**MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

**Laptop Reviews**

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-Ho Chi Minh City, ***05/2015***-

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# Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| LRA | Laptop Review |

# Report No.4 Software Design Description

## Design Overview

* This document describes the technical and user interface design of Laptop Reviews System using web. It includes the architectural design, the detailed design of common functions and business functions and the design of database model.
* The architectural design describes the overall architecture of the system and the architecture of each main component and subsystem.
* The detailed design describes static and dynamic structure for each component and functions. It includes class diagrams, class explanations and sequence diagrams for each use cases.
* The database design describes the relationships between entities and details of each entity.
* Document overview:
* Section 2: gives an overall description of the system architecture design.
* Section 3: gives component diagrams that describe the connection and integration of the system.
* Section 4: gives the detail design description which includes class diagram, class explanation, and sequence diagram to details the application functions.
* Section 5: describe an ERD with logical diagram.

## System Architectural Design



Figure 1: MVC Architecture

**(http://www.w3schools.com/aspnet/mvc\_intro.asp)**

**The Model** is the part of the application that handles the logic for the application data.  
Often model objects retrieve data (and store data) from a database.

**The View** is the parts of the application that handles the display of the data.  
Most often the views are created from the model data.

**The Controller** is the part of the application that handles user interaction.  
Typically controllers read data from a view, control user input, and send input data to the model.

