

**Lost & Found Web Application**

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Industrial Development Project

Software Design & Development Higher Diploma (Industry Stream)

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10. **Introduction**
    1. **Document Outline**

The objective of this document is to inform the reader on what the application does and specify in detail how the application was developed.

* 1. **Document Description**
     1. **Introduction**
     2. **Objective of the Application**

The objective of this project was to create a lost and found web application. The application allows users to register their details and view the items page where they can post about items they have lost or found in an attempt to return lost items to their owners.

* + 1. **System Overview**

1. **Design Considerations**
   1. **Assumptions**
   2. **General Constraints**
2. **System Architecture**
   1. **Architectural Strategies**
   2. **SQL Server Database**
   3. **Entity Framework**
   4. **ASP.NET**

ASP.NET was the web application framework used by the student to create this project.

* 1. **MVC**

MVC was the framework architecture adopted to create this web application.

1. **System Development**

This section displays the project timeline including a list of the key challenges dealt with each week during the project.

* 1. **Project Timeline & Key Challenges**

Week 1

In week one the student got in touch with the company to find out if they had any project specifications they would like the student to complete.

**Key Challenge:**

The key challenge in week one was deciding on what the project would be.

Week 2

The company informed the student that they would not give the student a specific project topic and to proceed with the student’s own idea.

Week 3

Key challenge from week one was overcome and a project was agreed upon between with the supervisor. It was decided to create a web application for a lost and found service.

**Key Challenge:**

The key challenge faced this week was to figure out how exactly to go about creating a web application using c# and which sources would be most relevant to help in the development of the application.

Week 4

In week 4 it was decided to develop the application using an ASP.NET framework along with an MVC framework architecture.

**Key Challenge:**

The key challenge in week 4 was determining what exactly the application needed in terms of pages.

Week 5

In week 5 a user model, user controller and corresponding views were created.

**Key Challenge:**

The key challenges this week were learning about how the models interacted with the controllers and views.

Week 6

In week 6 sorting and filtering were added to the user page and work was carried out the format of the application.

**Key Challenge:**

The key challenges in week 6 included figuring out how users would be able to post about items they have found or lost and how that information would be displayed in the application.

Week 7

In week 7 the student learned about connection strings and how these would be useful in connecting up the database. The database was created using code first migrations.

**Key Challenge:**

The key challenges in week 7 included determining which tables to use in the database and how users would post about items, would they post only found items or both lost items and found items.

Week 8

In week 8 more work was carried out on what models were most appropriate to use in the application.

**Key Challenge:**

The key challenges of week 8 were figuring out how the user would interact with the system and what methods they would have access to.

Week 9

In week 9 different functionality was added to some of the view pages to see what worked best with the application.

**Key Challenge:**

The key challenge in week 9 was determining what added functionality was necessary and worked best with the application.

Week 10

In week 10 work was carried out on editing the layout of the application and on the site css.

**Key Challenge:**

The key challenge in week 10 was creating new items and users and successfully adding them to the database.

Week 11

In week 11 the student finally decided on what tables would be best for the database. One table for items was decided on with the relevant rows for a user to obtain enough information about the item.

**Key Challenge:**

The key challenge in week 11 was adding authorization and authentication to the application.

Week 12

In week 12 it was decided that user’s should only have access to the create method and details method on both the items page and the users page.

The admin could then have access to all methods and users must get in touch with the admin to update the status of a post.

**Key Challenge:**

The key challenge this week was getting the admin user to work.

Week 13

In week 13 the built in ApplicationDbContext class was removed and only one context class was used the LFContext class.

