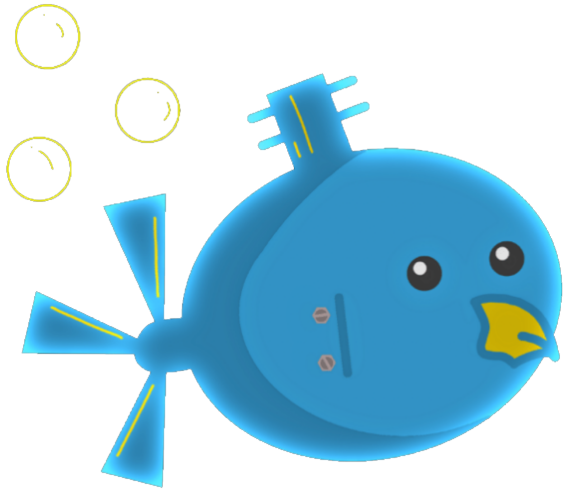
CALIFORNIA STATE UNIVERSITY, LOS ANGELES

Software Design Document



ROBOSUB

Members
Thomas BENSON, David CAMACHO, Bailey CANHAM, Brandon CAO,
Roberto HERNANDEZ, Andrew HEUSSER, Hector MORA-SILVA,
Bart RANDO, Victor SOLIS

March 1, 2023

Contents

1 Introduction **5**
- 1.1 Purpose . . . 5
- 1.2 Document Conventions . . . 5
- 1.3 Intended Audience and Reading Suggestions . . . 5
- 1.4 System Overview . . . 5

2 Design Considerations **5**
- 2.1 Assumptions and Dependencies . . . 5
- 2.2 General Constraints . . . 5
- 2.3 Goals and Guidelines . . . 5
- 2.4 Development Methodology . . . 5

3 Architectural Representation **5**

4 System Architecture **5**

5 Policies and Tactics **5**
- 5.1 Specific Product Used . . . 5
- 5.2 Requirements Traceability . . . 5
- 5.3 Testing the Software . . . 5
- 5.4 Engineering Trade-Offs . . . 5
- 5.5 Guidelines and Convetions . . . 5
- 5.6 Protocols . . . 5
- 5.7 Maintianing the Software . . . 5
- 5.8 Interfaces . . . 5
- 5.9 System Deliverables . . . 5
- 5.10 Abstractions . . . 5

6 Detailed System Design **5**
- 6.1 Name of Module . . . 5
  - 6.1.1 Responsibilities . . . 5
  - 6.1.2 Contraints . . . 5
  - 6.1.3 User Interactions . . . 5
  - 6.1.4 Resources . . . 5
  - 6.1.5 Interface/Exports . . . 5

7 Detailed Lower Level Component Design **5**
- 7.1 Name of Class or File . . . 5
  - 7.1.1 Classifications . . . 5
  - 7.1.2 Processing Narrative(PSPEC) . . . 5
  - 7.1.3 Interface Description . . . 5
  - 7.1.4 Processing Details . . . 5
  - 7.1.5 Design Class Heirarchy . . . 5
  - 7.1.6 Restrictions/Limitations . . . 5
  - 7.1.7 Performance Issues . . . 5
  - 7.1.8 Design Contraints . . . 5
  - 7.1.9 Processing Detail For Each Operation . . . 5

8 User Interface **5**
8.1 Overview of User Interface 5
8.2 Screen Frameworks or Images 5
8.3 User Interface Flow Diagrams 5

9 Database Design **5**

10 Requirements Validation and Verification **5**

11 Glossary **5**

12 References **5**

Revision History

1 Introduction

1.1 Purpose

1.2 Document Conventions

1.3 Intended Audience and Reading Suggestions

1.4 System Overview

2 Design Considerations

2.1 Assumptions and Dependencies

2.2 General Constraints

2.3 Goals and Guidelines

2.4 Development Methodology

3 Architectural Representation

4 System Architecture

5 Policies and Tactics

5.1 Specific Product Used

5.2 Requirements Traceability

5.3 Testing the Software

5.4 Engineering Trade-Offs

5.5 Guidelines and Convetions

5.6 Protocols

5.7 Maintianing the Software

5.8 Interfaces

5.9 System Deliverables

5.10 Abstractions

6 Detailed System Design

6.1 Name of Module

6.1.1 Responsibilities

6.1.2 Contraints

6.1.3 User Interactions

6.1.4 Resources

6.1.5 Interface/Exports

7 Detailed Lower Level Component Design

7.1 Name of Class or File

7.1.1 Classifications

7.1.2 Processing Narrative(PSPEC)