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## Navasota Brewing Cooperative

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# Brewkit

5<sup>th</sup> September 2018

## VISION

A suite of simple, maintainable, scalable software tools for brewing in the Navasota Brewing Cooperative space, and beyond.

## MISSION

To create a suite of software to aid in brewing. This includes software packages to control all hardware used in brewing, necessary or extraneous, and a friendly user interface that allow the public to view and the brewer to brew.

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## OVERVIEW

The *Brewkit* project is a software package with 3 parts: the app, the API, and the interface. These packages are described below.

### APP

A barebones python package which interfaces with the connected hardware. This should be used primarily by the other 2 software packages, but can be used from the command line if necessary.

The app will provide a documented and heavily tested interface for controlling connected hardware, and a command line interface for emergency or temporary use.

The app will not provide automation tools, ease of use tools, or a graphical user interface. It will not be user friendly, and that is by design.

### API

A well-documented, outward-facing API of the backend using the JSON data format. This will be used by only the other 2 packages, and third parties.

The API will implement all the tools available in the app. It will also provide comprehensive documentation.

The API will not provide any graphical interface for users.

### INTERFACE

A web interface implementing the API. This is the primary, and ideally only way the brewer will interact with the brewing hardware. It will show and log statuses, temperatures, procedures, and general information. It should be responsive and pleasant to use on mobile devices, from small phones to larger tablets.

The interface will provide a responsive web interface able to use the full functionality of the app, usable by the brewer, and a web viewer showing statistics (temperatures, statuses, procedures, etc.) allowing newcomers and the general public to spectate

The interface will not provide a desktop or mobile app

## TYING IT ALL TOGETHER

The 3 software packages (app, API, interface) will be published under the name “*Brewkit*”. It will be available for installation as a python package on *PyPI*, or from the source on Github.

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## SOURCE CODE

All source code will be hosted on Github under the “NavasotaBrewing” organization. This organization is owned by Luke Sweeney, the maintainer of the software. The *Brewkit* software will remain free and open source under the MIT license<sup>1</sup>.

## GOALS

1. To write source code, test suites, and documentation for:
  - a. The app
  - b. The API
  - c. The interface
2. To release a stable version of *Brewkit*

## MILESTONES

### 1. App Stable

A stable and working version of the app, usable from the command line. It should have documentation paired with the source code, and available for viewing on Github. A suite of tests is required. This is the most important package to test.

### 2. API Stable

A stable version of the API, with test suites and full documentation available on Github and with the source code. The documentation must be accurate and updated when the source code changes. It should have a change log build in and available with the documentation. This is the most important documentation in the *Brewkit* package.

### 3. Interface Stable

A stable version of the interface. It should run smoothly and without issues on all devices. Latency between actions on the interface and physical responses should be kept to an absolute minimum, less than 1 second.

### 4. Brewkit Stable

A stable version of *Brewkit*, with all 3 software packages working in unison

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<sup>1</sup> <https://opensource.org/licenses/MIT>

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## HISTORY

Primitive versions of *Brewkit*, named *Adaptibrew*<sup>2</sup>, were started by Dr. David Sweeney to aid his brewing process. At the time, they controlled 2 types of devices: valves and thermostats. The software was basic and controlled from a command line interface. Some technical knowledge was required to use this software. Later, Luke Sweeney took over development of *Adaptibrew*, starting a new version called *Brewer*<sup>3</sup>. This project went through several iterations, and implemented a web interface. The web interface was generally successful, but was not scalable, maintainable, or simple. After a few iterations of the *Brewer* project, the *Brewkit* project is being proposed to fix major architecture problems with older versions of software.

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<sup>2</sup> *Adaptibrew* legacy source code: <https://github.com/adaptiman/adaptibrew>

<sup>3</sup> *Brewer* legacy source code: <https://github.com/llamicron/brewer>