Cross-compiling using MXE

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www.github.com/richelbilderbeek/CppPresentations

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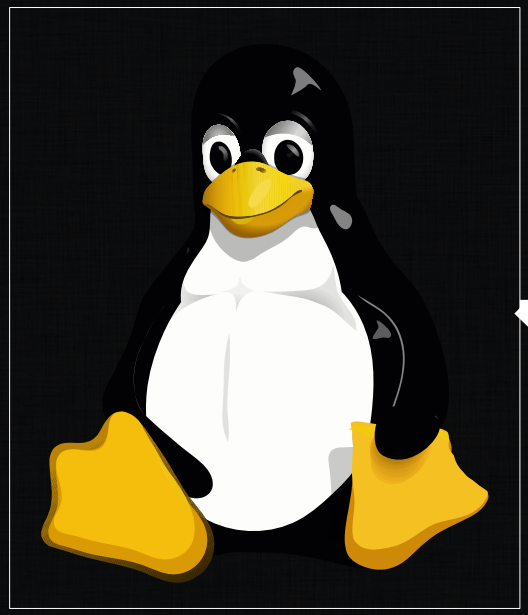
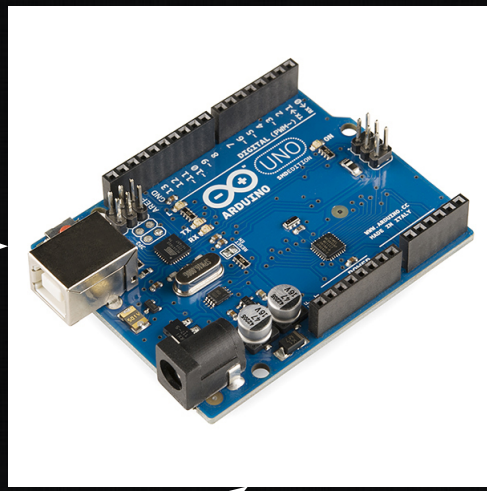
Cross compiling

- Compile code for a different operating system





Windows

Linux → Windows

- Use MXE (‘M Cross Environment’)
- Homepage at http://mxe.cc/
- GitHub at https://github.com/mxe/mxe
- Active community

GitHub

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MXE setup

- Install prerequisites
- MXE will tell if you missed one
- Overextensive list I use:

```
sudo apt-get install autoconf
automake autopoint bison bzip2
cmake flex gettext  gperf intltool
libffi-dev libtool libltdl-dev
libssl-dev libxml-parser-perl
openssl patch pkg-config scons
unzip wget xz-utils
```

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MXE setup

- Clone the repository

```
git clone
https://github.com/mxe/mxe.git
```

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MXE setup

- Build the executables
- Can take many hours!

```
cd mxe
make gcc boost qt qt5 qtbase wt qwt sfml
```

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MXE setup

- Add MXE to path
- Restart terminal before cross-compiling

```
echo "export PATH=/home/richel/GitHubs/mxe/usr/bin:$PATH" >> ~/.bashrc
```

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MXE setup

- Create a Makefile for your project
- Static build: no DLLs needed, just one big .EXE

```
i686-w64-mingw32.static-qmake-qt5
my_project.pro
```

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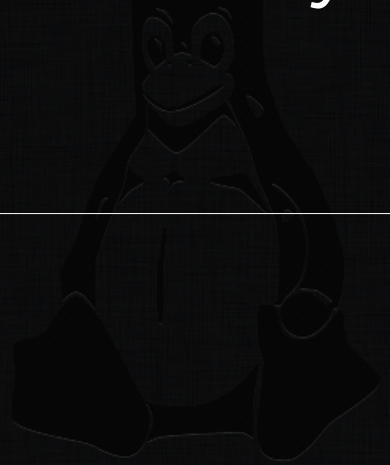
MXE setup

