System Design Document For

NASA Vestibular Chair

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# 1 Introduction

## 1.1 Purpose and Scope

## 1.2 Project Executive Summary

This section provides an overview of the NASA Vestibular Chair project from a management perspective, showing the framework with which the system design was conceived.

### 1.2.1 System Overview

The goal of the NASA Vestibular Chair project is to restore the basic hardware functionality to the chair. This consists of ensuring the system can reach a specified RPM, hold that specified RPM for a set duration and allow the servos to gradually slow down to idle. If time permits, we would begin integrating more modern software and hardware tools to improve the "quality of life" features of the chair. This includes a web interface, custom test profiles/sequences, and ability to read and store sensor data from the chair.

### 1.2.2 Design Constraints

The development team hopes to maintain the most amount of the original internal hardware as possible. This constraint affects

### 1.2.3 Future contingencies

## 

## 1.3 Document Organization

# 2 System Architecture

## 2.1 System Hardware Architecture

## 2.2 System Software Architecture

## 2.3 Internal Communications Architecture