CHECKLIST EDITOR
Installation and User Manual

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Revision 0.1

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A lot of useful and recent information can be also found on the Internet.

See `http://www.kanardia.eu` for more details.

Copyright

Credits

This document was written using TeX Live (LaTeX) based document creation system using Kile running on Linux operating system. Most of the figures were drawn using Inkscape. Photos and scanned material was processed using Gimp (GNU Image Manipulation Program).

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Revision History

The following table shows the revision history of this document.

Rev.	Date	Description
0.1	September 2023	Draft

Contents

1 Introduction

Welcome to the user manual for the Kanardia Checklist Editor application. This manual provides a guide to our software, which is designed to help users create, customize and export flight checklists intended for our Nesis and Aetos instruments.

2 Download & Installation

You can download *Checklist Editor* from our website `https://www.kanardia.eu/support/firmware/`

3 Checklists

3.1 Definition

A flight checklist serves as a systematic tool in aviation that ensures the safe and efficient operation of an aircraft before, during, and after flight. It comprises a list of procedures and tasks that pilots must adhere to in a predetermined order.

Checklist Editor offers you the chance to create various flight checklists for your Nesis or Aetos instruments.

Our *checklist* groups *checklist items* together into a coherent sequence of instructions.

Each *checklist item* is defined with its *title*, *action* and *voice* properties. Here, title labels the checklist action, action provides the instruction, and voice defines the text to be converted to an audio recording.

A checklist example labeled "Before Takeoff" with five instructions (items) follows. Each item's preperties are represented as `Title :  Action -> Voice.`

Before Takeoff

- Cabin lock : Check -> Check cabin lock

- Trim : Check -> Trim for takeoff

- Full power : 5000 RPM or more -> Apply full power and check 5000 RPM or more

- Flaps : 1st degree -> Set flaps 1

- Booster pump : On -> Turn booster pump on
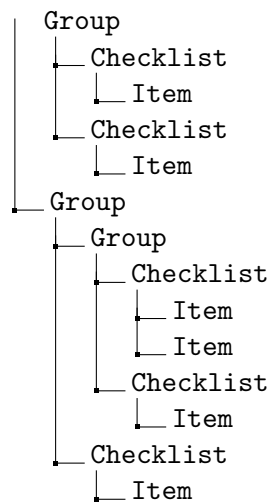

3.2 Organization

Checklist Editor offers you a way to organize your checklists by grouping those with common aspects together. Each *group* can contain multiple *checklists* and multiple *(sub)groups*.
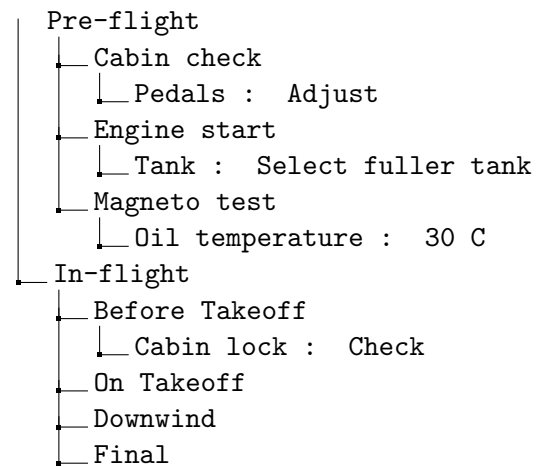
All groups, subgroups and checklists together form a simple tree structure. We call it *checklist tree*.

Each subgroup adds a new level to this structure, thus making it more complex.

While it is theoretically possible to create a checklist tree with a great number of levels, it is recommended to limit it to three or four at most, for the sake of simplicity, effectiveness, and ease of use.

```
│ Group
│  └─ Checklist
│        └─ Item
│     └─ Checklist
│           └─ Item
│ Group
│  └─ Group
│        └─ Checklist
│              └─ Item
│                 └─ Item
│           └─ Checklist
│                 └─ Item
│     └─ Checklist
│           └─ Item
```

An example of a four-level deep tree structure.

```
│ Pre-flight
│  └─ Cabin check
│        └─ Pedals :  Adjust
│     └─ Engine start
│           └─ Tank :  Select fuller tank
│     └─ Magneto test
│           └─ Oil temperature :  30 C
│ In-flight
│  └─ Before Takeoff
│        └─ Cabin lock :  Check
│     └─ On Takeoff
│     └─ Downwind
│     └─ Final
```

An excerpt from a real-life checklist.

