**IMPaCT Intelligence**

**Workplace Violence Prediction API**

**Design & Architecture Document**

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# Introduction

## 1.1. Purpose

This document will go over in detail about the design and architecture that is currently present in the **Workplace Violence Prediction API (WPV API)** application.

## 1.2. Scope

The main goal of the **WPV API** application is to provide hospital staff and administration with a real-time monitoring service that notifies relevant personnel when the application detects an increased risk of workplace violence. The intended end-user of this application is the hospital staff, including: administration, IT technicians, and hospital security.

## 1.3. System Environment

The application requires a minimum version of **3.9**for Python. All later versions are supported. Currently, all other technologies used in this application do not depend on a specific version.

# 2. Use Case Diagram

**Actors:** General User, Admin

The following use Case Diagram shows all the actions that the Actors above can perform while using the **WPV API** application.

#### <add use case diagram here>

# 3. Analysis Class Diagrams

## 3.1. General User

The Following Analysis Class Diagram shows all the classes a General User will interact with.

#### <add analysis class diagram here>

## 3.2. Admin

The Following Analysis Class Diagram shows all the classes a Group Admin will interact with.

#### <add analysis class diagram here>

# 4. Class Diagrams

## 4.1. Overview

Gives an overview of all the Classes used within the **WPV API**

Application. This overview does not include Fields and Functions to give a quick insight on how the classes interact.

#### <add class diagram here>

## 4.2. Main Activity and User Classes

Shows Class Diagrams for the Main Activity and all Classes associated with a User to show how these classes interact.

#### <add class diagram here>

## 4.3. Report Log and File Classes

Shows Class Diagrams for all Classes associated with the Report Log to show how these classes interact.

#### <add class diagram here>

# 5. Activity Diagram

This Activity Diagram is used to model system behaviors throughout the **WPV API** application. Shows step-by-step activities a user can perform while using this application.

#### <add activity diagram here>

# 6. Sequence Diagrams

## 

## 6.1. User actions

### 6.1.1 <User action>

The following Sequence Diagram shows the ***<User action>*** process.

#### <add sequence diagram here>

### 6.1.2. <User action>

The following Sequence Diagram shows the ***<User action>*** process.

#### <add sequence diagram here>

### 6.1.3. <User action>

The following Sequence Diagram shows the ***<User action>*** process.

#### <add sequence diagram here>

### 6.1.4. <Admin action>

The following Sequence Diagram shows the ***<Admin action>*** process.

#### <add sequence diagram here>

## 6.2. File Reading and Writing

### 6.2.1. Write Output Report

The following Sequence Diagram shows the Write Output File process within the **WPV API**application.

#### <add sequence diagram here>

### 6.2.2. Write Error Log

The following Sequence Diagram shows the Write error log file process within the **WPV API**application.

#### <add sequence diagram here>

### 6.2.3. Read Input File(s)

The following Sequence Diagram shows the Read Input File process within the **WPV API**application.

#### <add sequence diagram here>

### 6.2.4. Writing Information to the Database (if applicable)

The following Sequence Diagram shows how information is written to the Database within the **WPV API**application.

#### <add sequence diagram here>

### 6.2.5. Removing Information from the Database (if applicable)

The following Sequence Diagram shows how information is removed from the Database within the **WPV API**application.

#### <add sequence diagram here>

# 7. Glossary of Terms

|  |  |  |
| --- | --- | --- |
| **#** | **Term** | **Description** |
| 1 | ***<Term>*** | ***<Description>*** |
| 2 | ***<Term>*** | ***<Description>*** |
| 3 | ***<Term>*** | ***<Description>*** |

# 8. Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Updated By** | **Comments** |
| 1.0 | ***<MM/DD/YYYY>*** | ***<Team Member>*** | Initial document creation |
|  |  |  |  |