District Attorney Application  
(DA APP)

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### Document Change Log

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is four-fold:

a) Completely define a full set of requirements for the DAAPP (see Section 3.0).

b) Completely define the design for the DAAPP (see Section 4.0).

c) Define and partially implement feasible modules for the DAAPP (see Section 5.0).

d) Completely define the Test Plan for the DAAPP (see Section 6.0).

The complete definition of all DAAPP requirements provides the source requirement inputs for the development of the subsequent supporting software subsystems documents.

1.2 Scope

The documentation developed as part of this CS4961 class, starts with the SRD including elements of Software Design and parts of a Test Plan.

The scope of this document includes the following:

- All functional and non-functional requirements on the DAAPP are captured. This includes Verification & Validation (V&V) requirements, as well as inter-software subsystems requirements.
- A complete set of DAAPP Requirements. These requirements are organized by key DAAPP functional units shown on the Level 1 DFD. The Level 1 DFD is shown on page 10.
- The functional requirements defined in the DAAPP Requirements section have been expanded to include more specific hardware requirements.

1.2.1 Document Organization

The organization of this document provides a natural flow or allocation of requirements to each succeeding section.

Details regarding the overall document are given in sub-section 1.5 below.

1.2.2 Relationship to Other Documents

The DAAPP SRD/SDD/STP/SID is a complete self-contained document. Some relationships to other documents in the literature are indicated below in sub-section 1.5.

1.3 DAAPP Architecture
1.3.1 Detailed Context Diagram (DFD Level 0)

The DAAPP architecture is summarized in the Context Diagram (DFD Level 0) given below. A more complete Functional Description is given in Section 2 of this document. The Context Diagram provides the overall structure of the software modules and all its inputs and outputs. The notation used corresponds to that defined for any Data Flow Diagram (DFD).

![Context Diagram]

**Figure 1**

1.3.2 Description and major functions of the DAAPP

A mobile-friendly website that provides immediate relevant information with the ability to request immediate service for crime victims in LA County. This includes victim rights, nearby service center locations, restitution info, and a form to provide personal info.

1.4 Documentation Development Process

The DAAPP detailed functional description is documented in section 2.0. Basically, Section 2 is a succinct software description document. The overall detailed functional description is based on higher level DFDs (above level 1). All major functional units are described in detail in this part of the document.

In general, all requirements affecting DAAPP are captured in Section 3.0 of this document. These requirements are a refinement and completion of requirements first collected as part of this Software Engineering project. The document is cited in Section 1.2.2. This section is the one worked in most detail to become a reasonably complete Software Requirements Document (SRD). It includes both functional and non-functional software requirements together with several detailed “rational” paragraphs whenever necessary to complete the understanding of each requirement.
Section 4 is the detailed DAAPP Software Design Description Document (SDD). This part of the document includes all higher level DFDs as described in section 2 plus all interface units. The document is highly technical and it is based on section 2 descriptions. An important component is the addition of a SIS (software interface specification) document in sub-section 4.2.

Section 5 includes elements of a partial implementation of DAAPP. This section includes the various constraints that effectively limit the implementation as well as the sub-units that will be coded. The implementation goals are defined and the code and pseudo code are included as an attachment to this section.

Section 6 is the last major section in this document and includes the overall Test Plan (TP) of the DAAPP. The test plan details the various techniques used to test the requirements and it also includes a Validation Matrix where each requirement specified in section 3 is listed with its corresponding validation method. The validation methods may include Testing, Analysis and Demonstration, and possible other V&V methods. In addition, the TP specifies the mandated peer reviews needed to validate the stakeholder’s part of the requirements.

1.5 References

All references used in the creation of this document are listed below.

1.5.1 Controlling Documents

1) There is no document controlling this document.

1.5.2 Applicable Documents

1) Template provided in CS-3337 was used as basic structure and layout for this document.

2) No additional applicable document has been used in the production of this document.

1.5.3 Standards

No Standard has been used in the creation of this document. However, some Standards described in textbooks have been examined as a reference. In particular, the IEEE standard has been briefly discussed in class.
2.0 DETAILED FUNCTIONAL DESCRIPTION OF THE DAAPP

2.1 Detailed DAAPP Functional Description.

DAAPP will be an informational website for both desktop and mobile devices. It will have a main page with a PSA video at the top explaining the purpose of the website, as well as an overview of the purpose of Victim Services. The rest of the main page will be a directory to a fill-in form, where the user fills in basic information to be sent to the Victim Services office, and more detailed information: a catalog of informational pamphlets (as PDFs), a map of nearby Victim Services offices, and compensation disclosure.

2.1.1 Higher Level Data Flow Diagrams.

The major tool used to design DAAPP is the Data Flow Diagram (DFD). The rationale behind the selection of DFDs as the preferred design tool, was their simplicity and versatility. In the future more sophisticated tools may be used particularly if a correlation from Design to Requirement to Implementation and Testing is found to be a necessary addition.

The DAAPP major functional design components are shown in the DFDs below.

DAAPP Level 1 DFD

Figure 2
2.1.2 Detailed Description of DAAPP Major Modules.

The DAAPP major functional sub-units shown in the DFDs in the previous sub-section, are described in detail below.