4 Using Checklist Editor

4.1 Application Overview

Figure 1 illustrates our Checklist Editor desktop application. The four main components of the application are the toolbar at the top and the three sections in the center: Checklist tree section, Checklist items section and Editor section.

- In the *Toolbar*, you will find all the elementary file management options, such as save and open, as well as language settings, voice updates, and application information. Each toolbar action will be further described in the following sections.

- In the *Checklist tree* section, you can create and organize checklists into groups and arrange these groups in relation to each other.

- In the *Checklist items* section, you can modify the selected checklist, by creating and organizing its items.

- In the *Editor* section, you can edit each checklist item's properties.

4.2 Starting a New Project

After running the Checklist Editor you can start working on a new project right away. The checklist tree section comes with a preloaded set of commonly used groups, ready for use, but you can always modify it to your preferences.
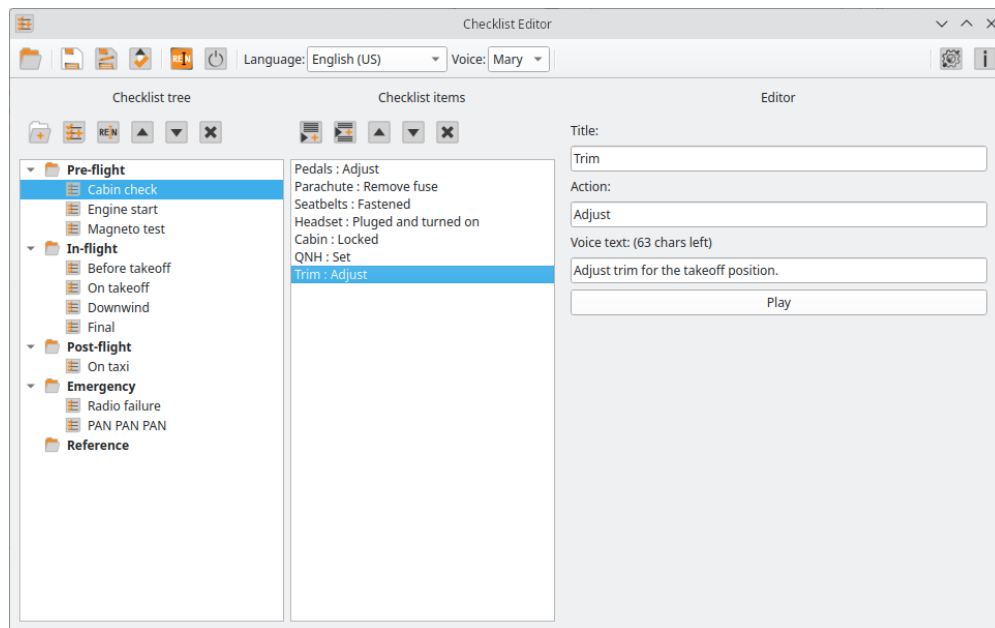
Figure 1: Application Overview

4.3   Inside the Checklist Tree Section

The checklist tree section allows you to create and edit new checklists and groups, then organize them to your preferences.

4.3.1   Creating New Groups

By clicking the `Insert Subgroup` button you can create a new empty group. It will be located inside the currently selected group.

4.3.2   Creating New Checklists

By clicking the `Insert Checklist` button you can create a new empty checklist. It will be located inside the currently selected group.

4.3.3   Renaming Checklists and Groups

To rename a checklist or a group, select it from the checklist tree, then click on the `Rename` button. Type in the desired name, then press `Enter` on your keyboard or click outside of the editor to confirm your changes. Alternatively, double-click on the name to enable the text editing option.

4.3.4   Repositioning Checklists and Groups

To move a checklist or a group to another position inside its current group, use the `Move Up` and `Move Down` buttons.

Alternatively, you can move a checklist or a group to any position inside the checklist tree, by dragging it with your mouse and dropping it at the desired location.

4.3.5   Deleting Checklists and Groups

To delete a checklist or a group, select it from the checklist tree, then click on the `Delete` button. This action will delete the whole checklist/group, including its contents.

4.4   Inside the Checklist Items Section

The checklist items section allows you to manage the currently selected checklist, by adding, removing and organizing its items.

4.4.1   Populating Checklists with Checklist Items

To add a new checklist item to the currently selected checklist, click either the `Append` or the `Insert` button.

