# 3 Specific requirements

This section contains a more detailed description of all the software requirements, that would enable designers and testers to appropriately apply the ideas stated here. This includes descriptions of inputs and outputs to and from the system, as well as the functions the system performs in reaction to these.

|  |  |
| --- | --- |
| Name of item | New Project Options |
| Description of Purpose | The introductory pane for the application which contains the project logo and button to begin. |
| Source of Input or Destination of output | A button, labeled as “Browse” opens up a file explorer that allows the user to select their cattier file. |
| Timing | The waiting time of the application should not be more than 5 seconds approximately. |
| Command Format | The New project option only responds when the user clicks of the “Browse” button to select their carrier. |

Table 3.2: New Project

|  |  |
| --- | --- |
| Name of item | File Explorel |
| Description of the purpose | It allows the user to select the image that they want to work with. It can be loaded either from internal or external storage |
| Input source or output destination. | The user can place the name of the image in a text box provided in order to find the image in a more accurate way. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 30 characters. Files types that are allowable are either. png or .jpg. |
| Relationship with other inputs / outputs | This interface depends on the user having selected an image either from internal or external storage media. |
| Data format | The text must in ASCII values. |
| Command format | The interface will only respond once the text field is completed. After this, the user must press the button that will say load image. |
| Final messages | Once the image is selected, a message will appear saying: "Upload successfully" and then transfer it to the next GUI. |

###### Table 3.2: File Explorel Interface

|  |  |
| --- | --- |
| Name of item | Save As Interface |
| Description of the purpose | It allows the user to save the result obtained in the computer or in a USB. |
| Input source or output destination. | The user can name the file extracted from the image in a text box provided. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 30 characters. |
| Relationship with other inputs / outputs | This interface depends on the user having selected the destination where he wants the information extracted from the image to be stored. |
| Data format | The text must be of alphanumeric values. |
| Command format | The interface will only respond once the text field is completed. After this, the user must press the button that will say "save". |
| Final messages | Once placed the place where you want the file to be saved and once the name is placed there the user must press the button that will say save once the button is pressed, a message will be sent saying "File saved" |

###### Table 3.2: Save As Interface

|  |  |
| --- | --- |
| Name of item | Encode/Decode Interface |
| Description of the purpose | It allows the user to select between the Encode and Decode operations through a few button radios. |
| Input source or output destination. | The user will be able to select these operations through button radios, so that he can continue to the next phase. |
| Valid range, accuracy and / or tolerance. | Radio button: will consist of a predetermined function.  Common button: will consist with a default function. |
| Relationship with other inputs / outputs | This interface depends on the user having correctly selected the operation he wants to perform (Encode, Decode) and then pressing the next button. |
| Data format | Predetermined |
| Command format | The interface will respond when the user has correctly selected the operation she wants to perform (Encode, Decode) and then press the next button. |

###### Table 3.2: Encode/Decode Interface

|  |  |
| --- | --- |
| Name of item | Text / Algorithm |
| Description of the purpose | It allows the user to select between the text, algorithm and stenography operations. So that due responds accordingly. |
| Input source or output destination. | The user can select these operations through a check box button to then enable other system functions. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 30 characters.  Combo box: allows the user to select one of the operations already predetermined in it.  Common button: will consist of a default function.  Check box button: will enable the function associated with it. |
| Relationship with other inputs / outputs | This interface depends on the user having correctly selected the operation he wants to perform and then pressing the next button. |
| Data format | The text must be of alphanumeric values. |
| Command format | The interface will respond when the user has correctly selected the operation they he is perform and then press the next button. |

###### Table 3.2: Text / Algorithm Interface

|  |  |
| --- | --- |
| Name of item | Text viewer interface |
| Description of the purpose | It allows the user to type a string so that the system can search the image. On the left side you will find the text that the user entered and on the right side you will find the image that is being worked on. |
| Input source or output destination. | The user can select these operations through a check box button to then enable other system functions. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 30 characters.  Common button: will consist with a default function. |
| Relationship with other inputs / outputs | This interface depends on the user having correctly selected the operation he wants to perform and then pressing the next button. |
| Data format | The text must be of alphanumeric values. |
| Command format | The interface will respond when the user has correctly selected the operation they wish to perform and then press the next button. |

###### Table 3.2: Text viewer interface

|  |  |
| --- | --- |
| Name of item | Language decipher interface |
| Description of the purpose | It allows the user to place a text that the system extracted so that the user can go comparing with some languages that are in the information bank of the system. On the left side you will find the text that the user entered and on the right you will find the image of the possible languages. |
| Input source or output destination. | The user will be able to make symbology comparisons through a combo box in which they will find a diversity of symbologies to contrast with the obtained through the system. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 30 characters.  Common button: will consist with a default function.  Combo box: will consist of a great diversity of predetermined symbology. |
| Data format | The text must be of alphanumeric values |

