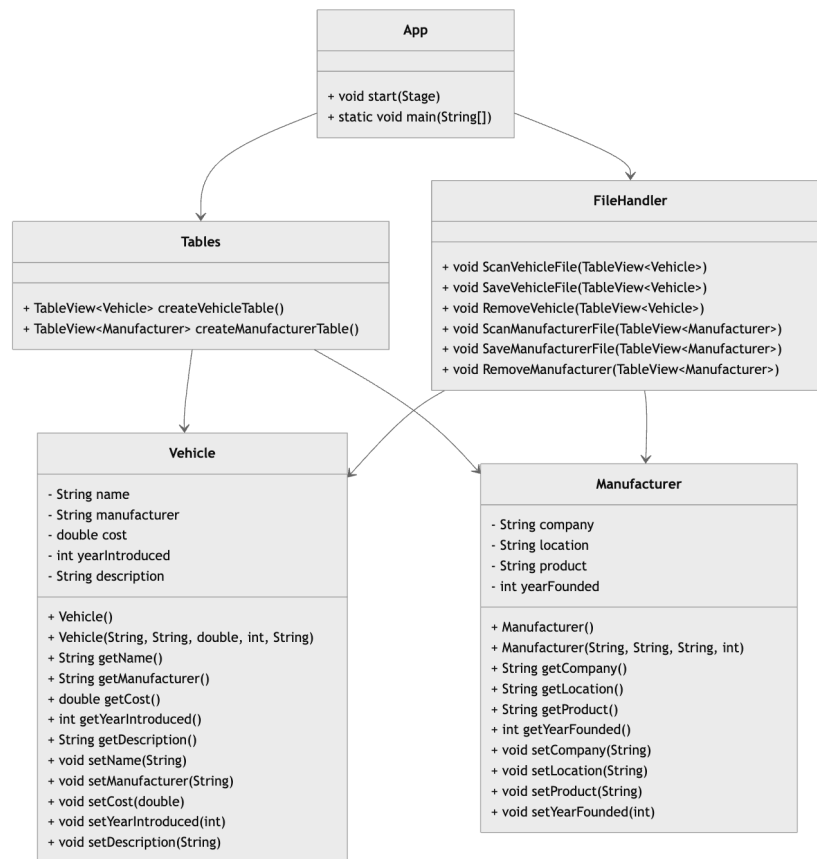


Implementation Manual

I. Project Overview

- This application catalogs military vehicles and their manufacturers into a JavaFX GUI. Users can add and remove information using labeled buttons and textfields. Changes are saved to text files in CSV format.

II. UML Diagram



- Demonstrates a modular, object-oriented design. The classes can be grouped into the following three categories:
 - GUI**
 - App.java : handles layout, event handling, and application launch.
 - Utility**
 - Tables.java : constructs the tables and their columns.
 - FileHandling.java : Handles saving/loading from text files.
 - Data**
 - Vehicle.java : Custom class representing a military vehicle.
 - Manufacturer.java : Custom class representing a manufacturer.

III. Class Descriptions

App.java

- Entry point for the application:
 - Sets up the GUI layout - labels, fields, buttons, and tables.
 - Connects button event handlers for adding, removing, saving entries.
 - Launches the GUI initializing Tables and loading data from FileHandler

FileHandler.java

- Handles file input/output using .txt CSV files.
 - Loads data into tables from VehicleInfo.txt and ManufacturerInfo.txt.
 - Saves table content, writing data back to .txt files.
 - Provides remove functionality based on selected table row.

Tables.java

- Constructs TableView instances for both vehicles and manufacturers.
 - Defines table columns for class attributes like Name, location, cost, etc.
 - Links columns to objects' fields.
 - Returns populated TableView to be used in the GUI.

Vehicle.java

- A class representing military vehicle objects.
 - Private attributes: name, manufacturer, cost, year introduced, description.
 - Constructor is called when adding a vehicle to the vehicle table.
 - Getters and setters for each attribute.

Manufacturer.java

- Represents a defense manufacturer:
 - Private attributes: company, location, product, and founding year.
 - Getters and setters for each attribute.
 - Constructor is called when adding a manufacturer to the company table.

IV. Data Storage Format

- **VehicleInfo.txt**
 - Format: `name,manufacturer,cost,year`
- **ManufacturerInfo.txt**
 - Format: `company,location,product,yearFounded`

V. Future Improvements

The following areas stand out as opportunities for further improvement in the application.

- Input validation:
 - Verify input fields match with the expected data type.
- Exception handling:
 - Error handling is minimal, additional exception handling could provide more robustness to the application.
- Editing existing entries
 - Currently, the user is only able to add and remove entire rows. Editing typo's or updating a piece of information is a cumbersome process. Editing individual cells would drastically improve user experience.

Appendix

- Java version: 11
- JavaFX version: 20
- User Interface:

The screenshot shows a JavaFX application window titled "Military Vehicle Database". It contains two main sections: "Vehicle Table" and "Companies Table".

Vehicle Table:

Name	Manufacturer	Cost	Year Introduced	Description
M1Abrams	General Dynamics Land Systems	10.66	1980	Main battle tank
Bradley Fighting Vehicle	BAE Systems	4.35	1981	Infantry fighting vehicle
ACV	BAE Systems	5.2	2020	Amphibious combat vehicle
MaxxPro	Navistar Defense	0.73	2007	Mine-resistant vehicle
Saratoga	Navistar Defense	0.27	2011	Light armored truck
Humvee NXT 360	AM General	0.29	2022	Modern tactical Humvee
Joint Light Tactical Vehicle	AM General	0.4	2020	Next-gen utility vehicle

Below the table are input fields for "Name...", "Manufactur...", "Cost:", "Year:", and "Description". At the bottom of this section are three buttons: "Add Vehicle", "Save", and "Remove Vehicle".

Companies Table:

Company	Location	Product/Service	Year Founded
General Dynamics Land Systems	Sterling Heights	Armored Combat Vehicles	1952
BAE Systems	Sterling Heights	Combat Vehicles	1899
Navistar Defense	Madison Heights	Military Trucks	1902
Detroit Arsenal	Warren	Research & Development	1940
AM General	Auburn Hills	Light Tactical Vehicles	1903
Magna International	Troy	Defense Electronics	1957

Below the table are input fields for "Company:", "Location:", "Product/Service:", and "Founded:". At the bottom of this section are three buttons: "Add Company", "Save", and "Remove Company".