Dragonfire Documentation

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CHAPTER 1

Dragonfire

the open-source virtual assistant for Ubuntu based Linux distributions

Dragonfire goes through these steps for each one of your commands, respectively:

- Search across the built-in commands and evaluate the algebraic expressions
- Try to Learn using Advanced NLP and Database Management Techniques
- Ask to Open-Domain Question Answering Engine (Searches Wikipedia for an answer)
- Respond using the Deep Conversation system, a seq2seq neural network trained with Cornell Movie-Dialogs Corpus

Dragonfire uses Mozilla DeepSpeech to understand your voice commands and Festival Speech Synthesis System to handle text-to-speech tasks.

Feel free to join our Gitter chat room. You can also directly talk with Dragonfire herself via her Twitter account.

1.1 Supported Environments

1.1.1 Installation

To run Dragonfire on a desktop Debian or Ubuntu system, either download the latest release (the `.deb` file) and install as follows:

```
sudo dpkg -i dragonfire_1.1.0_amd64.deb
```

or clone the GitHub repository and run

```
sudo make install
```

in the repository directory.

right after the *dpkg -i* command. The installation will automatically download the pre-trained English model of Mozilla DeepSpeech (1.31 GB download size) and will place it under */usr/share/dragonfire/deepspeech/models* directory. You can manually [download the model](https://github.com/mozilla/DeepSpeech/releases/download/v0.4.1/deepspeech-0.4.1-models.tar.gz) if you wish.</i></sup>‘

If you want to run Dragonfire on a server, you should install the Docker image (which does not install the huge DeepSpeech model required for speech recognition):

```
docker pull dragoncomputer/dragonfire
```

1.1.2 Usage

```
usage: dragonfire [-h] [-c] [-s] [-j] [-v] [-g] [--server API_KEY] [-p PORT]
                  [--version]

optional arguments:
  -h, --help            show this help message and exit
  -c, --cli             Command-line interface mode. Give commands to
                        Dragonfire via command-line inputs (keyboard) instead
                        of audio inputs (microphone).
  -s, --silent          Silent mode. Disable Text-to-Speech output. Dragonfire
                        won't generate any audio output.
  -j, --headless        Headless mode. Do not display an avatar animation on
                        the screen. Disable the female head model.
  -v, --verbose         Increase verbosity of log output.
  -g, --gspeech         Instead of using the default speech recognition
                        method(Mozilla DeepSpeech), use Google Speech
                        Recognition service. (more accurate results)
  --server API_KEY      Server mode. Disable any audio functionality, serve a
                        RESTful spaCy API and become a Twitter integrated
                        chatbot.
  -p PORT, --port PORT  Port number for server mode.
  --version             Display the version number of Dragonfire.
```

or with Docker: `docker run dragonfire [-h] [-c] [-s] [-j] [-v] [-g] [--server API_KEY] [-p PORT]`

or simply start from your Linux application launcher.

To activate Dragonfire say *DRAGONFIRE* or *HEY* or *WAKE UP*.

To deactivate her say *GO TO SLEEP*.

To silence her say *ENOUGH* or *SHUT UP*.

To kill her say *GOODBYE* or *BYE BYE* or *SEE YOU LATER* or *CATCH YOU LATER*.

> **warning** Facing with a problem? Take a look at the Troubleshooting:hammer_and_wrench: section.

1.2 Built-in Commands

Dragonfire DEVLOG #3 - Built-in Commands

```
DRAGONFIRE | WAKE UP | HEY
GO TO SLEEP
ENOUGH | SHUT UP
WHO AM I | SAY MY NAME
MY TITLE IS LADY | I'M A LADY | I'M A WOMAN | I'M A GIRL
MY TITLE IS SIR | I'M A MAN | I'M A BOY | CALL ME *
WHAT IS YOUR NAME
WHAT IS YOUR GENDER
FILE MANAGER | OPEN FILES
OPEN (BROWSER | CHROME | FIREFOX)
PHOTOSHOP | PHOTO EDITOR
INKSCAPE | VECTOR GRAPHICS
VIDEO EDITOR
OPEN [CAMERA, CALENDAR, CALCULATOR, STEAM, BLENDER, WRITER, MATH, IMPRESS, DRAW,␣
↪TERMINAL]
SOFTWARE CENTER
OFFICE SUITE
KEYBOARD *
ENTER | NEW TAB | SWITCH TAB | CLOSE | GO BACK | GO FORWARD
SCROLL LEFT | SCROLL RIGHT | SCROLL UP | SCROLL DOWN
PLAY | PAUSE | SPACEBAR
SHUT DOWN THE COMPUTER
GOODBYE | BYE BYE | SEE YOU LATER
(SEARCH|FIND) * (IN|ON|AT|USING) WIKIPEDIA
(SEARCH|FIND) * (IN|ON|AT|USING) YOUTUBE
(SEARCH|FIND) * (IN|ON|AT|USING) (GOOGLE|WEB)
(SEARCH IMAGES OF|FIND IMAGES OF|SEARCH|FIND) * (IN|ON|AT|USING) (GOOGLE|WEB|GOOGLE␣
↪IMAGES|WEB IMAGES)
WHAT'S THE TEMPERATURE IN *
WHAT TIME IS IT
```

1.3 Learning examples

Dragonfire DEVLOG #4 - Learning

1.4 Open-Domain Question Answering (ODQA) examples

DeepPavlov SQuAD BERT model based, a reader for the Wikipedia articles that are retrieved from web, found by the subject

