**Technical Specification**

for

**On Screen Display Library (libXosd)**

**Version 1.0**

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# **Introduction**

## **Purpose**

The purpose of this software design document is to show the basic path we will be taking with our senior project that we will be working on. We will do this by showing use cases, requirements, and dependencies along with other things. Be aware that all aspects of this document are subject to change in the future depending on how the project is moving along.

## **Project Scope**

This project will be for the Unix workspace and will allow users to display information over their OS and everything that could pop up on their screen. Users will be able to change what information they want to be displayed and the look of the display as well.

## **Target Audience**

The target audience of this project will be Unix users that desire to display any information on their screen that they always need for easy access. It can also be used in order to create a custom desktop environment that will give you useful information such as time which will always be shown rather than only when displaying the desktop

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# **Overall Description**

## **Product Perspective**

The libXosd application is a unix utility programmed in C which allows users to display text and pending the continuation of the project will additionally allow for the display of bitmaps in an interface independent of other display utilities thus acting as an overlay in most applications.

## **Project Features/High Level Functions**

**FE-01:** Users will be able to display text  
**FE-02:** Users will be able to extend text display to multiple screens.  
**FE-03:** Users will be able to display text of varying fonts and colors  
**FE-04:** Users will be able to display pixmaps.

## **User Characteristics/User Classes**

The user is a member of the community interested in on-screen display utilities and may not have a strong understanding of software applications.

Software engineers could have a technical understanding of the application and the ability to modify or extend the open-source features, additionally they should feel comfortable in using the application initially.

## **Constraints**

The libXosd project team has access to limited work hours, labor intensive extensions of the application will be made difficult to accomplish and the limited resources available to the team must be managed efficiently.

The project possesses no budget nor is any additional support expected.

The development team's portfolio is limited to open-source or otherwise free materials aside from their personal devices and software.

Due to understaffing, aspects of the program’s development including application testing will have to be delegated to the users or be placed on hold until such a time as resources can be allocated to them.

## **Assumption and Dependencies**

It is assumed that the user is comfortable with the fundamentals of software applications, the application is dependent on the Unix operating environment and the C programming language, the application is dependent on the extensibility of previous versions of libXosd without which some features may need to be dropped.

# **Design Guidelines**

# **System Architecture**

The libXosd software, as an open source project, has pre-existing system

architecture that the team is inheriting and will work with in order to further development. There is no intention to modify how the individual pieces of the system interact with each other and thus no intention to modify the system architecture as a whole, but rather to make modifications within the limits of the

already established relationships of the segments of code.

# **Cause and Effect Statements**

-When a user downloads the libXosd software, the user will then be able to have

text display on the screen.

-When a user is displaying text on the screen, the user will be able to see that o

multiple monitors.

-When a user is using the program to display text, there will be no errors in

display.

# **Functional Description**

The product will allow a user to:

* Display text on the screen
* Have multi-monitor display
* Have variation of text or fonts in the display

# **Functional Requirements**

FE-01: Displays text over screen

FE-02: FE-01 compliance with multiple screens

FE-03: Multiple fonts, font sizes, and custom text colors

FE-04: Displaying pixmaps over screen

# **Nonfunctional Requirements**

NF-01: Ensure the code base is maintainable as it is open source

NF-02: Allow for support on different kinds of UNIX systems

NF-03: Deliver a simple and easy to use user experience

# **User Interface**

The interface for the libXosd project is heavily tied up in its functionality. By

installing the source code, the ability to use the display effect will be able to take

place immediately. Then, the interface essentially becomes the using their computer while simultaneously having text display. Ultimately, the interface is simply the user using libXosd while performing their standard routines and having it be displayed.

**Revision History**

| **Name** | **Revision** | **Description** | **Date** |
| --- | --- | --- | --- |
| All authors | 1.0 | Original Release | 2 May 2022 |
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