

CTS

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The Hidden Barriers of Proprietary (ERP) Software and the Employment of the Visually Impaired

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Technology: Leveling the Playing Field?

- Small businesses are using software that was reserved for large corporations.
- The disabled have access to software that allow competition with their peers.
- With these developments the outcomes have barely fluctuated.

Employment and the Visually Impaired

- In 2019, 45% of those with visual impairments found gainful employment vs. 79% of those without a disability.
- US government spends over \$100 million yearly
 - In the form of a monthly payment.
 - On programs with varying success rates.

What is Proprietary Software?

Proprietary software is based on proprietary protocols, or standards. It is software that is owned by an organization or an individual, as opposed to “public-domain software,” which is freely distributed.

Examples of Proprietary Software:

- Microsoft Windows
- Mac OS
- Apple IOS
- Chrome OS
- Microsoft Office
- Apple iWork Suite
- Google Workspace

What is ERP Software?

Enterprise Resource Planning (ERP) - ERP is a software system that helps run an entire business, supporting automation and processes in finance, human resources, manufacturing, supply chain, services, procurement, and more.

Four
Categories
of ERP
Software

Box ERPs

Large-Scale ERPs

Intermediate and Flexible ERPs

Industry-Specific ERPs

Box ERPs

A system that is very easy to use and install but cannot be easily configured or customized. They come ready to be installed and used immediately for core business functions. They are very cost-effective for a small business.

Examples: QuickBooks, Monday.com

Large-Scale ERPs

A company provides a framework from which specific software will be created. These systems are developed from scratch they require countless hours of development and consulting to deliver a specialized product.

Examples: SAP R3, Sage M3

Intermediate and Flexible ERPs

Lie between boxed and large-scale ERPs. They can be used out of the box but also offer a great deal of customization to fit exact needs.

Examples: Odoo, Sage, SAP, NetSuite Monday.com

Industry-Specific ERPs

Systems in this category are specialized to operate in a specific industry, often time having specific features but lacking in configuration capabilities.

What Does Accessible Mean?

Definition of Accessible (adjective)

1. able to be reached or entered.

Similar: reachable, attainable, approachable, or available

2. easily understood or appreciated.

Similar: understandable, comprehensible, intelligible, or graspable

Accessibility and the Visually Impaired

- In assistive technology there is no set definition.
- What is accessible for one may not be accessible by another.
- Accessibility can be affected by the type of assistive technology used.

Proprietary Software and Screen Readers

- Screen readers rely on key commands to navigate the software.
- Barrier - locating and accessing the key commands required.
- Inaccessible software the key commands do not work.
- Sometimes key commands work but the screen reader has nothing to read.

Case Studies

State government
Federal government
Non-Profit
University

Case Study 1:
State
Government
State of
Nevada
Department
of Welfare
and
Supportive
Services
(DWSS)



Department of Welfare and Supportive Services (DWSS)

ERP = ZenWorks - DOS based with a Windows interface

- Was fully aware their ERP software was inaccessible.
- Refused to discuss the need for scripting.
- DWSS is not required to make their software accessible.
- The employee was not retained.

Case Study
2: Federal
Government
Department
of Veteran
Affairs



Department of Veteran Affairs

ERP = CPRS - DOS based with Windows interface

- VA regulated by Section 508.
- Spent over \$40,000 making CPRS accessible.
- The process is twice as long for a screen reader user than a mouse user.
- The VA is very strict about their “Fit for Duty” requirements.
- No special or extra training is provided for the disabled.

CPRS Step-by-step

1. Open the CPRS program – during the loading of the program you will need to enter OK twice without prompting. Randomly you will be asked for your password.
2. Once the software loads, which can take up to 3 minutes, you can start entering your note.
3. Type in the last name of the veteran. If there is more than one, then choose the correct one by using your up and down arrow keys to go through the list.

Note: The screen reader does not read the name of the veteran automatically. You must arrow down and back up to have it read to you.