Conversation	Result
You: WHERE IS THE TIMES SQUARE	
Dragonfire: MIDTOWN MANHATTAN SECTION OF NEW YORK CITY	True
You: WHAT IS THE HEIGHT OF BURJ KHALIFA	
Dragonfire: 829.8 M	True
You: WHERE IS BURJ KHALIFA	
Dragonfire: DUBAI, UNITED ARAB EMIRATES	True
You: WHAT IS THE HEIGHT OF GREAT PYRAMID OF GIZA	
Dragonfire: 146.5 METRES	True
You: WHO IS PLAYING JON SNOW IN GAME OF THRONES	

Continued on next page

Table 1 – continued from previous page

Conversation	Result
Dragonfire: GEORGE R. R. MARTIN	False
You: WHAT IS THE ATOMIC NUMBER OF OXYGEN	
Dragonfire: 8	True
You: WHAT IS THE LOWEST POINT IN THE OCEAN	
Dragonfire: TWO MILLION	False
You: WHAT IS THE OFFICIAL LANGUAGE OF JAPAN	
Dragonfire: NIPPON	False
You: WHAT IS THE REAL NAME OF IRON MAN	
Dragonfire: MARVEL COMICS	False
You: WHO IS THE CONQUEROR OF CONSTANTINOPLE	
Dragonfire: ECUMENICAL PATRIARCH OF CONSTANTINOPLE	False
You: WHEN DID FRENCH REVOLUTION HAPPENED	
Dragonfire: 1789	True
You: WHAT IS THE CAPITAL OF GERMANY	
Dragonfire: BERLIN	True
You: WHAT IS THE LARGEST CITY OF TURKEY	
Dragonfire: ISTANBUL	True
You: WHAT IS THE NAME OF THE WORLD'S BEST UNIVERSITY	
**Dragonfire:* ACADEMIC RANKING OF WORLD UNIVERSITIES	False
You: WHO INVENTED GENERAL RELATIVITY	
Dragonfire: ALBERT EINSTEIN	True
You: WHEN WAS UNITED NATIONS FORMED	
Dragonfire: AFTER WORLD WAR II	True
You: WHAT IS THE NAME OF THE WORLD'S LONGEST RIVER	
Dragonfire: THE NILE OR THE AMAZON	True
You: WHO WON THE EUROVISION IN 2019	
Dragonfire: THE NETHERLANDS	True
You: WHICH ONE IS THE BLOODIEST WAR IN HUMAN HISTORY	
Dragonfire: NEOLITHIC ERA	False
You: WHO IS THE CREATOR OF LINUX	
Dragonfire: LINUS TORVALDS	True
Total Score:	13/20

1.5 Deep Conversation examples

Supported Distributions: KDE neon, elementary OS and Ubuntu. All modern releases (Ubuntu 12.04 LTS and above) of these distributions are fully supported. Any other Ubuntu based distributions are partially supported.

1.5.1 Contribute

If you want to contribute to Dragonfire then please read this guide.