## Component Diagram

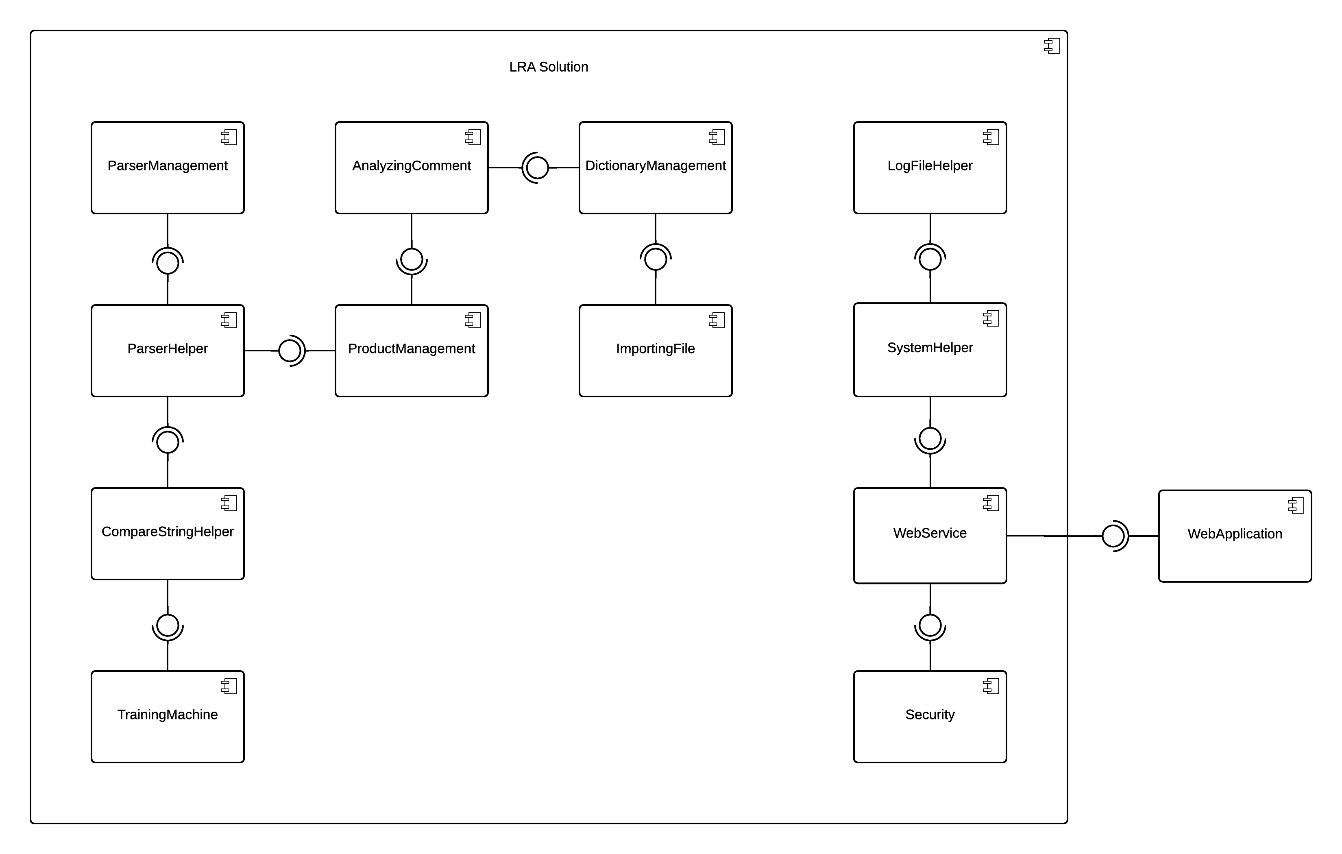


Figure 2: Component Diagram

## Detailed Description of Components

### Class Diagram

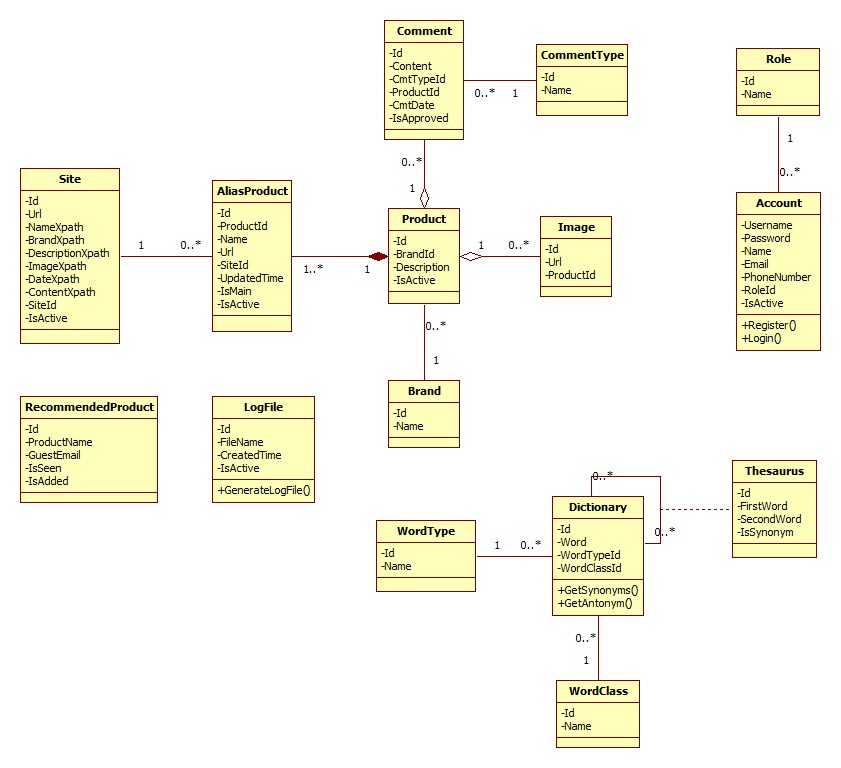


Figure 3: Class Diagram

### Class Diagram Explanation

#### Site

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
| Id | Integer | Public | Unique identifier of each site |
| Url | String | Public | Url value |
| NameXpath | String | Public | Xpath value of product name |
| BrandXpath | String | Public | Xpath value of product brand |
| ImageXpath | String | Public | Xpath value of product image |
| DateXpath | String | Public | Xpath value of date value |
| ContentXpath | String | Public | Xpath value of product content |
| SiteId | Integer | Public |  |
| IsActive | Boolean | Public | Value use to enable/disable the site |

#### AliasProduct

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
|  |  |  |  |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### Product

Attribute

#### Image

Attribute

#### Comment

Attribute

Method

#### CommentType

Attribute

Method

#### Brand

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
| Id | Integer | Public | Unique identifier of each item |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### RecommendedProduct

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
| Id | Integer | Public | Unique identifier of each item |

#### Role

Attribute

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attribute** | **Type** |  | **Visibility** | **Description** |
| Id | Integer |  | Public | Unique identifier of each role |
| Name | String |  | Public | Role name |

#### Account

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
|  |  |  |  |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### Dictionary

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
|  |  |  |  |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### WordType

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
|  |  |  |  |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### Thesaurus

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
|  |  |  |  |

Method

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Return type** | **Visibility** | **Description** |
|  |  |  |  |

#### WordClass

Attribute

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Type** | **Visibility** | **Description** |
| Id | Integer | Public | Unique id of each item |

