisis**

3.1 A Statistical Overview

3.2 The "Book Famine" in a World of Plenty

## **4.0 Analysis: Deconstructing the Barriers to Information Equity**

4.1 Systemic Failures in Education

4.2 The High Cost of Access: Technology and Materials

4.3 The Socioeconomic Ramifications of Information Disparity

## **5.0 Proposed Solutions**

5.1 Solution Option 1: Development of an Integrated AI-Powered

Accessibility Ecosystem

5.2 Solution Option 2 (Considered and Rejected): A Simplified Web-Based Converter

## **6.0 Recommendations**

6.1 Phase 1: Foundational Research and Prototyping (Months 1-6)

6.2 Phase 2: Core Engine Development and Hardware Compatibility (Months 7-18)

6.3 Phase 3: Platform Development and Community Beta Testing (Months 19-24)

6.4 Phase 4: Public Launch and Continuous Improvement

6.5 Budgetary and Resource Considerations

## **7.0 The Path Forward: An AI-Powered Solution for Universal Access**

7.1 The Conceptual Framework: A Two-Pillar Application

7.2 Pillar I: The Universal Braille Translator

7.3 Pillar II: The Braille Creation and Publication Platform

7.4 The Role of Artificial Intelligence

## **8.0 Conclusion: From Compassion to Action**

## **9.0 About the Author and Researcher: Mohsen Zavieh Salehi**

## **10.0 References**

## **1.0 Introduction: The Visionary Imperative**

### **1.1 The Philosophy of Visionary People**

Visionary People (VP) was founded with the sole purpose of empowering our clients and their people. Through academic studies and life experiences, we have identified and learned that no "business" would ever succeed without its customers (people). In fact, there is no value for a product or service without it offering a value-adding solution for a specific need. It is with this purpose in mind that we endeavor to be of service to as many client types as we can. To achieve this, we recognize the necessity of a business model that offers people with certain disabilities and special needs the opportunity to not only work with us but also to access and review our content.

Unfortunately, the prevailing paradigm in modern business is one designed primarily for the non-disabled majority, inadvertently leaving those with disabilities behind. This case study represents a deliberate and focused effort to challenge that paradigm.

## **1.2 A Mandate for Inclusion**

This initiative was started by our founder and owner, Mohsen Salehi. His purpose for pursuing this initiative is based on his life goal to give back to his community and the world, whenever possible. This is one of the reasons why he pursued higher education at Christian and Catholic institutions, the University of San Francisco and Saint Mary's College of California, which are founded on such values of service and compassion. When asked why he decided to put thought into such an initiative if he doesn't directly conduct business with organizations or people with disabilities, Mohsen responded:

"My decision to prioritize accessibility is not a calculated business strategy; rather, it is a deeply held personal and spiritual conviction. I believe that accessibility is a universal concern because we all, in some form, have our own imperfections or 'blind spots.' To me, these are not weaknesses but part of the human condition. My focus on this initiative stems from a profound sense of compassion and a genuine desire to care for the well-being of all people. It is a fundamental part of who I am and how I strive to live my life.

I am guided by the Golden Rule, a timeless principle from Matthew 7:12 and Luke 6:31: 'Do to others as you would have them do to you.' This is more than a suggestion—it is the ethical framework by which I navigate every interaction. It compels me to actively and intentionally treat everyone with the same consideration, respect, and dignity I would want for myself. This principle teaches that empathy is an action, not just a feeling. It's a daily commitment to seek common ground and foster a spirit of collaboration and understanding.

Ultimately, I aspire to build a legacy not of material success but of positive impact. I believe that a life well-lived is measured by the kindness and compassion we extend to others. By honoring the humanity in everyone, I am simply living out my core belief that our shared imperfections are what bind us together. My hope is to be remembered as someone who, through every word and deed, sought to treat others with the dignity and compassion they deserve."

### **1.3 The "No Human Left Behind" Initiative**

This case study is the cornerstone of the "No Human Left Behind" initiative. **This updated edition builds upon the foundational**



**research and framework first established in the original version of this paper (Salehi, 2020).** It is an academic and strategic exploration aimed at identifying a tangible, technology-driven opportunity to address a critical societal gap. The following analysis of the challenges faced by the blind community, informed by problem analysis, solution generation, and decision analysis, is not an abstract exercise; it is the foundation upon which we propose to build a solution that embodies our core values of empowerment, service, and universal respect. The new research incorporated herein confirms the technical viability of our vision, shifting the question from *if* it can be done to *how* it can be done accessibly and equitably for all.