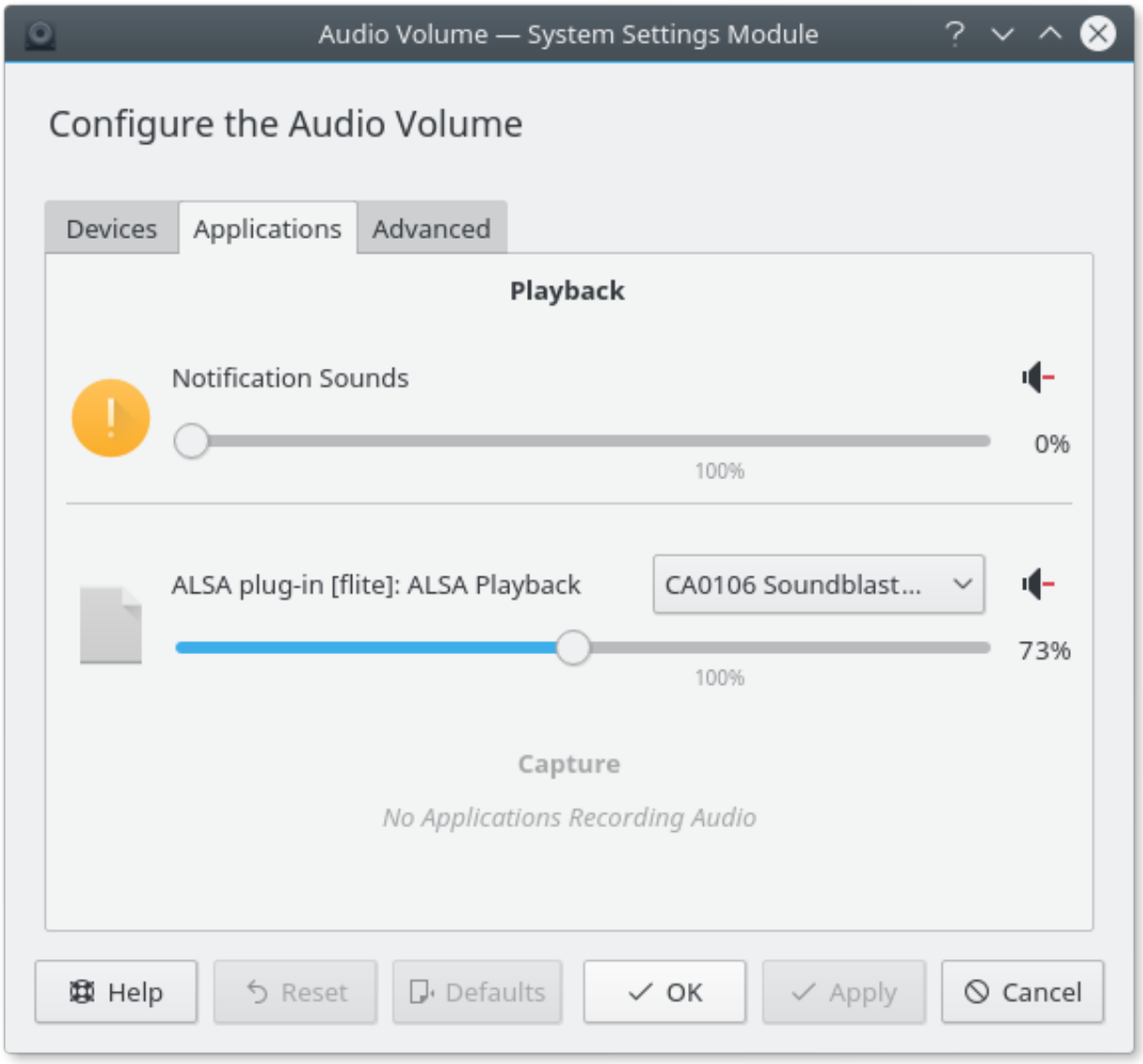
CHAPTER 2

Troubleshooting

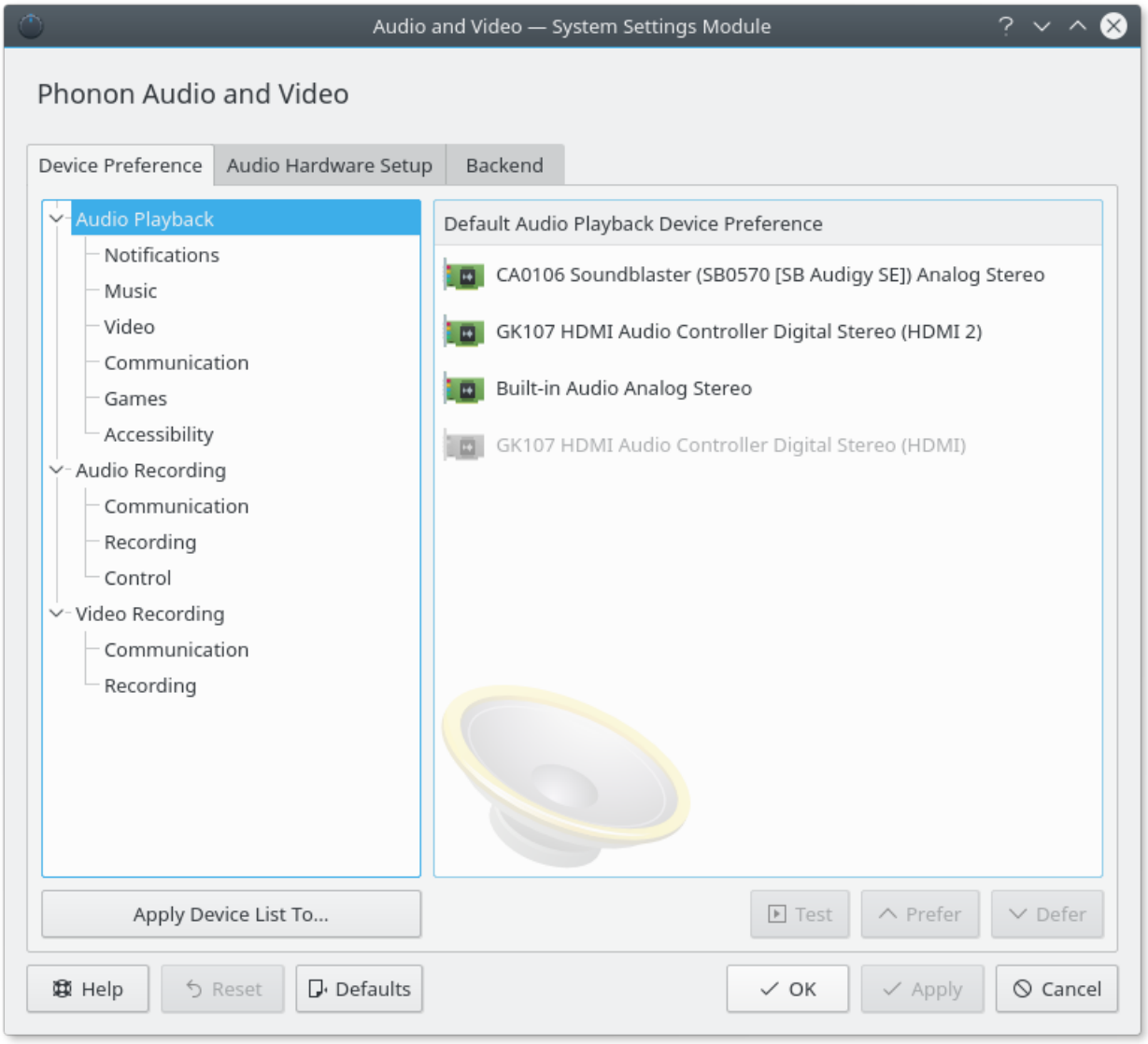
2.1 No sound is coming out of my computer?

If there is no sound coming from your speakers when you see `Dragonfire: GOOD MORNING SIR` on your terminal or *To activate say 'Dragonfire!' or 'Wake Up!'* notification after you run Dragonfire with `dragonfire` command then there are two possibilities causing this problem:

1. Dragonfire's audio output (ALSA plug-in [flite]: ALSA Playback) could be mapped to wrong audio device:



you can fix this either by changing it to correct device using the audio settings of your operating system or you can choose to use Phonon `sudo apt-get install phonon` to configure your device priority:



1. The problem could be related to missing `flite` package on your system. It should normally be installed on post-installation automatically but try to re-install it one more time with:

```
sudo apt-get update
sudo apt-get install flite
```

If `flite` is missing in your distro's repositories then download it and try to install it with `sudo dpkg -i flite_2.0.0-release-1_amd64.deb`.

