

Umeå University
Department of Applied Physics and Electronics

Linux as Development Environment 7.5 ECTS
5EL142 HT-16

Assignment 13 - Debian Package Handling

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1 Introduction

This lab was about creating Debian packages from the application written for lab 6 and lab 11 respectively.

2 Method

2.1 Definitions

- upstream source
- Debian Source Package
- Debian Binary Package

2.2 Tools

2.3 Description

First the the libraries where rebuild using the `-soname` flag [3].

```
gcc -fPIC -c -Wall libresistance.c
gcc -fPIC -c -Wall libpower.c
gcc -fPIC -c -Wall libcomponent.c
gcc -shared -Wl,-soname,libelectro.so.1 \
    -o libelectro.so.1.0.1 libresistance.o libpower.o libcomponent.o -lc
```

This resulted in a shared library: `libelectro.so-1.0.1`. A symbolic link `libelectro.so.1` was also created:

```
ln -s libelectro.so-1.0.1 libelectro.so.1
```

Then a new directory tree was build:

```
mkdir -p ./debian/usr/lib
mkdir -p ./debian/DEBIAN
```

The library and the symbolic link where copied into `./debian/usr/lib`. Then in `./debian/DEBIAN` three new files where created: `control`, `triggers` and `shlibs`.

The control file was edited as follows [1]:

```
Package: libelectrol
Version: 1.0-1
Section: libs
Priority: optional
Architecture: amd64
Depends: libc6 (>= 2.2.1)
Maintainer: L. Gerber <lorenz.gerber@provement.se>
Description: library with functions to calculate
    e12 replacement resistance values.
```

The triggers file contains only one line to trigger `ldconfig` [2]:

```
activate-noawait ldconfig
```

2(2)

The shlibs file contains the following line [2, 8.6.4.2.]:

```
libelectro 1 libelectro1
```

Then the binary package is created:

```
fakeroot dpkg-deb --build libelectro-1.0/  
mv libelectro-1.0.deb libelectro.so-1.0-1_amd64.deb
```

And finally the quality of the produced package is checked using:

```
lintian libelectro.so-1.0-1_amd64.deb
```

This resulted in the following output:

```
E: libelectro1: unstripped-binary-or-object usr/lib/libelectro.so.1.0.1  
E: libelectro1: debian-changelog-file-missing  
E: libelectro1: no-copyright-file
```

References

- [1] Debian Policy Manual, control files and their fields. <https://www.debian.org/doc/debian-policy/ch-controlfields.html>, 2017. accessed: 2017-08-17.
- [2] Debian Policy Manual, shared libraries. <https://www.debian.org/doc/debian-policy/ch-sharedlibs.html>, 2017. accessed: 2017-08-17.
- [3] The Linux Documentation Project, shared libraries. <https://tldp.org/HOWTO/Program-Library-HOWTO/shared-libraries.html>, 2017. accessed: 2017-08-17.