**Developer’s Guide:**

1. Key Elements of the Application

-JavaFX Scenes

-The application is based on the foundation of JavaFX and scene building as the front end of the entire application.

-Building out each scene requires multiple buttons, visual effects, text fields and labels.

-Sourcing out to what JavaFX brings to the table, it encompasses all requirements of the project

-Data Management

-Utilizing .txt files, .csv as well as saving down data fields provided by the user, all the data is stored and reusable at different times the application is launched.

-Managing this data allows for calculations to run when the user chooses to, such as projecting their savings or managing different expenses. All the data is stored in those .txt files or in the csv as it is written into the program to be reused to adjust in the future or just have as a reference to anytime the application is launched.

-Charts

-Charts are used in different cases such as creating a visual for the projected savings of a user depending on different variables entered by the user which will allow them to run these calculations, and the visuals are provided through graphs or pi charts.

1. Dependencies

-The application will only run if certain measures are taken including:

-javasdk installation and .jar files

-java version

-the module-info file for the package

-VM arguments

Each of these will determine whether the package can be run through the IDE being utilized by the developer.

1. Setup

-Ensure that a jdk version 8 or later is installed.

-Matching /compatible installation of java required

-build out the modules and configure the build path with proper .jar files

-use a VM argument similar to this to get the functionality out of the program : --module-path "C:\Program Files\javafx-sdk-23.0.1\lib" --add-modules javafx.controls,javafx.fxml

-Run the main class in the package always.

1. Extending or Adding Features

Many features can be added to the program and it is highly expandable in what can be added in the future. Some examples are rather than writing data to a .csv file or .txt files, you can:

-Link an SQL database to collect and store data rather than direct files that are exposed

-Use this data for tracking purposes across users or for average data for public use or private use.

Some other expandable areas are the visible charts provided to users, formatting of the application as it could be webhosted on a website or as a downloadable application such as on the phone. SSO could be enabled for corporations, or even having user login credentials. The application has an excellent ceiling for potential as to what could be done.

1. Troubleshooting

Module path errors may occur when trying to launch the program.

-Ensure that the VM argument points to the correct location where the javasdk libraries are held

-Have the .jar files held in the module path and not the class path if in a newer version of java

Other issues may occur with the files if they have not had a user account created yet.

-Ensure there are details in the data fields displayed on screen already, if not a new user account must be made, and information must be updated manually as the .csv and .txt files have no information written.