IdeaStorm Software Design Document

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# Introduction

## Goals and Objectives

## Statement of Scope

## Software Context

## Major Constraints

TBD – Need to figure out if this section will be needed or if all constraints will be covered in the section about constraints.

# Data Design

TBD – Need to cover the file structure, how files are saved and the classes used for this.

TBD – Move the explanation and diagram from 3.2.3 of the old document to here and reword to explain better.

TBD – Add an ERD diagram to show the structure and relationship of the data.

TBD – May also want to consider adding a sequence diagram to show how data is saved.

# Architectural and Component Level Design

TBD – START HERE!!!!! Figure out a way to organize this section into major sections, than figure out how to organize the other sections into major sections.

## Overall Design

TBD – Need to provide a good overview of the app structure, major components (drawing engine and gallery) and explain how these components communicate with each other. I also need to cover the MVC pattern briefly (reference apple material for this) and how it is being used in IdeaStorm.

TBD – Describe the overall structure (using separate viewcontrollers with a centralized database)

## Drawing Engine Design

### Drawing Engine Structure

TBD – Create a JSD describing the Drawing engine

### Drawing Engine Classes

TBD – Create a class diagram showing all the class relationships

### Drawing Sequence

TBD – Create a sequence diagram that describes drawing

## Gallery Design

### Gallery Structure

TBD – This section should provide a high level overview of the gallery.

TBD – Move the JSD describing the Gallery’s design here from section 3.1 of the old document (This diagram also needs to be corrected, remove strokes under the Drawing element and replace with Drawing Thumbnail). The explanation that goes along with the diagram would need to move here as well.

### Gallery Classes

TBD – Create a class diagram showing all the class relationships for the gallery

## Class Descriptions

TBD – Need a table or some other way to describe the classes in detail that is much more compact and organized then the old method. Can separate this into separate tables for

# User Interface Design

TBD – I maybe able to reference the user interface mockups in the SRS for this.

TBD – Pull (or reference) the UI mockups from the SRS

TBD – Create storyboards were and if needed to describe the rest of the UI.

# Security

TBD – This is simple, there is no security other then what Apple provides on its devices.

# Restriction, Limitations and Constraints

TBD – Explain the platforms and OS versions that it will be limited to. Also explain what the software cannot do (load previous drawings, rearrange drawings).

# Testing Issues

TBD – Explain the testing process for IdeaStorm (Manual Test Scripts) and the test scripts that were developed.

# Design Process

TBD – Explain the process of designing IdeaStorm including this rewrite.

# Conclusion

TBD – Explain each of the below sections using bullet points

## What Worked Well

## Challenges

## Lessons Learned

# Requirements Traceability

TBD – Need to separate these by the requirement type and the major part of the software they belong to (drawing engine or gallery).

## Drawing Engine Requirements

### External Interface Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| EIR005 |  |
| EIR018 |  |
| EIR001 |  |
| EIR002 |  |
| EIR012 |  |
| EIR022 |  |
| EIR025 |  |
| EIR019 |  |
| EIR011 |  |
| EIR021 |  |
| EIR028 |  |
| EIR026 |  |
| EIR027 |  |
| EIR029 |  |

### Functional Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| FR001 |  |
| FR002 |  |
| FR003 |  |
| FR013 |  |
| FR033 |  |
| FR032 |  |
| FR004 |  |
| FR005 |  |
| FR017 |  |
| FR020 |  |
| FR023 |  |
| FR021 |  |

### Performance Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| PR001 |  |
| PR002 |  |
| PR005 |  |

## Gallery Requirements

### External Interface Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| EIR044 |  |
| EIR038 |  |
| EIR039 |  |
| EIR030 |  |
| EIR031 |  |
| EIR032 |  |
| EIR033 |  |
| EIR034 |  |
| EIR035 |  |
| EIR036 |  |
| EIR037 |  |
| EIR041 |  |
| EIR045 |  |
| EIR047 |  |

### Functional Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| FR041 |  |
| FR035 |  |
| FR042 |  |
| FR036 |  |
| FR037 |  |
| FR014 |  |
| FR038 |  |
| FR040 |  |

### Performance Requirements

|  |  |
| --- | --- |
| Requirement | Document(s), section(s) and/or process(es) that meets the requirement |
| PR006 |  |

# References

TBD – Add Pressman reference in this section.

Bullock, B. (2009, September 30). Approximate length of a cubic bezier curve. *LeMoDa.net*. Retrieved September 13, 2011, from http://www.lemoda.net/maths/bezier-length/index.html

Chung, C., & Bucanek, J. (2011). *Pro Objective-C design patterns for iOS*. New York: Friends of ED/Apress.

Drawing a curve in OpenGLES - how? - GameDev.net. (2009, May 7). *GameDev.net*. Retrieved August 26, 2011, from http://www.gamedev.net/topic/534082-drawing-a-curve-in-opengles---how/

Harmon, T. (2009, October 12). Resize a UIImage the right way ‚Trevor’s Bike Shed. *Trevor's Bike Shed*. Retrieved Febuary 22, 2012, from http://vocaro.com/trevor/blog/2009/10/12/resize-a-uiimage-the-right-way/

iPhone - GLPaint Save Image - Stack Overflow. (2009, December 22). *Stack Overflow*. Retrieved April 22, 2012, from http://stackoverflow.com/questions/946700/glpaint-save-image

Lamarche, J. (2010, November 2). iPhone Development: OpenGL ES 2.0 for iOS, Chapter 4 - Introducing the Programmable Pipeline. *iPhone Development*. Retrieved August 12, 2011, from http://iphonedevelopment.blogspot.com/2010/11/opengl-es-20-for-ios-chapter-4.html

Lazuka, K. (2009, November 19). Life Kid / Point Sprites and OpenGL ES 2.0. *Life Kid*. Retrieved September 13, 2011, from http://klazuka.tumblr.com/post/249698151/point-sprites-and-opengl-es-2-0

McCaughey, D. (2010, September 30). Able Pear Software: Creating a GUID or UUID in Objective-C. *Able Pear Software*. Retrieved March 11, 2012, from http://blog.ablepear.com/2010/09/creating-guid-or-uuid-in-objective-c.html

Pinto, A. (2009, August 1). The Generic UWF Maintenence Process - SHort Version. *Generic Analysis Report Standard*. Retrieved August 28, 2011, from www.cs.uwf.edu/~seadmin/GumpShort/anastan.htm

Smooth line connecting CGPoints. (2010, May 13). Developer Forums. Retrieved May 5, 2011, from https://devforum.apple.com/message/41732?start=0&start=0

Wenderlich, R. (2010, September 7). How To Save Your App Data With NSCoding and NSFileManager | Ray Wenderlich. *Ray Wenderlich | Tutorials for iPhone / iOS Developers and Gamers*. Retrieved March 7, 2012, from http://www.raywenderlich.com/1914/how-to-save-your-app-data-with-nscoding-and-nsfilemanager