*Documentation Tool for the Shadow Programming Language*

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**Abstract**

 Documentation of source code is a crucial resource for programmers, allowing the users and maintainers of a project to understand it quickly and efficiently. While time and resources could be dedicated to hand-composing reference materials, many automated tools exist to do the heavy lifting. Such tools are able to generate complete documentation from two major sources: code structure and comments. Such tools already exist for prominent languages like Java, C++ and Python.

 Shadow is an open source language currently in development at Elizabethtown College (see <http://shadow-language.org/> for details). Because of the language’s young age, there has previously been no tool to build documentation from source code. Making such a tool available will prove essential for users of Shadow, placing the language on par with popular languages like those listed above. In combination with this tool, the creation of documentation for Shadow’s standard library will provide an indispensable resource for its programmers.

 During the course of this project, a documentation tool fitting the above description was created specifically for use with the Shadow programming language. Known as “Shadox,” the tool is capable of processing Shadow source code - optionally augmented with descriptive comments - and creating documentation in the form of interlinked HTML pages. These generated pages fully detail the interfaces of all publicly visible classes, methods and fields found in the processed source files or packages.

 Shadox was developed as tightly integrated component of the existing Shadow compiler, allowing the two to be easily maintained and distributed in parallel. The tool falls under the same open source Apache License as the compiler, meaning that outside parties can easily make fixes and improvements in the future (view the source code at <https://github.com/TeamShadow/shadow>). With the tool in hand, documentation can now be assembled for Shadow’s standard library, making the language significantly more accessible for programmers and developers.