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# **Orbiter Documentation**

*Release 0.0.1*

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# CHAPTER 1

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## Introduction

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Orbiter is a simple control game created by [Lee Vaughan](#) using Kepler's laws of planetary motion. The design of the game, along with its source code, was originally published in Lee's excellent book, [Impractical Python Projects](#). I highly recommend Lee's book as well as many of the other wonderful books offered by [No Starch Press](#).

This repository stands as a refactored version of Mr. Vaughan's source code. It was created with two aims: one, to make it simple to extend the game, and, more importantly, two, to make the game into an environment for reinforcement learning algorithms in the style of OpenAI's [gyms](#).



### 2.1 Stable release

To install orbiter, run this command in your terminal:

```
pip install orbiter
```

This is the preferred method to install orbiter, as it will always install the most recent stable release.

If you don't have `pip` installed, this [Python installation guide](#) can guide you through the process.

### 2.2 From sources

The sources for orbiter can be downloaded from the [Github repo](#).

You can either clone the public repository:

```
git clone git://github.com/yngtodd/orbiter
```

Or download the [tarball](#):

```
curl -OL https://github.com/yngtodd/orbiter/tarball/master
```

Once you have a copy of the source, you can install it with:

```
python setup.py install
```



## CHAPTER 3

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### Usage

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To use Orbiter in a project:

```
import orbiter
```



Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given. You can contribute in many ways:

## 4.1 Types of Contributions

### 4.1.1 Report Bugs

Report bugs at <https://github.com/yngtodd/orbiter/issues>.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

### 4.1.2 Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with “bug” is open to whoever wants to implement it.

### 4.1.3 Implement Features

Look through the GitHub issues for features. Anything tagged with “feature” is open to whoever wants to implement it.

## 4.1.4 Write Documentation

Orbiter could always use more documentation, whether as part of the official Orbiter docs, in docstrings, or even on the web in blog posts, articles, and such.

## 4.1.5 Submit Feedback

The best way to send feedback is to file an issue at <https://github.com/yngtodd/orbiter/issues>.

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.
- Remember that this is a volunteer-driven project, and that contributions are welcome :)

## 4.2 Get Started!

Ready to contribute? Here's how to set up *orbiter* for local development.

1. Fork the *orbiter* repo on GitHub.
2. Clone your fork locally:

```
git clone git@github.com:your_name_here/orbiter.git
```

3. Create a branch for local development:

```
git checkout -b name-of-your-bugfix-or-feature
```

Now you can make your changes locally.

4. When you're done making changes, check that your changes pass style and unit tests, including testing other Python versions with tox:

```
tox
```

To get tox, just pip install it.

5. Commit your changes and push your branch to GitHub:

```
git add .
git commit -m "Your detailed description of your changes."
git push origin name-of-your-bugfix-or-feature
```

6. Submit a pull request through the GitHub website.

## 4.3 Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests.
2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring, and add the feature to the list in README.rst.

3. The pull request should work for Python  $\geq 3.6$  and for PyPy. Check <https://travis-ci.org/yngtodd/orbiter> under pull requests for active pull requests or run the `tox` command and make sure that the tests pass for all supported Python versions.

## 4.4 Tips

To run a subset of tests:

```
py.test test/test_orbiter.py
```



### 5.1 Development Lead

- Todd Young GitHub: [yngtodd](#)

### 5.2 Contributors

None yet. Why not be the first?



### 6.1 0.0.1 (2018-12-1)

- First release on PyPI.



## CHAPTER 7

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### Feedback

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If you have any suggestions or questions about **Orbiter** feel free to email me at [youngmt1@ornl.gov](mailto:youngmt1@ornl.gov).

If you encounter any errors or problems with **Orbiter**, please let me know! Open an Issue at the GitHub <http://github.com/yngtodd/orbiter> main repository.