2.2 Dragonfire is not reacting to my voice?

- Since we migrated to Kaldi Speech Recognition Toolkit, Dragonfire's speech recognition procedure runs fully on local.
- First of all, please make sure that Kaldi is compiled and installed under `/usr/share/kaldi` directory. If you suspect that Kaldi's compilation failed on installation procedure then please clone the repository `git clone https://github.com/DragonComputer/Dragonfire.git`and run install.sh script with

either `sudo ./install.sh` or `sudo bash install.sh`. Make sure that this block runs without any problem because it clones Kaldi under `/usr/share/kaldi` and compiles it directory by directory.

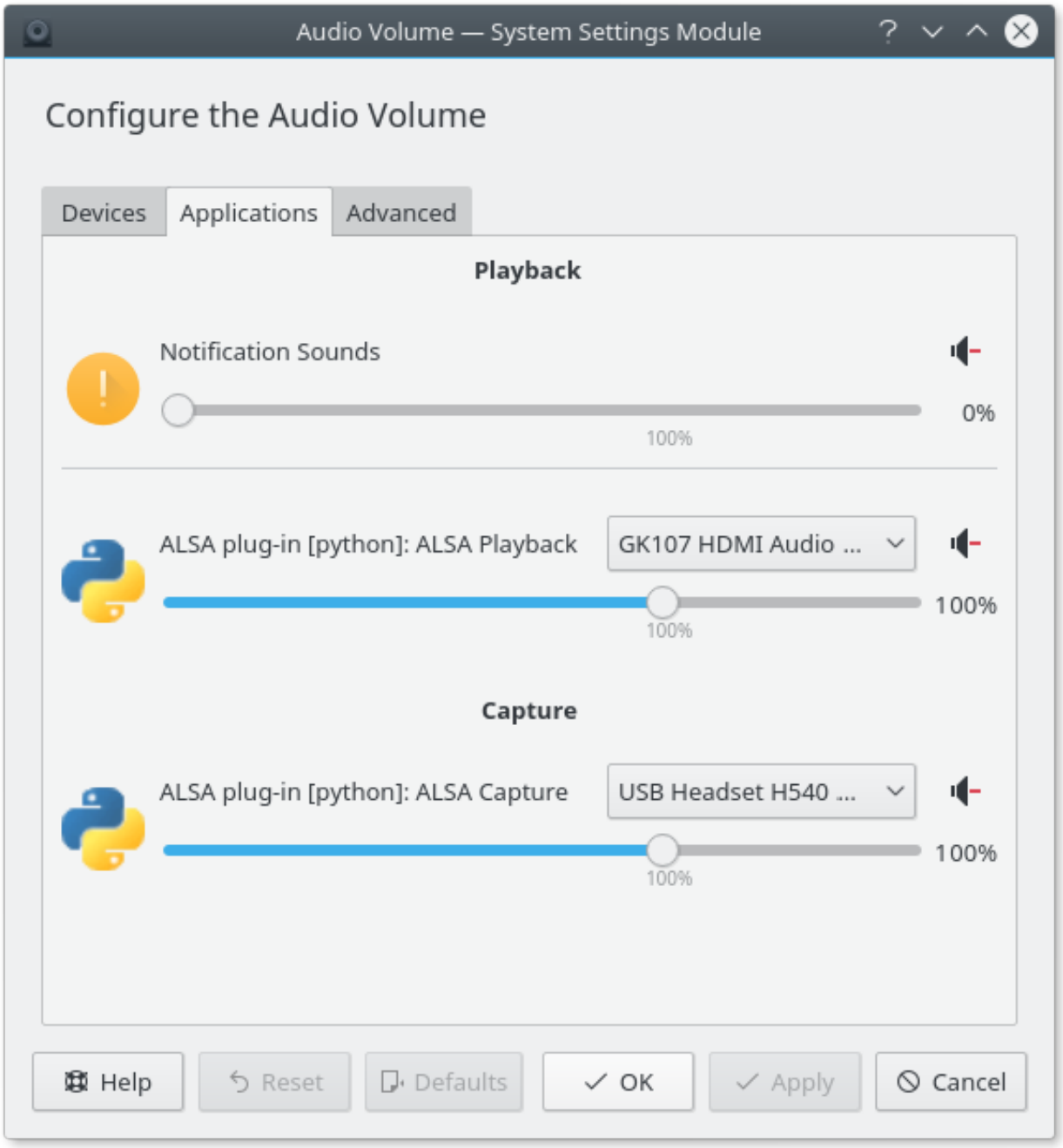
- If you are sure that Kaldi installation is OK then first run `export GST_PLUGIN_PATH=/usr/share/kaldi/src/gst-plugin` after that run decoder_test.py (`python decoder_test.py`) to test the speech recognition. It will run two tests:

  1. Microphone test so you will speak and it will recognize the speech.
  2. Audio file(located under `tests/ten_digits.wav`) test. The output should look like this:

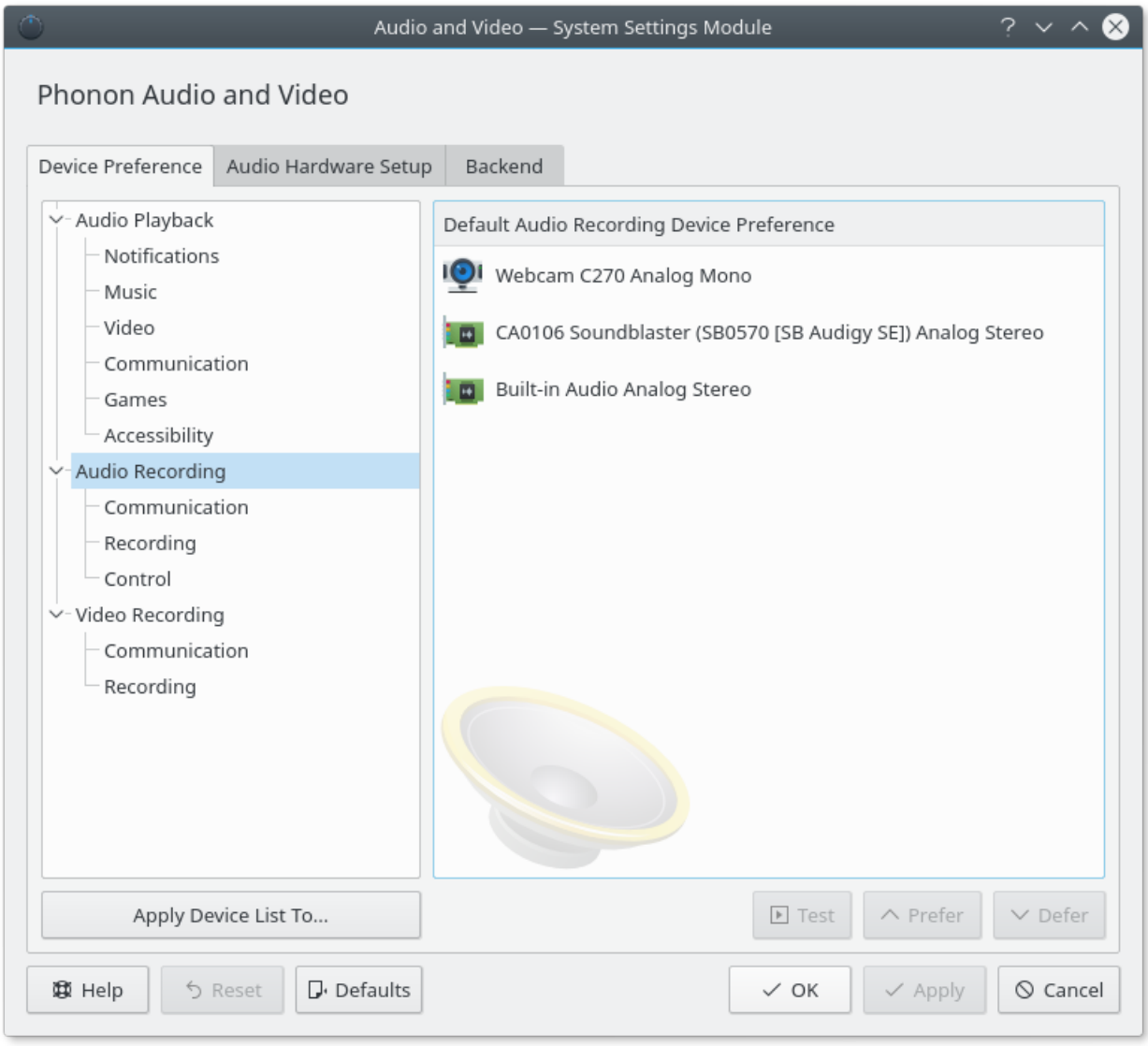
```
INFO:decoder:recognize: Pushing EOS to pipeline
INFO:decoder:recognize: Got word: DRAGON
INFO:decoder:recognize: Got word: FIRE
INFO:decoder:recognize: Got word: <#s>
INFO:decoder:recognize: Pipeline received eos signal
INFO:decoder:recognize: Finishing request
['DRAGON', 'FIRE', '<#s>']
.INFO:decoder:testWav: Pipeline initialized
INFO:decoder:testWav: Connecting audio decoder
INFO:decoder:testWav: Connected audio decoder
INFO:decoder:testWav: Pushing EOS to pipeline
INFO:decoder:testWav: Got word: ONE
INFO:decoder:testWav: Got word: TWO
INFO:decoder:testWav: Got word: THREE
INFO:decoder:testWav: Got word: FOUR
INFO:decoder:testWav: Got word: FIVE
INFO:decoder:testWav: Got word: SIX
INFO:decoder:testWav: Got word: SEVEN
INFO:decoder:testWav: Got word: EIGHT
INFO:decoder:testWav: Got word: <#s>
INFO:decoder:testWav: Pipeline received eos signal
INFO:decoder:testWav: Finishing request
.
----------------------------------------------------------------------
Ran 2 tests in 23.039s

OK
```

- If you face with a problem in above test then most probably Dragonfire's audio input (ALSA plug-in [python]: ALSA Capture) is mapped to wrong audio device:



you can fix this either by changing it to correct device using the audio settings of your operating system or you can choose to use Phonon `sudo apt-get install phonon` to configure your device priority:



2.3 I got AttributeError: 'NoneType' object has no attribute 'set_property'?

```
File "/usr/bin/dragonfire", line 11, in <module>
  load_entry_point('dragonfire', 'console_scripts', 'dragonfire')()
File "/home/tardog/Dokumente/Spielweise/Dragonfire/dragonfire/__init__.py", line 544,␣
↪in initiate
  start(args)
File "/home/tardog/Dokumente/Spielweise/Dragonfire/dragonfire/__init__.py", line 60,␣
↪in start
  recognizer = KaldiRecognizer()
File "/home/tardog/Dokumente/Spielweise/Dragonfire/dragonfire/sr/kaldi.py", line 34,␣
↪in __init__
  self.decoder_pipeline = DecoderPipeline({"decoder" : decoder_conf})
File "/home/tardog/Dokumente/Spielweise/Dragonfire/dragonfire/sr/decoder.py", line 17,
↪ in __init__
```