`Append` will append a new item at the end of the list of items, while `Insert` will insert a new item before the currently selected item.

4.4.2   Repositioning Checklist Items

To move an item to another position inside its parent checklist, use the `Move Up` and `Move Down` buttons.

4.4.3   Deleting Checklist Items

To delete an item, select it from the checklist items list, then click on the `Delete` button.

4.5   Inside the Editor Section

The editor section of the application allows you to edit each checklist's items' properties.

4.5.1   Editing Checklist Items

From the checklist items section, select the item you wish to edit, then fill out its `Title`, `Action` and `Voice text` fields inside the editor section.

An example of a checklist item with it's properties is illustrated in Figure 2.

Voice text is limited to 100 characters. The text you type inside the editor will be converted to an audio recording via a text-to-speech software. To test the audio, press the `Play` button.

The language used for the voice text should match the language chosen in the `Language settings` inside the toolbar. This is to assure the proper processing of text when generating an audio file. Please refer to Subsection 4.6 for more information about language and voice settings.
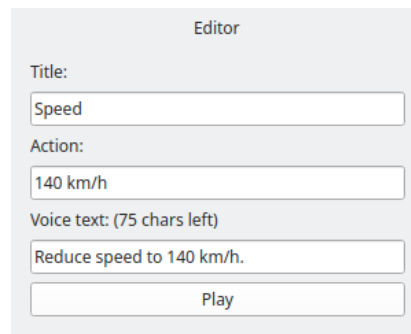
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Figure 2: Editing Checklist Item's Properties

4.6   Setting Language Options

Inside the toolbar at the top of the application, find the section for the language and voice preferences.

Under `Language`, select your preferred language from the available options. This determines the language in which the checklist text will be spoken. Selecting the appropriate language ensures accurate pronunciation and natural-sounding speech.

Under `Voice`, choose a voice for the selected language. Voice preference refers to a selection of distinct vocal characteristics that the application uses to convert text into spoken words.

The chosen language and voice influence how the application converts text to speech.

4.7   Opening an Existing Checklist File

From the toolbar, select the `Open` option, which is illustrated with an icon resembling an open folder. A new window will appear, presenting you with the file explorer. Here, you can browse through your device's folders and drives to locate the file you wish to open. The files used by Checklist Editor are formatted with the `.ckl` extension. Click on the desired file and then press the `Open` button. The application will then load the file.

4.8   Saving Checklist Files

After making desired edits, click on the `Save` option positioned in the toolbar in the top-left corner of the application. This action will save your changes to the currently opened file without altering its name or location.

If you are working with a new, previously unsaved file, clicking the `Save` button for the first time will initiate the saving process. A dialog box will appear, allowing you to specify the location where you want to save the file and to provide a name for the file. Confirm your choices by clicking `Save`. Note that subsequent saves will directly update the file without prompting you to choose the location or name again.

If you wish to save the file with a different name or in another location later on, you can use the `Save As` option from the toolbar.

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4.9   Updating Voices

The `Update Voices` action reloads and rewrites all previously created audio files with the currently selected `Language` and `Voice` options. This is to ensure consistency with your specified preferences across all audio files.

It proves beneficial in situations where adjustments have been made to the language configurations during the editing process.

The checklist file is saved automatically whenever you update voices.

4.10   Exporting Text

The `Export Text` option will save the checklist to your clipboard.

4.11   Exit

To exit the Checklist Editor application click on the `Exit` button found in the toolbar.

4.12   Options

Options are currently unavailable.

4.13   Application Information

Checklist Editor's information dialog provides an overview of the software. Accessible through the `About` option in the toolbar in the top-right corner of the application, this dialog presents details such as the application's version number, copyright information, and contact details for support.

5   Transfering Checklist Files to your Kanardia Instrument

To be able to use the checklist you have created with Checklist Editor in your Nesis or Aetos, you will need to transfer the file from your computer to the instrument. You can do this using a USB drive by following the instructions below:

1. Plug a USB drive into an available USB port on your computer.

2. Copy and paste the saved Checklist file (`.ckl`) to your USB drive.

3. Eject the USB drive: Once the transfer is finished, safely eject the USB drive from your computer. This helps prevent data corruption. Right-click on the USB drive icon and select `Eject` or `Safely Remove Hardware.`

4. Remove the USB drive from the computer's USB port.

5. Plug the USB drive into an available USB port on your Nesis.