### Sequence Diagram

#### Force Parse Data

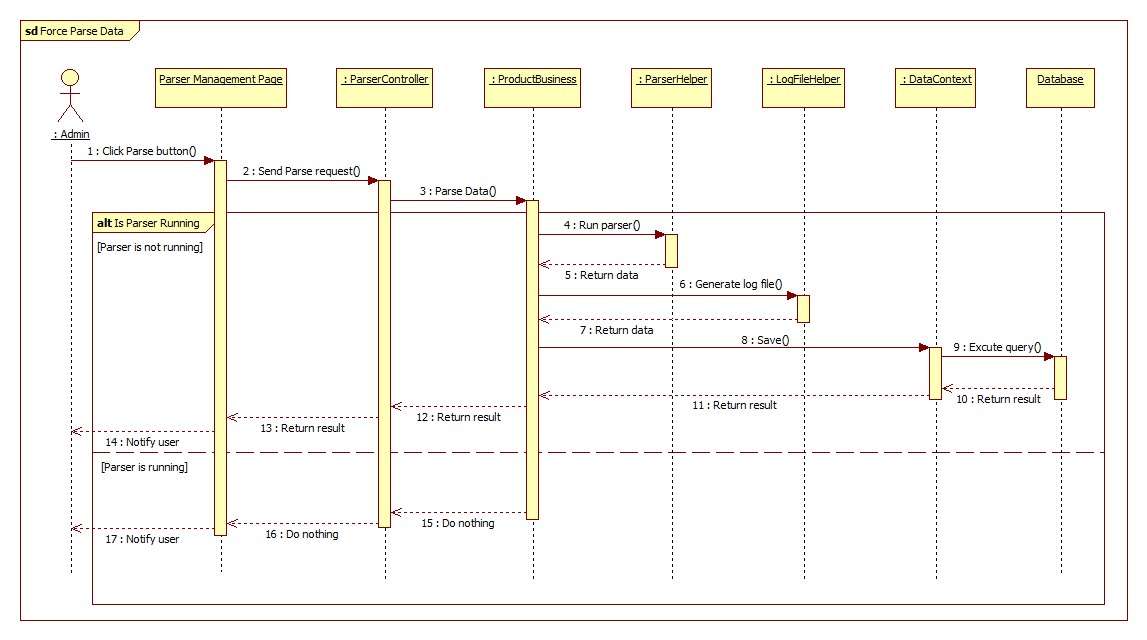


Figure 4: Force Parse Data Sequence Diagram

#### Import Excel

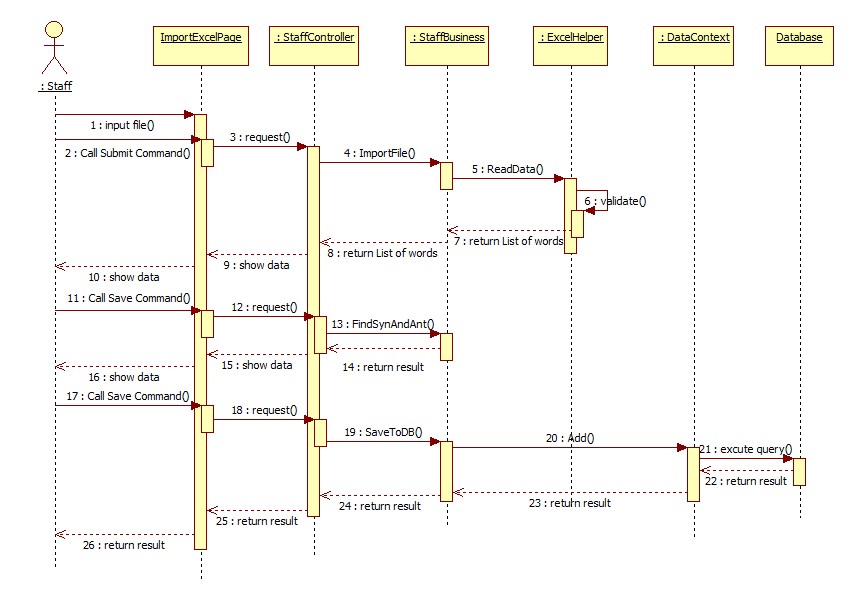


Figure 5: Import Excel Sequence Diagram

#### Search Laptop

#### Import Dictionary

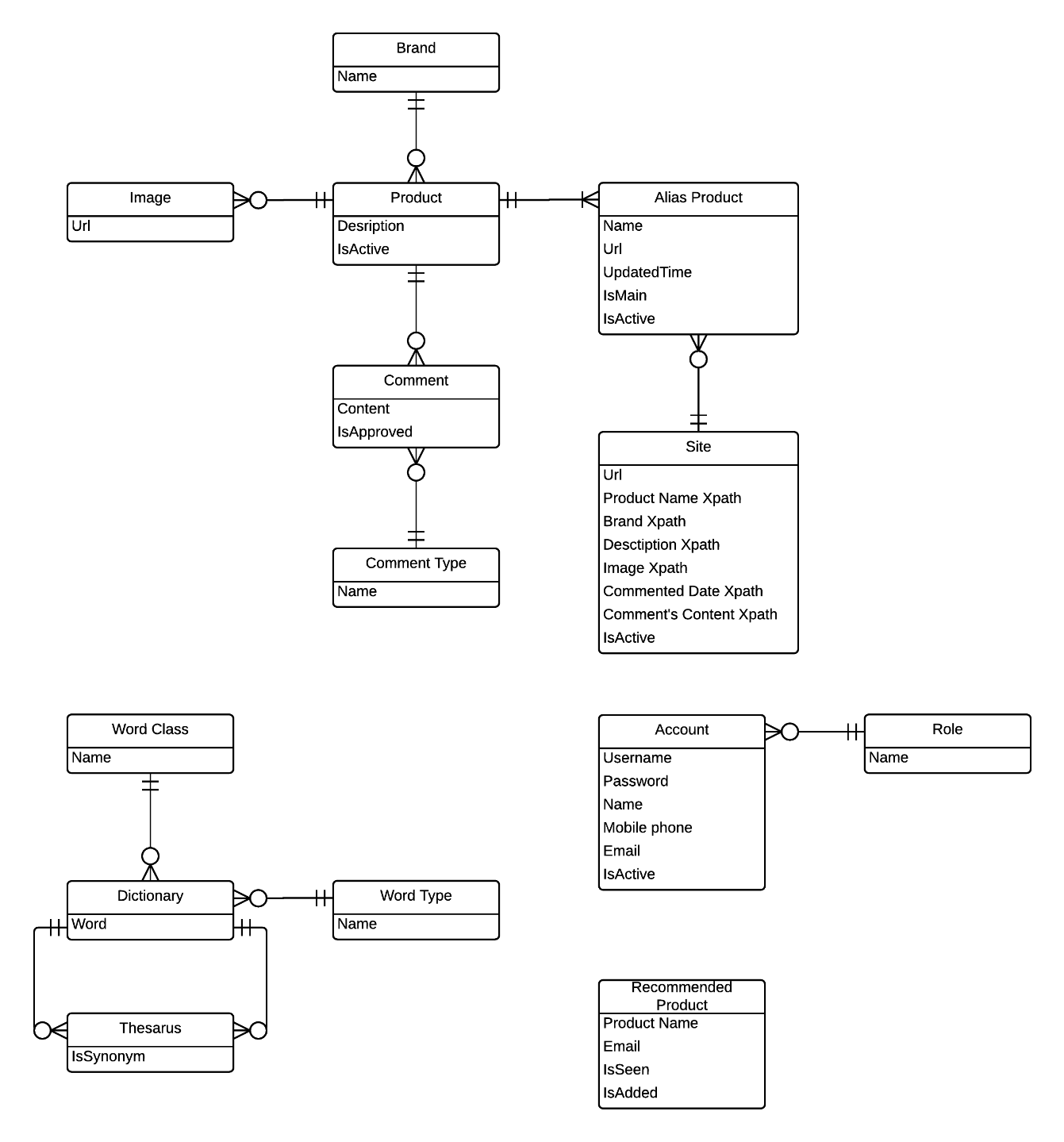
#### Train Machine

## User Interface Design

## Database Design

### Logical Diagram

Figure 27: Logical Diagram



### Data Dictionary

|  |  |
| --- | --- |
| **Entity Data dictionary: describe content of all entities** | |
| **Entity Name** | **Description** |
| Image | Describe all image link that product is included. |
| Product | Describe all products in the system. |
| Alias Product | Describe all alias name of product in the system. |
| Brand | Describe all brand that product is included. |
| Comment | Describe all comment of products. |
| Comment Type | Describe all type of comments. |
| Site | Describe all site parse data. |
| Site Attribute | Describe all Xpath to parser attributes of site |
| Recommend Product | Describe all products that recommend by user. |
| Staff | Describe all information of staff. |
| Admin | Describe all information of admin. |

Table 1: Entity Data Dictionary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity name** | **Attributes** | **Description** | **Domain** | **Nulls** |
|  |  |  |  |  |

Table 2: Attribute Data Dictionary

## Algorithms

### Analyze Comment

#### Definition

#### Define Problem

#### Solution

#### Complexity

#### Flowchart

### String Comparison

#### Definition

#### Define Problem

#### Solution

#### Complexity

#### Flowchart