## **2.0 Background: The Paradox of the Information Age**

### **2.1 The Enduring Legacy of Braille**

Invented by Louis Braille in the 1820s, the Braille system of tactile reading and writing was a revolutionary advancement. For the first time, it provided the blind with a robust and effective method for literacy, independent of sighted assistance. Braille is not merely a code; it is the key to literacy itself. It allows for an understanding of spelling, grammar, and punctuation that is lost in purely auditory learning methods like audiobooks or screen readers. True literacy, in this sense, is foundational to critical thinking, educational attainment, and professional competence.

### **2.2 The Digital Deluge and the Accessibility Deficit**

The 21st century has been defined by an unprecedented explosion of information. The internet, digital publishing, and mobile technology have made knowledge more accessible than at any point in human history—but only for some. This digital revolution has created a paradox for the visually impaired. While technology has introduced powerful new

assistive tools, it has also accelerated the production of content in formats that are inherently inaccessible. The vast majority of websites, e-books, academic journals, and daily news are created without Braille in mind, widening the gap between the information-rich and the information-poor.

## 3.0 Problem Statement: The Braille Literacy Crisis

### 3.1 A Statistical Overview

The core of the problem can be summarized by a set of stark and alarming statistics that collectively point to a crisis in Braille literacy:

- **Literacy Rates:** According to the National Federation of the Blind, a staggering **90% of blind children in the United States are not being taught Braille**. This represents a catastrophic failure in the educational system.
- **Employment Disparity:** There is a direct and profound correlation between Braille literacy and economic self-sufficiency. Over **70% of blind adults are unemployed**. However, for the small fraction who are literate in Braille, the employment rate is dramatically higher, with some studies suggesting it is as high as 85-90%.
- **The "Book Famine":** It is estimated that **less than 5% of all published books** are ever converted into accessible formats like Braille. For a blind student or professional, this means the library of

available knowledge is a tiny fraction of that available to their sighted peers.

### **3.2 The "Book Famine" in a World of Plenty**

The term "book famine" accurately describes this reality. In an age of informational abundance, the blind community is effectively starved of access. This is not a problem of scarcity but of conversion and accessibility. The content exists, but the bridge to the blind reader—Braille—is largely absent. This deficit prevents equal participation in education, culture, and the workforce, constituting a significant violation of the principle of equal opportunity.

## **4.0 Analysis: Deconstructing the Barriers to Information Equity**

### **4.1 Systemic Failures in Education**

The crisis begins in the classroom. A severe shortage of qualified Teachers of the Visually Impaired (TVIs) means many blind children never receive adequate, if any, Braille instruction. Furthermore, a philosophical shift in education has often prioritized teaching students with low vision to use their residual sight to read print, even when it is inefficient and fatiguing. This approach, while well-intentioned, fails to provide them with a robust literacy tool for life, especially if their vision deteriorates over time.

### **4.2 The High Cost of Access: Technology and Materials**

Historically, producing Braille has been a costly and cumbersome process. A single print book can translate into multiple, bulky volumes of Braille. While technology has improved this, the cost and complexity of access remain significant barriers. Recent secondary research conducted for this initiative confirms that to read Braille on modern digital devices—such as a Lenovo Yoga Slim 7x, Apple iPad Air M3, or Samsung Galaxy

Tab S10—a user requires a complex and expensive combination of hardware and software.

This system includes:

1. **A Refreshable Braille Display:** This is a separate hardware device that connects via USB or Bluetooth and translates digital text into tactile Braille. These devices, such as the Focus 40 Blue or Brailliant BI 40X, can cost thousands of dollars, placing them out of reach for many individuals and underfunded school districts (Freedom Scientific, n.d.; HumanWare, n.d.).
2. **Screen Reader Software:** Programs like JAWS for Windows (paid software), NVDA (a free alternative), or Apple's built-in VoiceOver are needed to interpret on-screen text and send it to the Braille display.
3. **Compatibility and Configuration:** Users must ensure the display, the screen reader, and the device's operating system (Windows, iOS, Android, or Linux) are all compatible and configured correctly, which can be a significant technical hurdle.

