Functional Requirements:

1. The system shall allocate memory for 250 lines, each capable of storing a signed six-digit decimal number.
2. The system shall support a six-digit word format for all BasicML instructions and data values.
3. The system shall support loading and executing files in both the old four-digit and new six-digit formats.
4. The system shall automatically detect whether a loaded file is in the old four-digit format or the new six-digit format.
5. The system shall provide a feature to convert files from the four-digit format to the six-digit format, adding leading zeros as needed.
6. The system shall allow users to load, view, and edit files up to 250 lines in length within the graphical user interface (GUI).
7. The system shall support add, modify, delete, cut, copy, and paste operations for file editing.
8. The system shall validate that no file loaded or edited exceeds 250 lines.
9. The system shall ensure that all line references in a file are within the address range of 000 to 249.
10. The system shall perform arithmetic operations using six-digit numbers with proper overflow handling.
11. The system shall use three-digit function codes for six-digit words, where each code is prefixed with a zero
12. The system shall allow users to open multiple files simultaneously within a single instance of the application.
13. The system shall only allow one file to execute at a time, disabling execution of other files until the current execution is completed or stopped.
14. The system shall allow users to configure a custom color scheme with a primary color and an off-color, using either RGB or Hex values.
15. The system shall use UVU colors as the default color scheme.
16. The system shall apply the user-configured color scheme upon application restart.
17. The system shall allow users to load files from any directory specified by the user.
18. The system shall allow users to save edited files to any user-specified directory.
19. The system shall convert function codes from four-digit to six-digit format by adding a leading zero.
20. The system shall convert raw numeric values from four-digit to six-digit format by adding leading zeros.
21. The system shall prevent conversion of mixed four-digit and six-digit formats within a single file.
22. The system shall allow users to switch between open files using tabs or sub-windows within the application.
23. The system shall prevent users from editing or switching to other files while a file is currently executing.
24. The system shall handle six-digit memory overflow conditions and report errors appropriately.

Non-Functional Requirements:

1. The system shall handle increased memory capacity and six-digit arithmetic operations with minimal impact on overall performance.
2. The system shall support at least 10 files open simultaneously without performance degradation.
3. The system shall maintain responsiveness in the GUI while loading, editing, and executing files, regardless of file size or complexity.