BumprCars Invoicing

Computer Science II

Casey Nolte
casey.nolte@huskers.unl.edu
Jack Kieny
jackkieny@huskers.unl.edu
Department of Computer Science & Engineering
University of Nebraska—Lincoln

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This document provides information regarding the design and function of BumprCars Invoicing. The purpose of Semester Project is to parse flat data files and produce more usable and user friendly data output.

Revision History

Version	Description of Change(s)	Author(s)	Date
1.0	Initial draft of this design document	Casey Nolte, Jack Kieny	09/26/2020

Contents

1 Introduction

1.1 Purpose of this Document

This document serves as an in depth description of the BumprCars Invoicing program and it's functionality. With sufficient understanding of this design document, a proficient programmer would be able to recreate the general function of this program.

1.2 Scope of the Project

In it's current iteration, BumprCars Invoicing includes functionality for the parsing of flat data files of persons, customers, and products, and then generating json files from these flat files. The program is also capable of reading a flat invoice file and generating a summary report as well as detailed individual reports. This program was developed to replace the outdated invoicing system at BumprCars, as a more modern object oriented solution provides better functionality. Not included currently in the project scope is database systems.

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Definitions

Flat File Non-standard data file

2 Overall Design Description

Currently, BumprCars Invoicing contains classes for the storage of multiple different types of data, and methods for parsing data files and creating more user friendly data output.

2.1 Alternative Design Options

At the moment, significant alternative options have not been discussed.

3 Detailed Component Description

This section will detail multiple aspects of the BumprCars Invoicing system. Currently, it contains information about the class layout of the program.

3.1 Class/Entity Model

In the BumprCars Invoicing program, the invoice, person, customer, and product classes each hold data of their respective type. Additionally, the product class is a superclass for repair, rental, towing, and concession classes. The FlatParser class contains methods used to parse flat data files and create instances of the data classes. The address class is used in the construction of the person class, and the person class is used in the construction of the customer class. The DataConverter class contains a main method that takes raw input files. See 1 for a visual representation of the class layout.

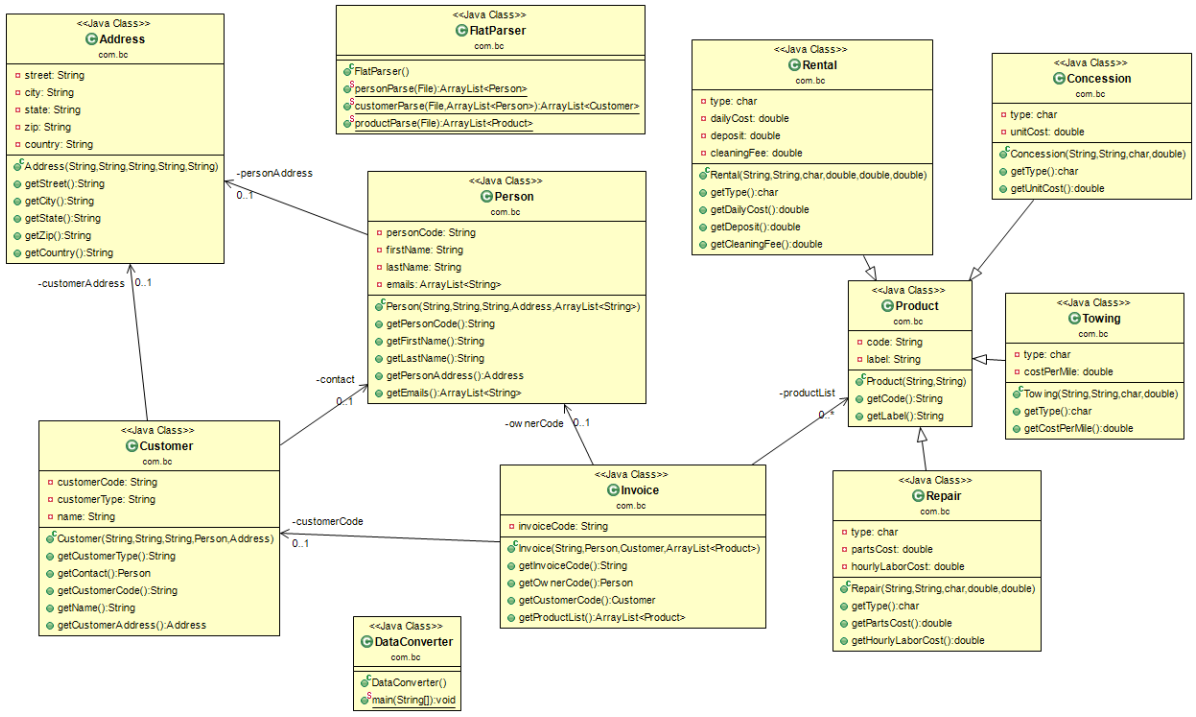

Figure 1: Class Diagram for BumprCars Invoicing

3.1.1 Component Testing Strategy

A multitude of test cases were run after phase 1 of the project that tested that parsing and saving of data from flat files, as well as the creation of json files. These test cases

resulted in changes to the parsing system in order to deal with changing amounts of emails in the flat files.

3.2 Changes & Refactoring

Between Phase 1 and Phase 2, minor changes to class names were made, and small updates to constructor parameters were made.