Customer Requirements

**PO\_SAG\_CR\_ML ـــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــ**

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| 1.2 | Alaa Eid | [22-10-2022] | Edit 6th key element and its requirement mapping |
| 1.3 | Aya Allah | [10-31-2022] | Edit key elements and requirement mapping |

Project Description:

Definition:

The project aims to help the blind using computer vision to help them identify different things around them and NLP to interact with the user using voice commands.

The project simulates the natural vision of humans using AI techniques enabling the blind to function more normally and independently.

Features:

* Object detection
* Face recognition
* Activity recognition
* Text recognition
* Speech recognition

Key Elements:

1. The object detection model identifies objects around the user.
2. The distance measurement model determines the distance between objects and a person.
3. The image captioning model describes the different activities and actions around the user.
4. The text recognition model Recognizes text, including handwritten on other objects (book, paper, sign, etc.).
5. Face recognition Recognizes people determined by the user.
6. Speech recognition model to activate various features via voice commands and the smart assistant.
7. Voice authentication model to ensure the privacy and security of the user.

Requirements Mapping:

|  |  |  |  |
| --- | --- | --- | --- |
| **Req\_ID** | PO\_SAG\_CR\_ML\_001-V1.1 | **Covers** | The object detection model identifies objects around the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_002-V1.0 | **Covers** | The distance measurement model determines the distance between objects and a person. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_003-V1.1 | **Covers** | The image captioning model describes the different activities and actions around the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_004-V1.1 | **Covers** | The text recognition model Recognizes text, including handwritten on other objects (book, paper, sign, etc.). |
| **Req\_ID** | PO\_SAG\_CR\_ML\_005-V1.1 | **Covers** | Face recognition Recognizes people determined by the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_006-V1.2 | **Covers** | Speech recognition model to activate various features via voice commands and the smart assistant. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_007-V1.0 | **Covers** | Voice authentication model to ensure the privacy and security of the user. |