**Data Dictionary**

|  |  |  |  |
| --- | --- | --- | --- |
| Field name | Definition | Data Type | Example Value |
| Gesture Name (label) | Name of the gesture | String | "Left click", "right click |
| Action | System action that will be performed | String | "Mouse left click" |
| Landmarks | Hand landmarks coordinates | Array | {"x": 0.3289, "y": 0.1443, "z": -1.2567} |

**Definition Tables**

**Mouse Events**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Scroll up |  | Scroll up the page |
| Left click |  | Mouse Left Click |
| Right Click | (hold until 3s) | Mouse Right Click |
| Moving Cursor |  | Cursor's moving |
| Double Click |  | Mouse double click |
| Drag |  | Click then hold |
| Drop |  | Release the mouse click |
| Scroll down |  | Scrolling down page |

**System Control**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Volume + |  | Increase volume |
| Volume - |  | Decrease volume |
| Mute |  | Mute soundtrack |
| Unmute |  | Unmute soundtrack |
| Pause/play |  | Pause/Play media playback |
| Next |  | Play next media playback |
| Previous |  | Previous Track |
| Brightness + |  | Increase Brightness |
| Brightness - |  | Decrease Brightness |
| Shutdown |  | Shutdown System |
| Restart |  | Restart System |

**Developers Settings**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Dev settings activator |  | Activate the developer’s settings |
| CMD (command prompt) | (tap once the index finger) | To open the CMD. |
| Ubuntu (terminal) | (tap twice the index finger) | To open ubuntu terminal. |
| Vscode |  | To open Vscode |
| Comment |  | Slash comment in the vscode |
| Select specific line to move |  | To move a specific code (alt + arrow up and down) |
| Copy a specific line of code |  | To copy a specific line of code (alt + shift + arrow up and down) |

**PowerPoint Events**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Swipe left |  | To move to the previous page |
| Slide next |  | Move to the next page |
| Stop |  | Stop the presentation |
| Start |  | Start the presentation |
| Duplicate |  | To duplicate the page |
| Highlight |  | Create a highlight on the PowerPoint |
| Erase Highlight |  | Erase highlight on the PowerPoint |

**Shortcut Keys Events**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Home |  | Open home |
| Settings |  | Open settings (win + U} |
| Lock |  | Activate lock on the computer (win + L) |
| Minimize windows |  | To minimize all windows (Win + m) |
| Open task bar |  | To open programs on task bar (win+ tab) |
| Tab |  | Tab key |
| Caps lock/lower caps |  | Activate caps lock and deactivate keys |
| Esc |  | Esc keys |

**Word Events**

|  |  |  |
| --- | --- | --- |
| GESTURE NAME | GESTURE DESCRIPTION | ACTION |
| Select All |  | Select all contents |
| Justify |  | Justify contents |
| Align (center) |  | Align the contents  center |
| Align (right) |  | Align the contents  right |
| Align (Left) |  | Align the contents  left |
| Bold |  | Bold text |
| Underline |  | Underline Text |
| Italicize |  | Italicize Text |
| Indent |  | Indent contents |
| Help |  | Open help in word |
| Delete |  | Delete contents |
| Font option |  | Open font option |
| Increase font | (tap middle finger to increase font) | To increase fonts in word |
| Decrease font | (tap ring finger to decrease font) | To decrease fonts in word |
| Increase space Lines |  |  |
| Decrease space lines |  |  |

**Input Process Output (IPO)**

|  |  |  |
| --- | --- | --- |
| INPUT | PROCESS | OUTPUT |
|  | Detect gesture using MediaPipe/Tensorflow and match to "scroll up" action | Scroll up the page |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Left click" action | Mouse Left click |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Move cursor" action | Cursor moving |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Double click" action | Perform double click in mouse |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Drag" action | Drag elements |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Drop" action | Drop elements |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Scroll down" action | Scroll down the page |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Volume up" action | Volume increase |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Volume down" action | Volume decrease |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Mute" action | Mute |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Unmute" action | Unmute |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Pause/play " action | Play and pause |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Next " action | Next playback |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Preview " action | Preview playback |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Brightness increase " action | Brightness increases |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Brightness decrease " action | Brightness decreases |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Shutdown " action | Shutdown system |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Restart " action | Restart system |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Activate Developers Settings " action | Activate developer’s settings |
| (tap once the index finger) | Detect gesture using MediaPipe/Tensorflow and match to " Cmd terminal " action | Open cmd terminal |
| (tap twice the index finger) | Detect gesture using MediaPipe/Tensorflow and match to " Ubuntu terminal " action | Open ubuntu terminal |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Vscode " action | Open Vscode |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Move to prev page in powerpoint " action | Move to previous page in PowerPoint |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Move to next page in PowerPoint " action | Move to next page in PowerPoint |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Stop the Powerpoint " action | Stop the PowerPoint |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Start the PowerPoint " action | Start PowerPoint |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Duplicate page in PowerPoint " action | Duplicate page |
|  | Detect gesture using MediaPipe/Tensorflow and match to " Highlight in PowerPoint " action | Create a highlight on the PowerPoint |
|  | Detect gesture using MediaPipe/Tensorflow and match to "Erase Highlight in PowerPoint " action | Erase highlight on the PowerPoint |

UML

