

**ZED**

# **Software Requirements Specification**

**Open Game Developers**



# ZED

## Change Log

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Version	Author	Changes
0.0.0.0	Rico	Initial revision Preliminary document structure



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# ZED

## Introduction

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### Purpose

ZED is intended to provide a variety of components to aid in game development. Components which are supported by ZED are as follows:

- 2D and 3D Mathematics
- 2D and 3D Graphics Rendering
- Storage
- System Services
- Physics
- Artificial Intelligence
- Audio
- Input
- Networking
- Scripting

While these functions are implemented in ZED, they are intended to be extended by the developer for their specific development needs.

### Scope

As there are a wide variety of components involved in the creation of the ZED engine, the scope of each will expand as needed. In the initial version of ZED, the API will offer a minimal set of functionality for developers to extend as they see fit. ZED will be available for Linux, Mac, Windows, Xbox, Pandora, and BlackBerry PlayBook initially.

## Definitions, Acronyms, Initialisms, and Abbreviations

### *Definitions*

### *Acronyms*

ZED – The engine which this document is intended to put forth the requirement effort involved

### *Initialisms*

API – Application Programming Interface

### *Abbreviations*

Sockets – Windows or Berkeley Sockets API

WinSock – Windows Sockets API

## System Overview

ZED is intended to be as lightweight as possible and as optimised for each platform it supports. Modularity is important for the future expansion of the engine, thus there will be a heavy focus on keeping the system well documented and open for developers.

Following is a narrative on each system provided by ZED:

### **System Services**

Providing memory management, multi-threading, and platform information.

### **2D and 3D Mathematics**

Vectors, Matrices, Quaternions, Rays, Planes, Polygons, Axis-Aligned Bounding Boxes, and Orientated Bounding Boxes.

### **2D and 3D Graphics Rendering**

Direct3D, OpenGL, applying shaders to primitives, Textures, and Fonts.

### **Storage**

Reading/Writing files, and directories.

### **Input**

Keyboard, Mouse, Gamepad, Motion Controller.

### **Audio**

Multi-channel audio.

### **Networking**

Modem, Ethernet, Dead Reckoning, Multicasting.

### **Artificial Intelligence**

Finite State Machines, Behaviour Trees, A\* Pathfinding, NavMesh, NavPoints, Steering.

### **Physics**

Rag Dolls, Collision.

### **Scripting**

ZED Scripting Language.

## **References**



## Overall Description

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Product Perspective  
Product Functions  
User Characteristics  
Constraints  
Assumptions and Dependencies



## Specific Requirements

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### External Interface Requirements

User Interfaces

Hardware Interfaces

Software Interfaces

Communication Interfaces

### Functional Requirements

### Performance Requirements

Standards

Hardware Limitations

### Design Constraints

Availability

Security

Maintainability

### Other Requirements