**Key Challenge:**

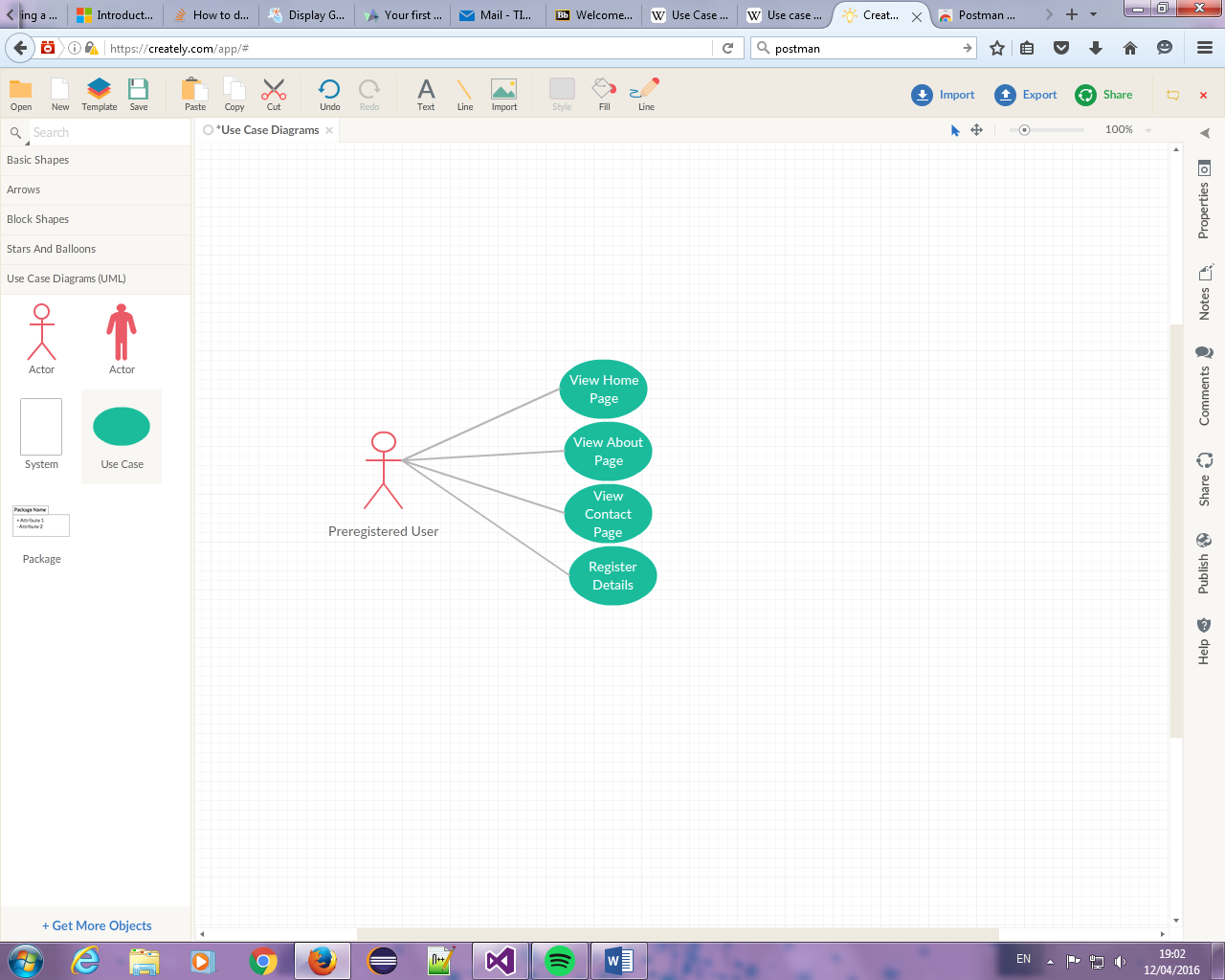
The key challenges in week 13 included dealing with database concurrency exceptions and adding session objects to the application. Instead of the admin accessing the edit method a user should be able to edit their own posts only.

