

Large System Design

Carspot for SE 3A04, Tutorial 2

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Monday March 7th, 2016

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1 Introduction

This section should provide an brief overview of the entire document.

1.1 Purpose

- a) Delineate the purpose of the document
- b) Specify the intended audience for the document

1.2 System Description

- a) Give a brief description of the system. This could be a paragraph or two to give some context to this document.

1.3 Overview

- a) Describe what the rest of the document contains
- b) Explain how the document is organised

2 Use Case Diagram

This section should provide a use case diagram for your application.

- a) Each use case appearing in the diagram should be accompanied by a text description.

3 Analysis Class Diagram

This section should provide an analysis class diagram for your application.

4 Architectural Design

This section should provide an overview of the overall architectural design of your application. You overall architecture should show the division of the system into subsystems with high cohesion and low coupling.

4.1 System Architecture

- a) Identify and explain the overall architecture of your system
- b) Be sure to clearly state the name of the architecture
- c) Provide the reasoning and justification of the choice
- d) Provide a structural architecture diagram showing the relationship among the subsystems (if appropriate)

4.2 Subsystems

- a) Provide a brief description of each subsystem. Be sure to document its purpose and relationship to other subsystems.

5 Class Responsibility Collaboration (CRC) Cards

Class Name: CarDB	
Responsibility:	Collaborators:
Contain a listing of all car models and their attributes	-
Allow insertion and deletion of entries	-
Allow editing of entries	-
Provide information to CarSearchController in any combination	CarSearchController

Class Name: FeedbackStorage	
Responsibility:	Collaborators:
Contain a list of all feedback forms completed by users with anonymity, stored in a file	-
Receive feedback from feedback form for storage	FeedbackForm
Allow deletion of entries	-

Class Name: FeedbackForm	
Responsibility:	Collaborators:
Allow user to enter feedback about what they like or don't like about the application	-

Class Name: FeedbackListing	
Responsibility:	Collaborators:
Hold all feedback forms completed by users sorted by submission date	-
Allow marking a listing as 'Working on' by swiping right	Forum
Allow deleting a listing by swiping left	Forum

Class Name: CarSearchController	
Responsibility:	Collaborators:
Contains algorithm to identify a car given some attributes	-
Extract information from the SearchForm and compile it into a search query	SearchForm
Send result of search to SearchResult for display and verification	SearchResult
Query car database and experts as part of search algorithm to identify the car	CarDB, Expert
Control experts to be used in identification based on attributes given	ExpertPicker

Class Name: SearchResult	
Responsibility:	Collaborators:
Receive search result and send it to the forum to be displayed	Forum, CarSearchController
Once a car identification is confirmed, result sent to search history	SearchHistory
Send result for verification before sending to search history	ResultVerifier
Send car data for a specific result to Google Maps API if requested	DealershipLocator

Class Name: ExpertPicker	
Responsibility:	Collaborators:
Control which experts will be used to identify the car based on attributes that are inputted	Expert
Set experts to "passive" or "active" for identification process	Expert

Class Name: HelpInfo	
Responsibility:	Collaborators:
Hold a list of help articles by category	-

Class Name: HelpPage	
Responsibility:	Collaborators:
Extract help info on how to use the application from the database	HelpInfo

Class Name: Forum	
Responsibility:	Collaborators:
Central hub of application to allow navigation to various pages	SearchForm, SearchHistory, HelpPage, FeedbackForm
Display result of car identification	SearchResult

Class Name: SearchForm	
Responsibility:	Collaborators:
Allow user to input characteristics of the car they want to identify	-
Send inputted attributes to car identification algorithm	CarSearchController

Class Name: SearchHistory	
Responsibility:	Collaborators:
Store previous five confirmed identification results	-
When a new result enters the history, pushes out (deletes) fifth most recent confirmed identification	-

Class Name: DealershipLocator	
Responsibility:	Collaborators:
Interface with Google Maps API to locate dealerships that sell a specific car from the search history	SearchHistory
Embed google maps with pins on dealerships, based on the car sent by the SearchResult class	SearchResult
Allow editing the range of the search	-
Allow searching around custom location	-

Class Name: SecurityController	
Responsibility:	Collaborators:
Contains encryption and decryption mechanisms for transmitted messages	-
Decrypt search result once it arrives at the forum	Forum
Encrypt the search result before sending it to the forum	SearchResult
Encrypt the feedbackForms filled out by users	FeedbackForm
Send encrypted feedback-Form to storage	FeedbackStorage

Class Name: ResultVerifier	
Responsibility:	Collaborators:
Provide the user with the ability to confirm or deny the identified car result	-
Restart car identification if identified car is incorrect	CarSearchController
Restart search form if the identified car is incorrect three times	CarSearchController, SearchForm

Class Name: Expert	
Responsibility:	Collaborators:
Know potential car identifications given certain attribute combinations in respective domain of expertise	-
Provide expertise to identify a car given some attributes of its domain	CarSearchController
Provide functionality to be set as "active" or "passive" when trying to identify a car	ExpertPicker

A Division of Labour

Team Member:	Sections Completed:
Abhijit	Section 1, 4
Cole	Section 3, 4, Reviewed and Reworked Business Events
David	Section 3, 5, Reviewed and Reworked Business Events
Sharon	Section 2, 3, Reviewed and Reworked Business Events
Yash	Section 3, 5, Reviewed and Reworked Business Events
Yuchen	Translated Section 4 into Latex

IMPORTANT NOTES

- Please document any non-standard notations that you may have used
 - *Rule of Thumb*: if you feel there is any doubt surrounding the meaning of your notations, document them
- Some diagrams may be difficult to fit into one page
 - It is OK if the text is small but please ensure that it is readable when printed
 - If you need to break a diagram onto multiple pages, please adopt a system of doing so and thoroughly explain how it can be reconnected from one page to the next; if you are unsure about this, please ask about it
- Please submit the latest version of Deliverable 1 with Deliverable 2
 - It does not have to be a freshly printed version; the latest marked version is OK
- If you do NOT have a Division of Labour sheet, your deliverable will NOT be marked