DOCUMENTING HOW TO CONFIGURE RED HAT ENTERPRISE LINUX OS FOR ACCESSIBILITY

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PURPOSE AND HOW IT IS ENSURED

- To make RHEL 7 usable for visually-impaired persons

  Ensured by **Orca sreen reader**
  (https://help.gnome.org/users/orca/)

  2 ways how Orca reads information from the screen
  and communicates it to the user

  - **- speech synthesizer (speech output)**
  - **- braille display (tactile output)**

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ORCA

- Open source screen reader
- Works well with Gnome 3.x desktop
- Orca 3.24.0 – the most recent version

- To turn on:
  - Desktop: *settings / universal access*
  - Terminal: *orca*
  - Key combination: *Super + Alt + S*

WHAT DOES ORCA ENABLE?

- Read documents
  - By signs
  - By words
  - By rows
  - Others (e.g. fluent reading; various key combinations)

- Read tables
- Fill forms
- Explore content of web pages
- …

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SPEECH SYNTHESIZERS

- **eSpeak** speech synthesizer (default setting)
  - artificial synthesis
  - negative: „robotic" sound
  - positive: lower system load (CPU, RAM), better understandable in higher speed, more languages

- **Festival** Speech Synthesis System
  - synthesized from real voices
  - positive: more realistic sound (more human-like)
  - negative: less languages and voices

BRAILLE DISPLAY

- electro-mechanical device for displaying braille characters; round-tipped pins raised through holes in a flat surface

DOCUMENTATION FOR SYSADMINS

- **Defined user story:**

  As a system administrator, I want to configure RHEL so that it is accessible for visually-impaired users.

- Together with engineers, I found necessary tasks and described them.

  - 1. Introduction
  - 2. Configure **brltty** service
  - 3. Switch on **Universal Access Menu** to be always visible
  - 4. Enable **Festival**

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1. INTRODUCTION

- What is Orca screen reader.

- Reference to Orca documentation – rather for users than from sysadmins
(how to set and use Orca, how to execute various tasks)

- Overview of steps to configure RHEL for accessibility.

2. CONFIGURE THE brltty SERVICE

Necessary so that the braille display can work.

- **Enable the service** (disabled by default)

- **Authorize user(s)** to use the service

- Set **various directives in** the **/etc/brltty.conf** configuration file. (e.g. set the *braille-driver* or set the *braille device* (USB, serial, bluetooth))

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3. SWITCH ON ALWAYS SHOW UNIVERSAL ACCESS MENU

- General behavior of Orca:
  - turned on by **Super + Alt + S**
  - -> icon on the top bar 👤
  - if all Orca settings are turned off, 👤 icon disappears

- To have the icon visible in such circumstances:
  - Switch on **Always Show Universal Access Menu.**

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4. ENABLE THE FESTIVAL SPEECH SYNTHESIS SYSTEM

- only **eSpeak** speech synthesizer – by default

- Some user might prefer Festival (various reasons)

- To ensure that Festival can be used:
  - 1. Install Festival
  - 2. Make Festival running on boot (4 steps)

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RESOURCES

https://help.gnome.org/users/orca/
(about Orca screen reader)

https://access.redhat.com/documentation/en-
US/Red_Hat_Enterprise_Linux/7-
Beta/html/System_Administrators_Guide/index.html
(Accessibility chapter in Red Hat System Administrator's
Guide)