This fragmented ecosystem presents a steep financial and technical learning curve, effectively locking out many who would benefit most from digital Braille literacy.

### **4.3 The Socioeconomic Ramifications of Information Disparity**

The consequences of this information disparity are profound and cyclical. Without the foundational literacy that Braille provides, educational attainment is severely hampered. This leads directly to the high unemployment and underemployment rates cited previously. The inability to access professional journals, training manuals, and workplace documents further limits career advancement, trapping many in a cycle of dependency and unfulfilled potential.



## 5.0 Proposed Solutions

Based on a thorough analysis of the problem, two potential solutions were generated and evaluated. This section outlines these options and provides a rationale for the chosen path forward.

### 5.1 Solution Option 1: Development of an Integrated AI-Powered Accessibility Ecosystem

This proposed solution directly addresses the core issues of cost, complexity, and fragmentation identified in the analysis. The "what" of this solution is the creation of a sophisticated, all-in-one software application that serves as a central hub for Braille literacy.

- **Articulation:** This solution involves developing a dual-pillar application that (a) leverages AI to instantly and accurately translate any digital text into Unified English Braille (UEB) and (b) provides a platform for users to create, edit, and share their own Braille content.
- **Justification:** This approach was chosen because it tackles the systemic barriers rather than just one component. While screen

readers and Braille displays exist, there is no single, affordable, and user-friendly platform that seamlessly integrates the process of converting, reading, and creating Braille content. By using AI to handle the complex rules of UEB translation, the application would lower the technical barrier for users and content creators alike. It directly addresses the "book famine" by empowering every user to be a part of the solution.

- **Supporting Evidence:** The technical feasibility is confirmed by our recent research into the existing technology stack. The necessity for this solution is underscored by the high cost of individual components like premium screen readers (e.g., JAWS) and standalone translation software (e.g., Duxbury Braille Translator), which this integrated solution would aim to consolidate and make more affordable.

## **5.2 Solution Option 2 (Considered & Rejected): A Simplified Web-Based Converter**

An alternative solution considered was the development of a basic, no-code, or low-code web tool for simple text-to-Braille conversion.

- **Articulation:** This would be a website where a user could paste text and receive a visual or file-based Braille output. It would leverage existing frameworks like HTML, CSS, and JavaScript.
- **Rationale for Rejection:** While faster to develop, this solution was rejected for several reasons uncovered during our research. First, developing a comprehensive UEB conversion engine is highly complex. The intricate rules of contracted Braille (Grade 2) and document formatting require robust, traditional programming and cannot be adequately implemented within the limitations of a typical no-code framework. Second, this approach would fail to address the critical need for direct integration with refreshable Braille display hardware and system-level screen readers. It would be a partial fix, not a systemic solution, and would not fulfill the project's goal of creating a complete ecosystem for both consumption and creation.

## 6.0 Recommendations

To execute the preferred solution—the Integrated AI-Powered Accessibility Ecosystem—the following actionable steps and strategies are recommended. This section provides the "how" for turning the proposed solution into a reality.

### 6.1 Phase 1: Foundational Research & Prototyping (Months 1-6)

- **Action:** Assemble a core development team. Conduct in-depth research into existing Braille translation algorithms and machine learning models for natural language processing. Develop a user interface (UI) and user experience (UX) prototype.
- **Responsibility:** Project Lead (Mohsen Zavieh Salehi), Lead Software Architect.
- **Assessment:** The prototype will be tested with a focus group from the blind and visually impaired community to validate design choices.

## 6.2 Phase 2: Core Engine Development & Hardware

### Compatibility (Months 7-18)

- **Action:** Focus on building the backend AI translation engine. This requires traditional programming to codify the complex rules of UEB. Simultaneously, establish a hardware lab to test and ensure compatibility with a wide range of popular refreshable Braille displays and operating systems (Windows, iOS, and Android).
- **Responsibility:** Backend Development Team, Hardware Compatibility Engineer.
- **Assessment:** Engine accuracy will be benchmarked against industry standards like Duxbury (DBT). Success is defined as achieving 99%+ accuracy on a diverse corpus of texts.