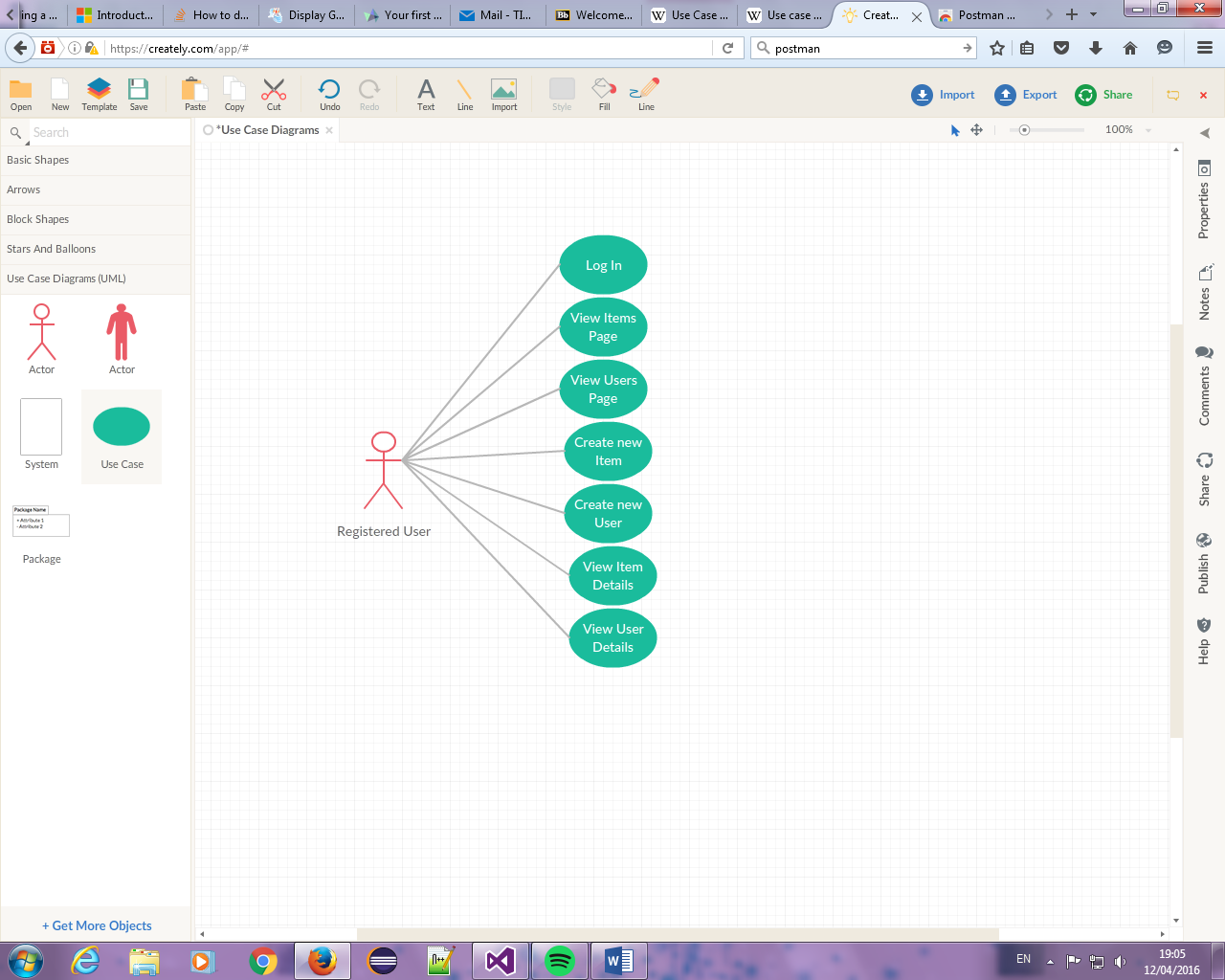
Week 14

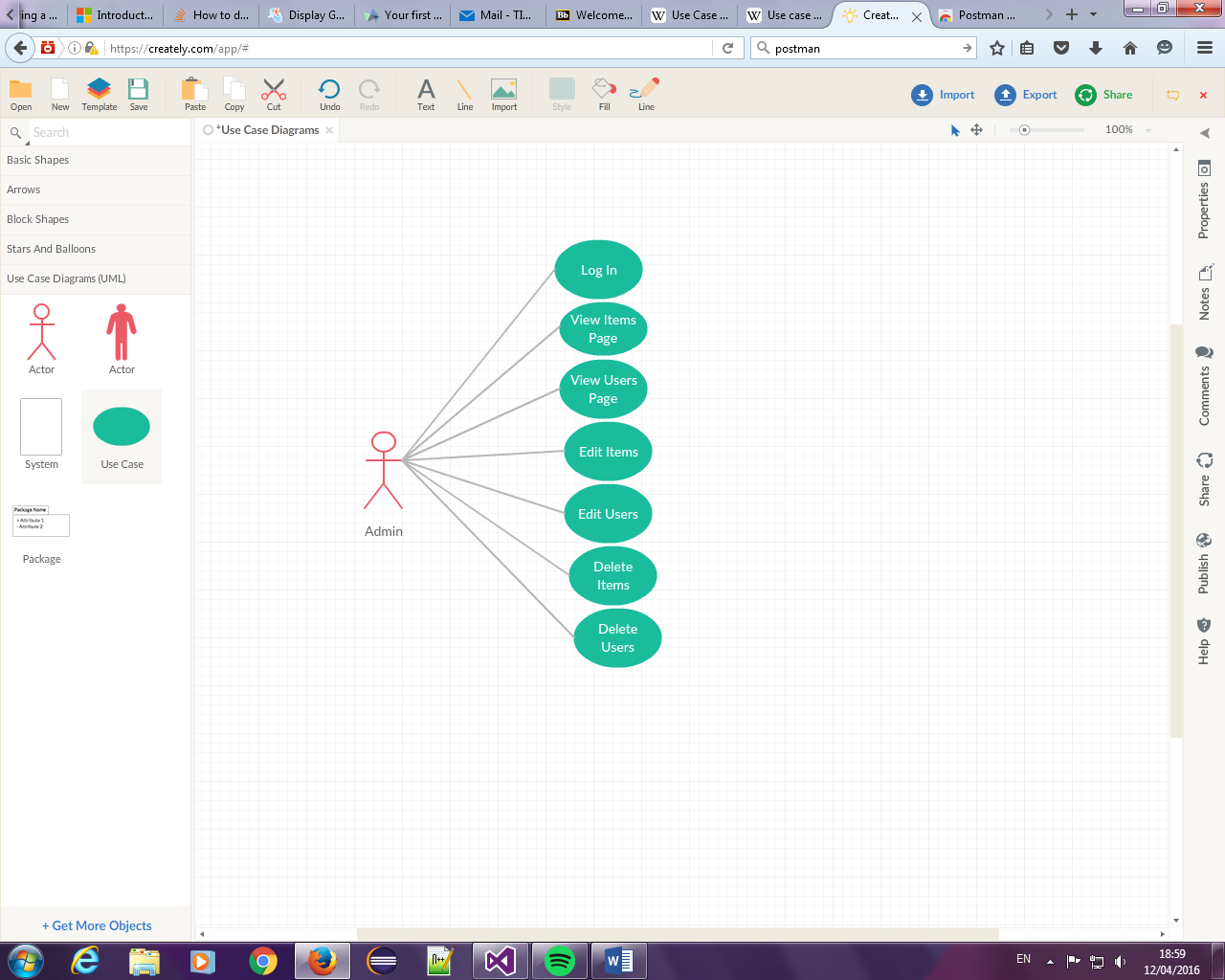
**Key Challenge:**

* 1. **Development Methods**

1. **Detailed System Design**
   1. **Use Case Documentation**
      1. **Use Case Diagrams**







* + 1. **Use Case Specification**

Use Case Name: Register Details

Purpose: Allows preregistered users to register their details in order to have access to the application.

Actors: Preregistered Users

Course of Events:

1. Preregistered users visit the application homepage. Here they can access the about page and contact page but must register in order to access the items page and users page.
2. Preregistered users enter an email address, password and password confirmation.
3. Registration successful, users can now access the items page and users page.

Use Case Name: Log In

Purpose: Allows registered users to access all application pages.

Actors: Registered Users, Admin

Course of Events:

1. Users navigate to log in page and enter email address and password.
2. Successful login allows user access all application pages.

Use Case Name: Create Item

Purpose: Allows users to post about items they have lost or found.

Actors: Registered Users

Course of Events:

1. User navigates to the Items page.
2. User clicks the Create New button.
3. Form appears in front of the user

Use Case Name: Log In

Purpose:

Actors:

Course of Events:

Use Case Name: Log In

Purpose:

Actors:

Course of Events:

Use Case Name: Log In

Purpose:

Actors:

Course of Events:

* 1. **Domain Model**
     1. **Domain Model Class Diagram**
     2. **Domain Model Design Decisions**
  2. **Database Design**

1. **System Test Design**