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```
  self.create_pipeline(conf)
File "/home/tardog/Dokumente/Spielweise/Dragonfire/dragonfire/sr/decoder.py", line 47,
↪ in create_pipeline
  self.asr.set_property(key, val)
AttributeError: 'NoneType' object has no attribute 'set_property'
```

If you got the above error then;

- either Kaldi installation has a problem so follow the instructions in **Dragonfire is not reacting to my voice?**
- or Kaldi installation is OK but somehow this line is not working so run `export GST_PLUGIN_PATH=/usr/share/kaldi/src/gst-plugin` before launching Dragonfire (in the same shell).

2.4 Dragonfire is understanding my commands but doing nothing?

Dragonfire starts on sleeping mode to do not disturb your acoustic environment. You need to activate her by saying *DRAGONFIRE* or *HEY* or *WAKE UP* to your microphone.

2.5 Dragonfire is unnecessarily jumping into real world conversation of mine?

Then you need to deactivate her by saying *GO TO SLEEP*.

2.6 Dragonfire confusing with her own voice?

Simply use your headphones:headphones: instead of the speakers:speaker: to listen Dragonfire or lower the volume of your speakers:speaker:.

2.7 Dragonfire started to read something but I don't know how to stop her?

Then you need to silence her by saying *ENOUGH* OR *SHUT UP*.

2.8 I'm done with Dragonfire, how can I shut her down?

By saying *GOODBYE* or *BYE BYE* or *SEE YOU LATER*.

2.9 I'm not seeing any 3D female head model(avatar) on the screen?

If you did not run Dragonfire with `--headless` option then you should be able to see the below avatar every time you hear a text-to-speech output.

Although, our C program that runs the avatar animation has not the best compatibility across the different desktop environments or window managers. For example; in Unity desktop environment, it flashes badly but in KDE Plasma 5, it runs pretty smooth.

2.10 Dragonfire calls me "Lady" but I'm a man?

Dragonfire analyzes your name that registered on the operating system to determine your gender. Sometimes she makes mistakes (mostly if your name is not an English name) and call you by your opposite gender. To fix this you can say *MY TITLE IS SIR* or *I'M A MAN* or *I'M A BOY*.

2.11 Dragonfire calls me "Sir" but I'm a woman?

Dragonfire analyzes your name that registered on the operating system to determine your gender. Sometimes she makes mistakes (mostly if your name is not an English name) and call you by your opposite gender. To fix this you can say *MY TITLE IS LADY* or *I'M A LADY* or *I'M A WOMAN* or *I'M A GIRL*.

2.12 I want to be called as something different?

Sure, there is a command for that. You can use `CALL ME *` command to manipulate her form of address for you to anything you want. For example: *CALL ME MASTER* or *CALL ME MY LORD* or *CALL ME MY FRIEND* etc.

2.13 I'm saying FILE MANAGER but file manager is not opening?

Probably you don't have any of the supported file manager software packages: `dolphin`, `pantheon-files`, `nautilus`

2.14 I'm saying WEB BROWSER but web browser is not opening?

Check the existence of `sensible-browser` command. It's a command that points out to your default web browser.

2.15 I'm saying PHOTO EDITOR but no software is opening?

Probably you don't have GIMP installed on your system: `sudo apt-get install gimp`

2.16 I'm saying INKSCAPE but Inskcape is not opening?

Probably you don't have Inkscape installed on your system: `sudo apt-get install inkscape`

2.17 I'm saying VIDEO EDITOR but no software is opening?

Probably you don't have any of the supported video editor software packages: `openshot`, `lightworks`, `kdenlive`

2.18 Something went wrong on the installation, I'm not sure what?

This script will try to install dependencies for you. Run these commands, respectively:

