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# Software Design Document
# AIIPS Smart EyeSight
# Version 1.0

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|---|---|---|---|
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# 1 Introduction

## 1.1 Purpose

The purpose of the Software Design Description (SDD) is to represent and/or model the AIIPS Smart EyeSight (AIIPS SE) with precise information needed for planning, analysis, and implementation. This includes the architectural features of the system down through details of what operations each code module will perform and the database layout. It also shows how the user cases define, in the SRS, will be implemented in the system. The SDD partitioned the system into design entities and describe the important properties and relationships among the entities.

The design description model used to represent the software system will be expressed as a collection of design entities, each possessing properties and relationships. To simplify the model, the properties and relationships of each design entity are described by the standard set of attributes. A design description is complete when the attributes have been specified for all the entities.

## 1.2 Scope

AIIPS Smart EyeSight is mainly designed to efficiently and effectively extract specific features from a stream of images and classify them through a trained neural network.

The scope of the application is:

- Extracts revelant features from images that an external agent sends.
- Identify the image based on the PNN training.
- Design the software with future performance improvements in mind.
- Develop a software that interconnects with the other sub-systems of the DARPA Proposal.

## 1.3 Definitions and Acronyms

This subsection shall define, or provide references to the definition of all terms and acronyms required to properly interpreted the SPMP.

| Term | Definition |
|---|---|
| The Company | AIIPS |
| Software | Image Segmentation/Processing working code |
| Proposal | DARPA Proposal |

Table 2: Definitions

| Term | Acronym |
|---|---|
| AIIPS | Artificial Intelligence and Image Processing/Segmentation |
| PNN | Probabilistic Neural Network |
| Defense Advanced Research Projects Agency | DARPA |
| Software Requirements Specification | SRS |
| Software Project Management Plan | SPMP |
| Software Test Document | STD |
| Software Design Description | SDD |
| Institute of Electrical and Electronics Engineers | IEEE |

Table 3: Acronyms