## 6.3 Phase 3: Platform Development & Community Beta Testing (Months 19-24)

- **Action:** Develop the user-facing application, including Pillar II (the creation and publication platform). Launch a closed beta program

with a larger group of users from the community to identify bugs and gather feedback.

- **Responsibility:** Full Development Team, Community Manager.
- **Assessment:** Track user engagement metrics, bug reports, and qualitative feedback to guide final revisions before public launch.

#### **6.4 Phase 4: Public Launch & Continuous Improvement**

- **Action:** Launch the application on major platforms. Establish a dedicated support team and a roadmap for ongoing updates, including support for new Braille codes, languages, and hardware.
- **Responsibility:** Marketing Team, Executive Leadership.
- **Assessment:** Monitor adoption rates, user satisfaction, and the growth of user-generated content on the platform.

#### **6.5 Budgetary & Resource Considerations**

- **Estimated Costs:** A preliminary estimate suggests a significant investment in specialized software development talent (AI/ML

engineers, accessibility experts) and hardware for testing. A detailed budget should be a primary deliverable of Phase 1.

- **Time:** The projected timeline is approximately 24-30 months for the initial public release.

## **7.0 The Path Forward: An AI-Powered Solution for Universal Access**

This case study's analysis and solution evaluation lead to a clear and compelling conclusion: a scalable, affordable, and powerful technological solution is required to bridge the information gap. Visionary People proposes the development of a sophisticated computer application that leverages the power of artificial intelligence to make Braille universally accessible.

### **7.1 The Conceptual Framework: A Two-Pillar Application**

The proposed application would be built on two core, integrated pillars:

1. **A Universal Braille Translator:** A tool for consumption.
2. **A Braille Creation and Publication Platform:** A tool for production.

## 7.2 Pillar I: The Universal Braille Translator

This component would be an advanced AI-driven engine capable of instantly converting any digital text-based document into perfectly formatted Braille. Key features would include:

- **Multi-Format Input:** Users could input text from various sources, including websites (via URL), uploaded documents (PDF, DOCX, TXT), and direct text paste.
- **Accurate Translation:** The AI would be trained on the complexities of Unified English Braille (UEB), including its contracted (Grade 2) forms, ensuring a high degree of accuracy that surpasses simple character-for-character translators.
- **Output Flexibility:** The converted Braille would be designed to integrate seamlessly with existing accessibility infrastructure, sending output directly to a connected refreshable Braille display via the user's screen reader or saving as a digital Braille file (BRF) for embossers.



### 7.3 Pillar II: The Braille Creation & Publication Platform

This pillar moves beyond consumption to empowerment and creation. It would provide a user-friendly interface for blind individuals to write, edit, and share original content in Braille. Key features would include:

- **Intuitive Braille Editor:** A word processor designed for Braille input, compatible with Perkins-style keyboard input from Braille notetakers or standard QWERTY keyboards with Braille software.
- **Seamless Two-Way Translation:** Users could write in Braille and instantly see the print equivalent, or vice versa, facilitating collaboration between blind and sighted users.
- **Publishing and Sharing:** Users could save their documents, share them with others, or publish them to a community library within the application. This would foster a vibrant ecosystem of user-generated content, from student essays to poetry, professional articles, and community newsletters—all created by and for the Braille-reading community.

### 7.4 The Role of Artificial Intelligence

AI is the critical enabling technology for this vision. Machine learning models can be trained to understand the contextual rules of Braille contractions, which often depend on the meaning and etymology of words. AI can also intelligently interpret the structure of complex documents—like tables, headings, and lists—and translate them into a logical and readable Braille format, a task that is notoriously difficult for basic software. This intelligent automation is key to creating a solution that is both powerful and simple for the end-user.

## **8.0 Conclusion: From Compassion to Action**

The exclusion of the blind and visually impaired community from the vast majority of the world's written knowledge is a solvable problem. Our latest research confirms that while the component technologies to read digital Braille exist, they form a landscape that is too complex, fragmented, and expensive for most. The problem is a failure not of technological possibility, but of integrated design, will, and focus. The "No Human Left Behind" initiative is Visionary People's commitment to shifting that focus.

