Customer Requirements

**PO\_SAG\_CR\_ML ـــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــ**

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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:

* The object detection model shall identify objects around the user.
* The object detection model shall determine the distance between objects and a person.
* The image captioning model shall describe the different activities and actions around the user.
* The text recognition model shall recognize text including handwritten on other objects (book, paper, sign, etc.).
* The face recognition model shall recognize people determined by the user.
* The speech recognition model shall recognize user’s voice.

Requirements Mapping:

|  |  |  |  |
| --- | --- | --- | --- |
| **Req\_ID** | PO\_SAG\_CR\_ML\_001-V1.1 | **Covers** | The object detection model shall identify objects around the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_002-V1.0 | **Covers** | The object detection model shall determine the distance between objects and a person. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_003-V1.1 | **Covers** | The image captioning model shall describe the different activities and actions around the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_004-V1.1 | **Covers** | The text recognition model shall recognize text including handwritten on other objects (book, paper, sign, etc.). |
| **Req\_ID** | PO\_SAG\_CR\_ML\_005-V1.1 | **Covers** | The face recognition model shall recognize people determined by the user. |
| **Req\_ID** | PO\_SAG\_CR\_ML\_006-V1.2 | **Covers** | The speech recognition model shall recognize user’s voice. |