```
git clone https://github.com/DragonComputer/Dragonfire.git
cd Dragonfire/
chmod +x install.sh
sudo ./install.sh
```

2.19 Dragonfire started to give me senseless answers?

Dragonfire's learning is far from perfect so by the time, the conversations filled with incorrect information can lead her to wrong answers like `THE SUN IS HOT AND COLD`. To fix this kind of situations you can always wipe out her memories about the subject by calling: `FORGET ABOUT THE SUN`

2.20 Learning feature is blocking my way to reach to Open-Domain Question Answering Engine?

Learning feature has a priority so if in the past, you said something like `ALBERT EINSTEIN IS A PHYSICIST` then it will block your way when you asked anything about **Albert Einstein**. To fix this you should say: `FORGET ABOUT ALBERT EINSTEIN`

checkered_flag If none of the cases listed above are fitting to your situation then always consider to file an issue or visit our chat room on Gitter.

CHAPTER 3

Contributing to Dragonfire

sparkles First off all, thanks for taking the time to contribute! :sparkles:

The following is a set of guidelines for contributing to Dragonfire an open source virtual assistant project, which is hosted in the Dragon Computer Organization on GitHub. These are mostly guidelines, not rules. Use your best judgment, and feel free to propose changes to this document in a pull request.

3.1 Table Of Contents

- *Contributing to Dragonfire* .. code-block:: guess
  - [Table Of Contents](#table-of-contents)
  - *Code of Conduct*
    - *I don't want to read this whole thing I just have a question!!!*
  - *Getting Started*
    - *Fork The Repo*
      - *Step 1: Set Up Git*
      - *Step 2: Fork The Repo*
      - *Step 3: Create a local clone of your fork*
    - *Install Dragonfire in Development Mode*
      - *Use It*
      - *Missing Software Packages (Optional)*
      - *Choice for Code Editor*
      - *About Packaging*
  - *How Can I Contribute?*

        * *Decide What To Do*
            - *Reporting Bugs*
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            - *Projects*
            - *Your First Code Contribution*
        * *Push & Pull*
            - *Step 1: Go to the local clone of your fork*
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            - *Step 3: Write Your Code*
            - *Step 4: Push To Your Fork*
            - *Step 5: Creating a Pull Request*
    - *Styleguides*
        * *Git Commit Messages*
        * *Python Styleguide*
    - *Troubleshooting*
    - *Build the Debian package*
    - *API Reference*

3.1.1 Code of Conduct

This project and everyone participating in it is governed by the Dragonfire's Code of Conduct. By participating, you are expected to uphold this code. Please report unacceptable behavior to mert.yildiran@bil.omu.edu.tr.

3.2 I don't want to read this whole thing I just have a question!!!

> **Note:** Please don't file an issue to ask a question. You'll get faster results by using the resources below.

We have an official chat room on Gitter where the community chimes in with helpful advice if you have questions.

3.2.1 Getting Started

Supported Distributions: KDE neon, elementary OS and Ubuntu. All modern releases (Ubuntu 12.04 LTS and above) of these distributions are fully supported. Any other Ubuntu based distributions are partially supported.

Fork The Repo

3.3 Step 1: Set Up Git

If you haven't yet, you should first set up Git. Don't forget to set up authentication to GitHub from Git as well.

3.4 Step 2: Fork The Repo

Forking a repository is a simple two-step process:

1. On GitHub, navigate to the DragonComputer/Dragonfire repository.
2. In the top-right corner of the page, click **Fork**.

That's it! Now, you have a **fork** of the original Dragonfire repository under your account.

3.5 Step 3: Create a local clone of your fork

Right now, you have a fork of the Dragonfire repository, but you don't have the files in that repository on your computer. Let's create a *clone* of your fork locally on your computer:

1. On GitHub, navigate to **your fork** of the Dragonfire repository.
2. Under the repository name, click **Clone or download**.
3. Copy the given clone URL in the **Clone with HTTPs** section.
4. Open Terminal
5. Type `git clone`, and then paste the URL you copied in Step 2. It will look like this, with your GitHub username instead of `YOUR-USERNAME`: .. code-block:: guess

   git clone https://github.com/YOUR-USERNAME/Dragonfire.git

6. Press **Enter**. Your local clone will be created: .. code-block:: guess

   git clone https://github.com/YOUR-USERNAME/Dragonfire.git Cloning into 'Dragonfire'... remote: Counting objects: 1076, done. remote: Compressing objects: 100% (6/6), done. remote: Total 1076 (delta 4), reused 9 (delta 4), pack-reused 1066 Receiving objects: 100% (1076/1076), 13.85 MiB | 1.62 MiB/s, done. Resolving deltas: 100% (597/597), done. Checking connectivity... done.

You need to install Dragonfire with `sudo` rights, even if you are installing editable/development mode because there is a post-installation script that needs `sudo` rights.

```
git clone https://github.com/YOUR-USERNAME/Dragonfire.git
cd Dragonfire/
chmod +x install.sh
sudo ./install.sh --dev --pip
```

3.6 Use It

Try to experience every command listed in README.md. Please watch this playlist if you did not understand how to use Dragonfire.

If you face with a problem while installing or using Dragonfire then please take a look at the Troubleshooting section for the cases that fitting to your situation. Our chat room on Gitter is also a viable option for support requests.

3.7 Missing Software Packages (Optional)

There could be missing software packages on your system like **blender**, **gimp**, **inkscape**, **kdenlive**, etc. So Dragonfire will be unable to open them. If you want to use the commands like `PHOTO EDITOR`, `INKSCAPE` install the necessary

software to your system. You can see the list of built-in commands here.

3.8 Choice for Code Editor

We use Atom Editor with tabs(four whitespaces) without auto-indentation. Indentation mistakes can be troublesome in Python, please don't send files with messed up indentations.

3.9 About Packaging

If you are wondering about the package structure and distribution then please take a look to the official Packaging and Distributing Projects tutorial of Python.

3.9.1 How Can I Contribute?

Decide What To Do

3.10 Reporting Bugs

If you think you found a bug in Dragonfire then frist please check the all cases listed in Troubleshooting section. If you still think that's a bug then please file an issue immediately. Don't forget to mention that it's a bug or something going on very wrong.

> **Note:** If you find a **Closed** issue that seems like it is the same thing that you're experiencing, open a new issue and include a link to the original issue in the body of your new one.

3.11 Suggesting Enhancements

If you have an enhancement idea or you are not happy with an ugly piece of code then please file an issue and mention that it's an enhancement proposal.

3.12 Projects

Look at the cards pinned to **To Do** columns inside open projects to find something suitable for you. If you are willing to take a card/task from there then contact with project maintainers via Gitter chat room so they will assign that task to you.

3.13 Your First Code Contribution

Unsure where to begin contributing to Dragonfire? You can start by looking through these `beginner` and `help-wanted` issues:

- Beginner issues which should only require a few lines of code, and a test or two.
- Help wanted issues which should be a bit more involved than `beginner` issues.
- Missing dependency issues which should be mostly platform/distro related issues.

- Enhancement proposals which should be improvements ideas or alteration proposals on code.
- Bugs which should be issued with proof of existence and expected to be hard to fix.

Now you must have decided what to do. Before starting to write some code, take a quick look to PEP 8 - *because* :point_down:

For working well disciplined, you need to know how to deal with **git**'s push and pull mechanisms.

3.14 Step 1: Go to the local clone of your fork

Now `cd` into the local clone of your fork. Wherever the folder of Dragonfire is:

