



Tempus 1.0 User Manual

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1 Introduction

Tempus is a Free and Open Source utility for displaying the current time in various time systems for astronomical purposes.

It was written for the Distro Astro Linux distribution in C++ using the `Qt` user interface toolkit for maximum compatibility in case someone wishes to port it. It also serves as my first excursion into programming with the `Qt` framework.

It is intended to be small and unobtrusive, unless you want it to be.

A large portion of the calculations and conversions use the AA++ library by PJ Naughter, based on Jean Meeus' book **Astronomical Algorithms**.

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2 Usage

This section explains a little of the ways you can use Tempus to view time.

Tempus runs as an ordinary desktop application, using familiar menus, windows, and controls. It has one window, displaying the time in a scalable view as the central information in big type. You run Tempus as you would any other program, by double-clicking its icon or running it from a command line interface.

The location obviously affects the time, so Tempus needs to know your location to calculate sidereal times and other things. You can set your location in the `Location` menu.

2.1 Formats and standards

The current time formats supported are:

- Local Mean Time
- Universal Time
- Universal Time, Coordinated
- Local Sidereal Time
- Greenwich Sidereal Time

City coordinates are of course points within an urban area, and therefore not more precise than so many other points. The current values are taken from the `dateandtime.info` web site. Currently, only the time zone values are of use for the display of local time, since a particular longitude isn't a guarantee for a matching local time.

Tempus aims to adhere to the following scientific standards:

- World Geodetic System (WGS84, EPSG:4326) - in the `locations.xml` file, for example

3 Troubleshooting

If Tempus does not run, check the following:

- That the execute bit is set on the application
- That the `Qt` framework is installed properly and a modern version

4 Building

If you wish to build Tempus from scratch, you need to first obtain the source code, which may either be bundled with the application or can be obtained from Github at <https://github.com/larsnaesbye/tempus> by forking:

```
git clone https://github.com/larsnaesbye/tempus.git
```

For this, you will need a `git` client to make pull requests, and `Qt` version 4 or later (5.4 or later preferred) installed for compiling to work. In addition you may want to install `Qt Creator` to edit the base project.

5 Version History

This section is a list of things to implement/fix before release 1. Afterwards, it'll become a version history.

5.1 pre-release TODO

- More time types than GMT!
- Open XML locations file
- Location setting affects sidereal time
- Chiming is actually audible! Also triggers at the right time :-)
- SVG icon

5.2 1.0

Release. This section becomes version history.

6 Links and references

- Distro Astro - Linux for Astronomers - <http://distroastro.org>
- AA++ - Astronomical Algorithms in C++ - <http://www.naughter.com/aa.html>

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Version 3, 29 June 2007

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```

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