

## Exercise sheet 3 – Software packages

### Goals:

- Software management
- Create own `deb` packages
- Use and create `flatpak` packages

### Exercise 3.1: Software management

- Search for the package `rar` in the package repository.
- Use the command `apt list rar`. What version of `rar` is inside the repository?
- Has the package `rar` any dependencies?
- Install the `rar` package.
- Use the commands `apt search rar` and `apt list rar` again. Are there any differences?
- Test if the `rar` program works.
- Delete the `rar` package.

### Exercise 3.2: Build your own `deb` package

This exercise is loosely based on

[https://wiki.ubuntuusers.de/Grundlagen\\_der\\_Paketerstellung](https://wiki.ubuntuusers.de/Grundlagen_der_Paketerstellung)

*Important: The steps have to be performed in exactly this order, otherwise you will run into troubles.*

- Create a directory `hello`
- Download the `hello-2.10.tar.gz` sources into the directory `hello` with:  
`wget http://ftp.gnu.org/gnu/hello/hello-2.10.tar.gz`
- Extract `hello-2.10.tar.gz` with `tar -xf hello-2.10.tar.gz` and change into the newly created folder.
- Initialize the files for the debian package and change into the newly created folder.
- Remove all files that are not needed (All files ending with `.ex`, `.EX` and the `README.*` files).
- Edit `changelog`:
  - Set the stability to `bionic`. You can set your own comment behind the `*`.
  - At the last line enter your name and e-mail address.
- Edit `control`:
  - Set `Section` to `misc`.
  - Set the `priority` to `optional`.
  - At `Maintainer` enter your name and e-mail address.
  - At the end of the file enter a description of the package.
- Edit `copyright`:



- Set Source to `http://ftp.gnu.org/gnu/hello/hello-2.10.tar.gz`.
- At the copyright for the Files: \* set the Copyright to 1992-2018 Free Software Foundation, Inc. and the License to GPL-3+.
- At Files: `debian/*` set the Copyright to your name and your e-mail, at License set the license to GPL-3+ and change in the following text all occurrences of 2 to 3.

(i) Go one directory up, configure the build (`./configure`), and build the package.

### Exercise 3.3: Use and inspect your own package with dpkg

*Alternatively: You can use the provided deb package from  
OS\_exercises/sheet\_03\_sw\_package/hello\_2.10-1\_amd64.deb.*

- List information about the newly generated package.
- List all files which are inside the newly generated package.
- Install the newly generated package into your system.
- Check if the package is now installed (Hint: `dpkg -l` also accepts a pattern).
- Run the program.
- Search for all files named hello in all installed packages.
- Remove the `hello` package.

### Exercise 3.4: Flatpak software management

- List all installed flatpak packages.
- Search for packages containing “pdf”.
- Install the `eu.scarpetta.PDFMixTool` package.
- Run the installed program.
- Print information about the package.
- Remove the `eu.scarpetta.PDFMixTool` package.

### Exercise 3.5: Build your own flatpak package (optional)

- Follow the tutorial of <http://docs.flatpak.org/en/latest/first-build.html> and build your own flatpak package.
- Make your own notes on how to build a flatpak package.