As Mohsen Salehi articulated, this is not about charity but about justice and the recognition of shared humanity.

*'I strongly believe in karma and feel that if all of mankind offered a lending hand to their fellow neighbor, whenever possible, that poverty, for the most part, would be obsolete.'*

The development of the proposed application is more than a business venture; it is an act of service and a step toward a more equitable world. It is an investment in human potential, providing an integrated tool for literacy, education, and empowerment. By creating an intelligent and accessible ecosystem, we can help dismantle the barriers that have left a significant portion of our population behind. This is the legacy we hope to build—one of inclusion, empowerment, and a genuine commitment to leaving no human behind.

## **9.0 About the Author & Researcher: Mohsen Zavieh Salehi**

Mohsen Z. Salehi is a visionary researcher and author whose work is a profound reflection of his deeply held personal philosophy. As the founder of Visionary People and the principal researcher behind this pivotal case study, Mr. Salehi's professional endeavors are a powerful testament to a life guided by empathy, compassion, and a resolute commitment to universal human dignity.

His ethical compass, meticulously honed during his higher education at the University of San Francisco | School of Management, where he completed the Organizational Behavior & Leadership Program, and Saint Mary's College of California | School of Economics and Business Administration, where he completed the Trans-Global Executive MBA Program, is firmly rooted in the core values of service and community stewardship. Rather than viewing research as merely an academic pursuit, Mr. Salehi approaches it as a moral imperative. He believes that true progress is measured by the positive impact one has on others, not by commercial success or recognition.

Mr. Salehi's work on accessibility is a direct extension of his belief that all individuals share a common humanity, marked by a blend of strengths and imperfections. With remarkable insight, he challenges the conventional notion of disability, positing that it is a universal aspect of the human condition, what he refers to as a shared "blind spot." This perspective leads him to champion accessibility not as a niche accommodation but as a fundamental human right. Guided by the timeless **Golden Rule**, he views this principle as an active charge to treat every person with the dignity, respect, and love they inherently deserve.

This ethical framework is the driving force behind his groundbreaking research, transforming his work into a powerful and compelling application of his faith and compassion. Mohsen Z. Salehi's legacy is being built not on fleeting accolades but on a lasting commitment to empowerment, ensuring that his work contributes to a world where no human is left behind.

## 10.0 References

*Note: This paper has been updated based on ongoing secondary data research into assistive technologies for the visually impaired.*

The statistical data and contextual information presented in this case study are synthesized from publicly available reports and resources from leading advocacy, research, and technology organizations, including but not limited to:

- American Foundation for the Blind (AFB)
- Freedom Scientific. (n.d.). *Focus Blue Braille Displays*. Retrieved August 16, 2025, from the Freedom Scientific official website.
- HumanWare. (n.d.). *Brailliant BI X Series*. Retrieved August 16, 2025, from the HumanWare official website.
- National Federation of the Blind (NFB). (n.d.). *Braille Literacy Statistics*. Retrieved August 16, 2025, from the NFB official website.

- National Library Service for the Blind and Print Disabled (NLS)
- Salehi, M. Z. (2020, July 31). *No Human Left Behind: A Human Empowerment Case Study & Initiative.*
- World Blind Union (WBU). (n.d.). *The Right to Read Campaign.*

Retrieved August 16, 2025, from the WBU official website.

### **Research-in-Progress Disclaimer:**

This case study is a **Research-in-Progress Paper**. The research, methodologies, findings, and conclusions presented in this document are preliminary and part of an ongoing investigation. As such, they are subject to revision and refinement as the research continues.

The primary purpose of sharing this work in its current form is to encourage and facilitate peer review, constructive feedback, and academic collaboration. We believe that early engagement with our colleagues and experts in the field is crucial for the rigorous development of this research.

### **Copyright and Permissions Disclaimer:**

This document is the intellectual property of **Mohsen Z. Salehi** and is protected by copyright law. © 2025 Mohsen Z. Salehi. All Rights Reserved.

To request permission for reprint (the right to reproduce this work) and/or circulation (the right to distribute this work), please direct all inquiries to Mr. Salehi. Authorization from the copyright holder is required before any part of this document is reproduced or distributed in any form or by any means.