Week 2 Example

This example demonstrates adding classes with a one to many relationship used in our labs.

Case Study – Bob’s Autos

Bob Smith owns Bob’s Autos a small business specializing in the repair and sale of older model vehicles. Each vehicle is classified by a Manufacturer and Model.

Manufacturers are the companies that make the vehicles and models are the styles of vehicles that the manufacturer makes. For example, I own a Hyundai Elantra which means that the Manufacturer is Hyundai and the model is Elantra. The Elantra model is a small sedan style vehicle. My daughter owns a Hyundai Tucson. The manufacturer is the same, Hyundai, but my daughter’s Tucson is a Cross Over Sport Utility Vehicle and is larger than my Elantra.

User Story

I would like to record manufacturers and models associated with the manufacturer

Acceptance Criteria:

1. Must be able to add a manufacturer and a list models for that manufacturer
2. Must be able to delete manufacturers and/or lists of models for that manufacturer
3. Must be able to update manufacturers and/or list of models for that manufacturer
4. Must be able to query lists of manufacturers and associated models.

Diagram

Description automatically generated

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| --- | --- | --- | --- |
| Use Case Name | Change a manufacturer and models | | |
| Triggering Event | Error was made in creating the manufacturer | | |
| Brief Description | Allows the Owner to modify a manufacturer and list of models | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | manufacturer is update and available to query | | |
| Flow of activities | Actor | | System |
|  |  | Requests to change a manufacturer | Displays a list of manufacturers including manufacturer name and code and prompts to select manufacturer |
|  |  | Selects manufacturer | Display Manufacturer. Prompts for updates |
|  |  | Updates the Manufacturer. | Displays the Manufacturer. Displays a list of models including name, vehicle type, number of doors, options and prompts for selection |
|  | loop | Selects the model | Displays the selected model including name, vehicle type, doors and options.  Displays a list of vehicle types. Prompts for changes to name, vehicle type, number of doors and options |
|  |  | Updates model, changing vehicle type, name, number of doors and options as required. | Displays the Manufacturer. Displays a list of models including name, vehicle type, number of doors, options and prompts for selection. |
|  | End loop | Repeats above step until all models have been entered | Prompts for confirmation |
|  |  | Confirms entry | Saves the manufacturer and models and returns to the main menu |
| Exception Conditions | * Owner chooses to cancel updating the manufacturer | | |

Diagram

Description automatically generated

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| --- | --- | --- | --- |
| Use Case Name | Deletes models from a manufacturer | | |
| Triggering Event | Decision was made to no longer service a model. | | |
| Brief Description | Allows the Owner to delete models from a manufacturer | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | manufacturer is update and available to query | | |
| Flow of activities | Actor | | System |
|  | 1. | Requests to delete models from a manufacturer | Displays a list of manufacturers including manufacturer name and code and prompts to select manufacturer |
|  | 2. | Selects manufacturer | Display Manufacturer. Displays a list of models including name, vehicle type, number of doors, options and prompts for selection |
|  | loop | Selects the model | Removes the model. Displays the Manufacturer. Displays a list of models including name, vehicle type, number of doors, options and prompts for selection. |
|  | End loop | Repeats above step until all models have been entered | Saves the manufacturer and models and returns to the main menu |
| Exception Conditions | * Owner chooses to cancel removing models from the manufacturer | | |
|  |  | | |

Diagram

Description automatically generated