```
cd Dragonfire/
```

3.15 Step 2: Pull the Latest Changes

Now make sure your repository is up to date first using:

```
git pull origin master
```

3.16 Step 3: Write Your Code

At this step you are free to make any changes inside the local clone of your fork. Make sure that your changes serve to **single well defined goal** which will be your commit message. **DO NOT** try to achieve multiple (and unrelated) tasks with a single commit.

Before proceeding to Step 4, make sure that you have done all the tests and you did not break any existing feature of Dragonfire.

3.17 Step 4: Push To Your Fork

When you are done, you must push your changes from the local clone to your fork with:

```
git add -A
git commit -m "Change this functionality from here to there"
git push -u origin master
```

line with your actual message.</sup>‘

3.18 Step 5: Creating a Pull Request

Now follow this tutorial to create a pull request. You will create your pull request via this page.

Once you have successfully created the pull request, wait for a response from the project maintainers. If your patch is OK then we will merge it within approximately 24 hours.

3.18.1 Styleguides

Git Commit Messages

- Use the present tense ("Add feature" not "Added feature")
- Use the imperative mood ("Move cursor to…" not "Moves cursor to…")
- Limit the first line to 72 characters or less
- Reference issues and pull requests liberally after the first line
- Consider starting the commit message with an applicable emoji:
  - **art** `:art:` when improving the format/structure of the code
  - **rocket** `:rocket:` when improving performance
  - **robot** `:robot:` when improving the AI
  - **memo** `:memo:` when writing docs
  - **penguin** `:penguin:` when fixing something related to Linux
  - **apple** `:apple:` when fixing something related to macOS
  - **bug** `:bug:` when fixing a bug
  - **bulb** `:bulb:` new idea
  - **construction** `:construction:` work in progress
  - **heavy_plus_sign** `:heavy_plus_sign:` when adding feature
  - **heavy_minus_sign** `:heavy_minus_sign:` when removing feature
  - **speaker** `:speaker:` when adding logging
  - **mute** `:mute:` when reducing logging
  - **fire** `:fire:` when removing code or files
  - **white_check_mark** `:white_check_mark:` when adding tests
  - **lock** `:lock:` when dealing with security
  - **arrow_up** `:arrow_up:` when upgrading dependencies
  - **arrow_down** `:arrow_down:` when downgrading dependencies
  - **shirt** `:shirt:` when removing linter warnings

Python Styleguide

All Python must adhere to PEP 8.

3.18.2 Troubleshooting

See the Troubleshooting guide.

3.18.3 Build the Debian package

Install build dependencies:

```
sudo apt-get install debhelper python2.7-minimal python3 python3-all-dev python-
↪setuptools python3-setuptools libglib2.0-dev libcairo2-dev libgtk2.0-dev
```

To building the Debian package simply run:

```
cd Dragonfire/
dpkg-buildpackage -us -uc
```

It will save the `.deb` file into parent directory. `debian/` directory is the directory contains all the configuration files and pre/post-installation scripts related to Debian packaging.

3.18.4 API Reference

API reference of Dragonfire hosted on Read the Docs and the build of documentation is automatically triggered by a webhook so you don't have to really do anything about it.

We use Google Style Python Docstrings and Sphinx to build the documentation.

If you want to build the documentation on your local machine for some reason then do the following:

```
cd docs/
sphinx-apidoc -f -o source/ ../dragonfire/
sphinx-build -b html source/ build/
```

CHAPTER 4

Contributor Covenant Code of Conduct

4.1 Our Pledge

In the interest of fostering an open and welcoming environment, we as contributors and maintainers pledge to making participation in our project and our community a harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, gender identity and expression, level of experience, nationality, personal appearance, race, religion, or sexual identity and orientation.

4.2 Our Standards

Examples of behavior that contributes to creating a positive environment include:

- Using welcoming and inclusive language
- Being respectful of differing viewpoints and experiences
- Gracefully accepting constructive criticism
- Focusing on what is best for the community
- Showing empathy towards other community members

Examples of unacceptable behavior by participants include:

- The use of sexualized language or imagery and unwelcome sexual attention or advances
- Trolling, insulting/derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or electronic address, without explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

4.3 Our Responsibilities

Project maintainers are responsible for clarifying the standards of acceptable behavior and are expected to take appropriate and fair corrective action in response to any instances of unacceptable behavior.

Project maintainers have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct, or to ban temporarily or permanently any contributor for other behaviors that they deem inappropriate, threatening, offensive, or harmful.

4.4 Scope

This Code of Conduct applies both within project spaces and in public spaces when an individual is representing the project or its community. Examples of representing a project or community include using an official project e-mail address, posting via an official social media account, or acting as an appointed representative at an online or offline event. Representation of a project may be further defined and clarified by project maintainers.

4.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting the project lead at mert.yildiran@bil.omu.edu.tr. All complaints will be reviewed and investigated and will result in a response that is deemed necessary and appropriate to the circumstances. The project team is obligated to maintain confidentiality with regard to the reporter of an incident. Further details of specific enforcement policies may be posted separately.

Project maintainers who do not follow or enforce the Code of Conduct in good faith may face temporary or permanent repercussions as determined by other members of the project's leadership.

4.6 Attribution

This Code of Conduct is adapted from the Contributor Covenant, version 1.4, available at http://contributor-covenant.org/version/1/4

CHAPTER 5

License

The MIT License (MIT)

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CHAPTER 6

Indices and tables

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