**Input Module - Module 2.1**
Collects information from the user through an input form.

**Map- Module 2.2**
Collects location information from the user through Google Map Api, and displays a facility that is closest to the location of the user for emergency purposes.

**Static Content Module- Module 2.3**
Display to the user pamphlets and non changing material.
3.0 DAAPP REQUIREMENTS

3.1 DAAPP Functional Requirements

This Section collects all DAAPP Functional Requirements. The Section includes the complete set of functional requirements with explanation and rational where the statement of the requirement was deemed insufficient or needing additional background/justification. All requirements relate to the design modules described in Section 2. An effort has been made to standardize the correlation between the design modules and the requirements to make their access and organization more consistent. For example, module 2.1 requirements are labeled 3.1, sub-module 2.1.1 requirements are labeled 3.1.1 and so on. The list of requirements follows.

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1-1</td>
<td>IM shall allow user to send required information to LADA email</td>
</tr>
<tr>
<td>3.1-2</td>
<td>IM shall allow user to send feedback to BVS about the app</td>
</tr>
<tr>
<td>3.1-3</td>
<td>IM shall allow a victim to contact DA BVS through live chat or phone call</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2-1</td>
<td>MM shall locate the user’s location using Google Maps API.</td>
</tr>
<tr>
<td>3.2-2</td>
<td>MM shall display a map or list of nearby DA Victims Services offices</td>
</tr>
<tr>
<td>3.2-3</td>
<td>MM shall display on the map nearby services and resources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3-1</td>
<td>SCM shall display an informational page on compensation legalities and details</td>
</tr>
<tr>
<td>3.3-2</td>
<td>SCM shall have hyperlinks to download PDFs of all Victim Services informational pamphlets.</td>
</tr>
<tr>
<td>3.3-3</td>
<td>SCM shall display an expandable banner that when clicked plays an informational video.</td>
</tr>
<tr>
<td>3.3-4</td>
<td>SCM shall show information in the users’ phones’ language.</td>
</tr>
<tr>
<td>3.3-5</td>
<td>SCM shall have a button to toggle the language between English and Spanish.</td>
</tr>
<tr>
<td>3.3-6</td>
<td>SCM shall display a list of resources available to them</td>
</tr>
<tr>
<td>3.3-7</td>
<td>SCM shall show list of resources related to inmate information.</td>
</tr>
<tr>
<td>3.3-8</td>
<td>SCM shall show a complete list of a victim's rights</td>
</tr>
<tr>
<td>3.3-9</td>
<td>SCM shall display a brief description of DA BVS</td>
</tr>
<tr>
<td>3.3-10</td>
<td>SCM shall display a FAQ with a search</td>
</tr>
<tr>
<td>3.3-11</td>
<td>SCM shall show the County’s online 211 Service request form</td>
</tr>
<tr>
<td>3.3-12</td>
<td>SCM shall display the general information about the app and view legal disclaimers.</td>
</tr>
</tbody>
</table>
3.2 DAAPP Non-Functional Requirements

This Section collects all the Project-Acronym Non-Functional Requirements.

NF - 1 A victim’s request shall be securely transmitted to DA BVS staff to reduce the risk associated with obtaining Personally Identifiable Information.

NF - 2 A non-technical person shall be able to update any of the application’s content through an easy-to-use content management system.

NF - 3 A victim’s general feedback about the app or process shall be sent via email to the shared BVS mailbox.

NF - 4 Court information shall be obtained by calling a web service api with a case number or crime report number. The web service will query a SQL server database that contains data extracted from PIMS.

NF - 5 The application shall be developed as a native app for iPhone and Android.

3.3 DAAPP Hardware Requirements

None
4.0 DAAPP ELEMENTS OF IMPLEMENTATION

4.1 DAAPP Module 2.1

This module was not implemented.

4.2 DAAPP Module 2.2

This module has been implemented responding to its 3.2 requirements. The implementation is given below.
6.0 DAAPP TEST PLAN

6.1 INTRODUCTION
In this section the testing methodology to be used to V&V each of the requirements listed in section 3.0 has been identified. At points some additional testing may be required and they shall be documented as an attachment to this document.

The methodologies and testing strategies identified at this point include four major approaches: TESTING, DEMONSTRATION, INSPECTION, and ANALYSIS with various variations to adapt to the DAAPP characteristics:
- **Testing** using additional ad-hoc created software including a correlation testing unit.
- **Demonstration** of the specified capability
- **Inspection** of the software code possibly using additional inspection techniques
- **Analysis** of the specific code operation/algorithm to prove functionality.

6.2 FUNCTIONAL REQUIREMENTS VALIDATION MATRIX
The DAAPP Functional and Performance Requirements Validation Matrix is given below.

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
<th>V&amp;V Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1-1</td>
<td>Input Module</td>
<td>Validation of the user entered details must be verified and sent back to page with sticky pages.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
<th>V&amp;V Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1-2</td>
<td>Map Module</td>
<td>Correct locations must be tested with Google Maps’ servers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement No.</th>
<th>Requirement Description</th>
<th>V&amp;V Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3-1</td>
<td>Static Content Module</td>
<td>Static Content must be verified and checked with Victim Service Members.</td>
</tr>
</tbody>
</table>