- Build your project
- Takes as long as any regular build



```
make
```

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Convenience

- Building MXE can easily be scripted
  - https://github.com/richelbilderbeek/RibiLibraries/blob/master/mxe.sh
- Cross-compiling can easily be scripted
  - https://github.com/richelbilderbeek/Brainweaver/blob/master/BrainweaverCrosscompile.sh

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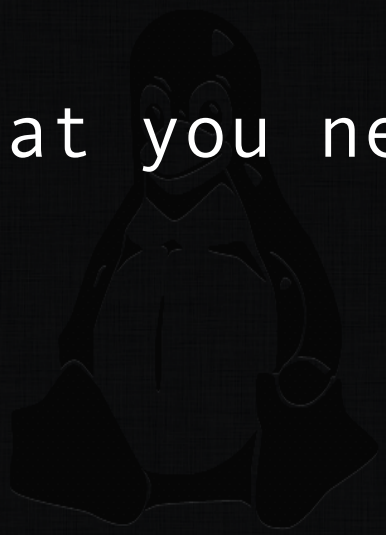
Problems

- MXE takes a long time to build
  - Overnight
  - Only build what you need



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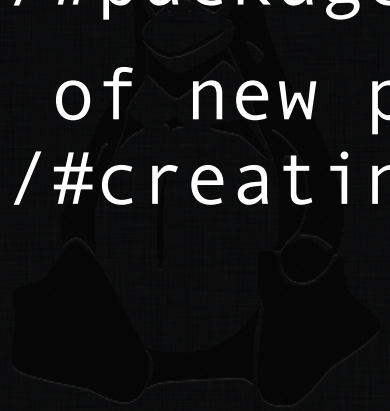
Problems

- You favorite package may be absent
  - List of all +400 packages at http://mxe.cc/#packages
  - Documentation of new packages at http://mxe.cc/#creating-packages



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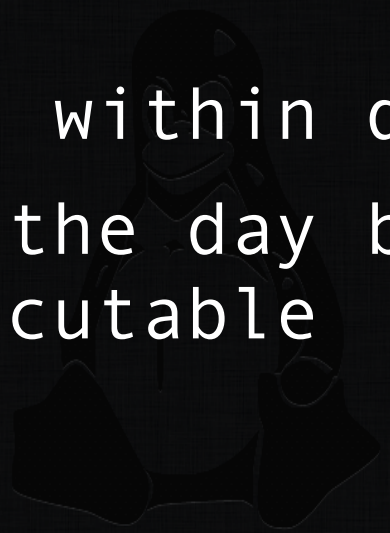
Problems

- Builds may fail, as libraries change
  - Will be fixed within days
  - Do not build the day before delivering the final executable



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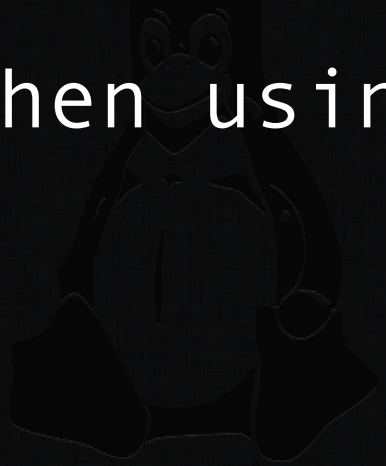
Conclusion

- MXE is easy to use
- MXE is harder to build
- Think ahead when using MXE



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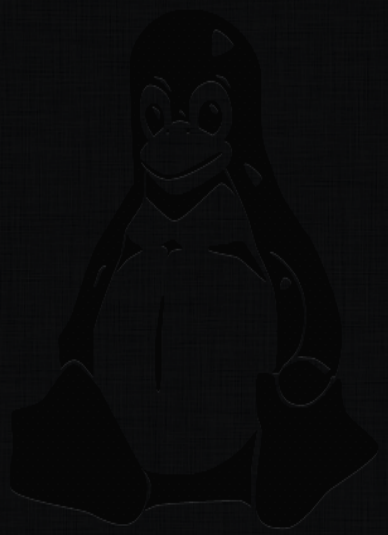
Questions?



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