###### Table 3.2: Language decipher interface

|  |  |
| --- | --- |
| Name of item | Payload Viewer |
| Description of the purpose | It allows the user to see the payload while it is working with it. |
| Input source or output destination. | The user can work on a text box that will be on the left side, in this area the user can place the decryption key in case the system is with an encrypted text. |
| Valid range, accuracy and / or tolerance. | Text box: cannot exceed 200 characters.  Common button: will consist with a default function. |
| Data format | The text must be of alphanumeric values |

###### Table 3.2: Payload Viewer

|  |  |
| --- | --- |
| Name of item | Close |
| Description of Purpose | Allows user to close the application. |
| Timing | The waiting time of the application should not be more than 5 seconds approximately. |
| Screen Format | 40% of the screen will be used to display the item list; the rest will have buttons, dropdown lists, and text fields for other interfaces. |

###### Table 3.3: Close

|  |  |
| --- | --- |
| Name of item | PyQt5 (Python Module) |
| Description of Purpose | GUI framework is create. PyQt5 language is use to code StegSleuth. |
| Source of Input or Destination of output | The system is affected by inputs sent from the user through the application. After all actions are performed, the application sends the desired information to the system. |
| Timing | Communication between the application and the system, and vice versa, should not take more than 10 seconds 90% of the time. |
| Relationship to other inputs/outputs | This interface depends on the connection between the application inputs, outputs, and the computer. |

###### Table 3.4: PyQt5 (Python Module)

## 3.2 Functions Requirements

This section contains all of the functional and quality requirements of the application. It gives detailed description of the application and all its features.

Function Requirement 1: New project

* Stage:
  1. User selects browse button
  2. The system connects with the file explorer
* Connection fails:
  1. The system confront installation error

Function Requirement 2: File explore

* Stage:
  1. The user selects the image to work.
  2. The user press the image upload button.
  3. The system performs the process of loading the image to the application.
* Data format fails:
  1. The format of the image is not compatible with system.
* Connection fails:
  1. The system loses connection with the computer in the upload image process.

Function Requirement 3: Encode/Decode

* Stage:
  1. The user selects between encoding or decoding through radio buttons.
  2. Once the type of operation has been selected, the user must press the "Next" button.
  3. The system processes the information to determine to which section the application will transfer it

Function Requirement 4: Text/Algorithm Selection

* Stage:
  1. The user will be able to select which operation he wants to perform through check buttons User selects Search button
  2. If the user selects the text option, the function of a text file will be enabled.
  3. If the user selects the algorithm option, the function of a combo box file will be enabled.
  4. If the user selects the crypto option, the function of a text file will be enabled.
  5. Once the type of operation has been selected, the user must press the next button.
  6. The system processes the information provided.
* Data format check fails:
  1. If the user enables the text function and does not fill the corresponding space, the system will have a fail.
  2. If the user enables the algorithm function and does not select one of the default options, the system will give a failure alert.
  3. If the user enables the crypto function and does not fill the corresponding space, the system will have a failure.

Function Requirement 5: Text viewer

* Stage:
  1. The user must place a string to perform a search on the image.
  2. The user must select the next button so that the system can proceed.
  3. The system will proceed to make a string searched.
* Data format check fails:
  1. If the user does not fill the text file it will cause a system failure.

Function Requirement 6: File Explorer

* Stage:

1. The user selects the image to work.
2. The user press the image upload button.
3. The system performs the process of loading the image to the application.

* Data format fails:
  1. The format of the image is not compatible with system.
* Connection fails:
  1. The system loses connection with the computer in the upload image process.

Function Requirement 7: Save As

* Stage:

1. The system asks the user where they want the image to be saved.
2. The user selects the destination where the image will be saved and presses the button that says save.
3. The system stores the image in the destination selected by the user.

* Data format fails:
  1. The system cannot find the location provided by the user.
* Connection fails:
  1. The system loses connection with the computer in the save image process.

Function Requirement 8: Payload Viewer

* Stage:
  1. The user can see from the left side of the application the data extracted from the image.
  2. The user must press the previous button in order to return to the beginning.
  3. The system validates the user selection and executes it.

Function Requirement 9: Language Decipher

* Stage:
  1. The user takes the string obtained from the payload
  2. The user can place in a text file the message obtained through the payload.
  3. The system processes the data.
  4. The user can compare the string with some languages stored in the application.