# Appraisal

## Completion of Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Objective** | | **Done** | | **Comments** |
| The system will be able to plot the various loci on an Argand diagram. | | **✓+** | | The program can also plot dual rays: . |
| The system will also shade in inequalities for each of these loci with a translucent colour fill. | | **✓-** | | The program cannot shade sectors. |
| Values of and will be labelled on the diagram. | | **✓-** | | The program labels explicitly entered points, but not points of interest on other loci. |
| The system will plot individual complex numbers as points: | | **✓+** | | The program can solve many more complex equations for points as well. |
| The system will display multiple plots on one diagram. | | **✓** | | The plots cannot be reordered once added. |
| Diagrams can be saved to and loaded from .arg files. | | **✓** | | The Windows installer also allows .arg files to be associated with the program. |
| It will be possible to zoom in on the diagram by scrolling the mouse wheel while hovering over it, or by moving a slider. | | **✓** | | When zooming, the scale of the axes changes according to a logarithmic scale. |
| It will be possible to pan around the diagram, by dragging the mouse over it, or by using a coordinate input. | | **✓** | | If, while panning, the origin moves off-screen, the axes will cling to the edges of the screen so the scale is still visible. |
| All plots will have configurable colours – either from a set collection of swatches or with a colour picker tool. | | **✓** | | The Qt default colour picker is used. |
| All inequalities will have configurable alpha transparency. | | **✓** | | This is configurable via the colour picker. |
| The program will not require a mouse to use – all inputs will have tab indices set correctly. | | **✓** | |  |
| The program will have a text input for entering complex equations. | | **✓** | | Equations are entered in plaintext. When an input does not validate, the background of the input area turns red. |
| The program will be capable of converting strings into equations which can be plotted on the diagram. | | **✓** | |  |
| The program will have built-in information (i.e. a tooltip / popup) about how to enter equations in the correct format. | | **✗** | | There was not enough time to implement this feature. Guidance on the correct format for input is given in the user manual. |
| The program will display current plots in a list, where they can be edited or removed. | | **✓** | |  |
| The minimum resolution of the program will be, at most, 1024x768. | | **✓** | | The resolution is suitably low to be used on any Windows monitor. |
| The diagram will be legible on a 1024x768 resolution projector from the back of an average-sized classroom. | | **✓** | |  |
| The program will run on at least an Intel x64 Windows 7 PC. | | **✓** | | Supported platforms are listed in the user guide. |
| The program will have a configuration menu which allows the following to be altered: | | **✓-** | | The menu exists, but doesn’t include all planned functionality (see below). |
| Whether labels are displayed for points. | | **✓** |  |
| Whether the axes are labelled. | | **✓** |  |
| The font size used for labels. | | **✗** | There was not enough time to implement this. However, the default font size is adequately legible on most displays and projectors. |
| The line thickness used in the diagram. | | **✓** | The thickness is bounded between 1 and 10 pixels. |
| The program will save the diagram configuration state to the .arg file. | | **✗** | | This is no longer planned, as preferences are independent of diagrams. |
| The program will remember the last window size used, and revert to it on start-up. | | **✗** | | This is no longer planned. |

## User Feedback

**Q: How does Argand Plotter compare to your expectations?**

*A: Argand Plotter exceeds my expectations. It is incredibly easy to use and makes a nice link between the algebra and the graphs.*

**Q: Please comment on the usability of Argand Plotter.**

*A: It is very intuitive, with all operations appearing in the way that I would expect. The zoom and drag functions are particularly friendly. It's very easy to enter equations and the real-time nature is excellent for helping students to learn.*

**Q: What issues do you have with Argand Plotter (if any)?**

*A: It would be nice if it would accept either i or j for the imaginary unit. Also, most students use rather than the decimal equivalent.*

**Q: Do you have any suggestions for improvements to Argand Plotter?**

*A: If possible, it would be nice to extend it to include arg inequalities i.e. as these are graphs which students find particularly challenging.*

My client was also asked to rate how much he agreed with the following statements:

|  |  |
| --- | --- |
| **Statement** | **Response** |
| Argand Plotter is a useful tool for teachers. | Strongly Agree |
| Argand Plotter is a useful tool for students. | Strongly Agree |
| Argand Plotter is easy to use. | Strongly Agree |
| Argand Plotter performs all the functions I need. | Agree |
| I will use .arg files to save diagrams. | Strongly Agree |

## Analysis of User Feedback

## Improvements And Suggestions