CPRS Step-by-step

4. Press ENTER
5. ALT + F, then U
6. Type in your last name

***Note: The screen reader does not read the name automatically.
You must arrow down and back up to have it read to you.***

7. Press SHIFT + TAB twice
8. Arrow over 2 times to New Visit
9. Press TAB
10. Type in the name of the location

CPRS Step-by-step

11. Arrow down and choose the number of hours the session lasted
12. TAB to Date
13. Press ENTER
14. TAB 4 times and enter the time the session started
15. TAB 5 times to OK and press ENTER
16. TAB 7 times to OK and press ENTER
17. CONTROL + SHIFT + N to start a new note
18. Type in the code for the session type, if needed choose from the list by using the up and down arrow keys

CPRS Step-by-step

Note: The screen reader does not read the session type automatically. You must arrow down and back up to have it read to you.

19. TAB twice to the date and time
20. Change the time to the session start time
21. TAB 4 times to OK
22. Press ENTER
23. SHIFT + TAB to the cancel button
24. Press ENTER
25. Type Y for Yes to delete the template
26. Press ENTER

CPRS Step-by-step

27. TAB to the text box and either type or paste in the session notes
28. CONTROL + TAB
29. CONTROL + SHIFT + R for a new encounter
30. Arrow over once to diagnosis
31. Press TAB

Note: The VA services veterans that are low vision do not qualify as legally blind. The below steps assume the veteran is legally blind. If they have an unspecified vision loss the steps are similar but a bit more in depth.

CPRS Step-by-step

32. Type I for Impairment
33. Press TAB
34. Type L for Legal Blindness
35. Press SPACE to check the box
36. CONTROL + TAB
37. Arrow from Diagnosis to Procedure
38. Press TAB
39. Type O for One-on-One consult
40. Press TAB
41. Type C for Community training
42. Press SPACE to check the box
43. Press TAB 6 times to quantity

Note: 1 = 15 minutes, if the session is 2 hours it is a quantity of 8.

CPRS Step-by-step

44. Type in the correct quantity
45. Press TAB 4 times to OK
46. Press TAB to enter the text box that contains the note you typed or pasted earlier
47. CONTROL + SHIFT + S to sign the note
48. Type in your password
49. Press ENTER

Case Study 3:
Non-Profit
Blind Center
of Nevada



BLIND CENTER
OF NEVADA

Non-profit

ERP = QuickBooks

- Not obligated to purchase Fusion, JAWS, or ZoomText.
- Unreasonable accommodation.
- Undue financial burden.
- No legal obligation to make any accommodations.
- Staff needed to obtain software and equipment from the Department of Vocational Rehabilitation.

Case Study 4:
Universities
Learning
Management
System (LMS)



CANVAS



Blackboard

Learning Management Systems (LMS)

Learning Management Systems (LMS) - enables you to create, manage, and deliver eLearning courses.

- 15% of college students attend school, 100% online.
- 77% of public college students attended at least 1 class online.
- LMS systems are almost 100% online. So, they face the same barriers web navigation.

Why are most ERPs not Fully Accessible

- Not designed to be accessible.
- Developers don't know what a screen reader is
- Backends are not fully developed.
- Most developers are willing to make changes to the backend of their software.

How Do We
Overcome
these
Barriers
What are
the
Problems
and
What are
the Possible
Solutions

Employer

Software Developer

Department of Vocational

Rehabilitation (DVR)

Employers

- Can claim unreasonable accommodation.
- No repercussions for refusing to make accommodations.
- Employers are unaware of their obligations.
- ADA is vague and has no power to force accommodations.
- Scripting companies can charge over \$10,000 for their services.

Software Developers

- Can make changes quicker and easier.
- More financial resources the most employers.
- They can make changes for less than a scripting company.
- Changes are worldwide vs 1 company.

Department of Vocational Rehabilitation (DVR)

- Vested interest in assisting clients obtain gainful employment.
- More resources to purchase scripting.
- Scripting can be reused for other clients.
- Federal government can offer incentives to scripting companies to reduce costs.