pyinstaller

What is it?

- "PyInstaller freezes (packages) Python applications into stand-alone executables, under Windows, GNU/Linux, Mac OS X, FreeBSD, Solaris and AIX."

  https://www.pyinstaller.org/

- cross-platform, not cross-compiler

How?

- Install pyinstaller in your virtual env

  pip install pyinstaller

- Execute on your script/project

  pyinstaller MYSCRIPT.py

- *dist/* directory contains sub-directory MYSCRIPT with executable and libraries

- Use --clean flag to ensure building from scratch

- Remove all output:

  rm -Rf build/ dist/ __pycache__/ *.spec

Mini cross-compile?

- Generate Windows distribution under Linux
  - install Wine
    - wine32
    - download Python installer for Win32
    - wine INSTALLER.exe
    - custom install, for all users, with pip
  - install pyinstaller
    - wine cmd
    - pip install pyinstaller
  - apply pyinstaller to project under Wine
    - cd ...
    - pyinstaller MYSCRIPT.py

Entry script

- When using setup.py and packages

- Requires script outside package structure

- Simply import *main()* method of script to run

Hidden imports

- Doesn't discover all necessary libraries (doesn't inspect setup.py?)

- Use *--hidden-import ...* option

- Dependencies and pyinstaller must be part of the same Python environment (virtual or otherwise)

Adding non-code

- Add additional files:
  - Non-binary: --add-data SRC:DST
  - Binary: --add-binary SRC:DST

Output

- One dir (default, -D/--onedir)
  - can be zipped and shipped
- One file (-F/--onefile)
  - unpacks file before execution
  - may leave temporary files behind
  - bit slower than "one dir"
- Output name:
  - based on script name
  - use --name NAME to set one

GTK?

- Yes, but...
  - Packs all themes and icons as well
  - 100s of Mbs!
  - Requires pruning before shipping