**W – World (Real-world context):** A logistics company (or individual user) needs to track packages. Each package has details such as **ID, weight, dimensions, type, and current location along its route**. Users want a visual interface to manage and check package status.

**R – Requirements (Desired effects in the world):**

* Users must be able to **add, update, and remove package records**.
* Packages must have attributes: **ID, weight, dimensions, type, current location, and route history**.
* Users should be able to **search for packages by ID or type**.
* The system should **display package details in a table**.
* Location updates should reflect the package’s progress through its route.
* The tracker should ensure **data persistence** (saved locally or in a database).

**S – Specification (System behavior to meet requirements):**

* **GUI (JavaFX):** Build an interface with forms for input and a table for displaying package data.
* **Data Model:** Define a Package class with fields (id, weight, dimensions, type, currentLocation, route).
* **CRUD Operations:** Implement add, update, delete, and search functionality.
* **Data Storage:** Store data either in a **local database (SQLite/MySQL)** or a **JSON/CSV file**.
* **Location Updates:** Allow manual or automated updates to track package route progress.
* **Validation:** Ensure package IDs are unique, and data is valid (e.g., no negative weight).

**P – Program (Code that implements specification):**

* **JavaFX Controller Classes** for handling user interactions (button clicks, form submissions).
* **Model Class (Package)** with getters/setters.
* **DAO Layer (Data Access Object)** for database/file operations.
* **FXML Views** for GUI (form, table, and search).
* Example (simplified model class in Java):

**M – Machine (Environment where the program runs):**

* **Hardware:** Runs on any desktop/laptop with Java installed.
* **Environment:**
  + **Java 17+** (or latest LTS)
  + **JavaFX SDK** for GUI
  + **SQLite/MySQL** (optional) for persistent storage
  + **Gradle or Maven** for build and dependency management
* **Deployment:** Can run as a desktop application (.jar file or JavaFX runtime executable).