

## **C868 – Software Capstone Project Summary**

### **Task 2 – Section C**



**Capstone Proposal Project Name:** Oregon Dentistry Scheduling Application

**Student Name:** Spencer Swift

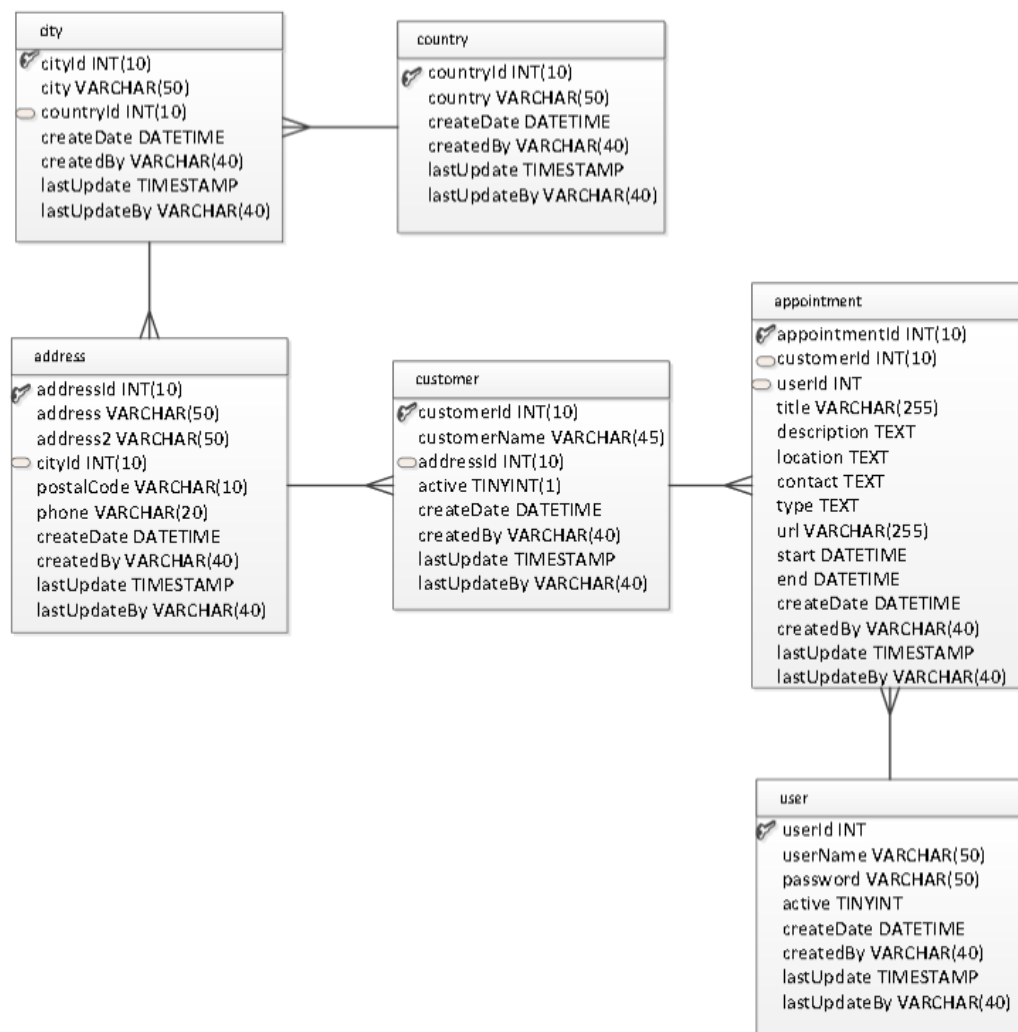
Table of Contents**Contents**

<i>Table of Contents.....</i>	<i>2</i>
<i>Task 2 Part C – C868 Software Development Capstone.....</i>	<i>3</i>
<i>Application Design and Testing.....</i>	<i>3</i>
<i>Design Document.....</i>	<i>3</i>
<i>Unit Test Plan.....</i>	<i>5</i>
<i>User Guide.....</i>	<i>7</i>

## Task 2 Part C – C868 Software Development Capstone

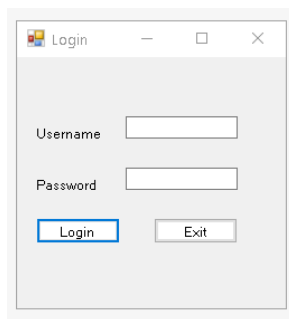
**Application Design and Testing****Design Document****Class Design**

The following is the ERD diagram for the application. Customers have an address, city, and country associated with them. A customer can have appointments scheduled for them by a user, in this case the 'user' is the person scheduling the appointment.



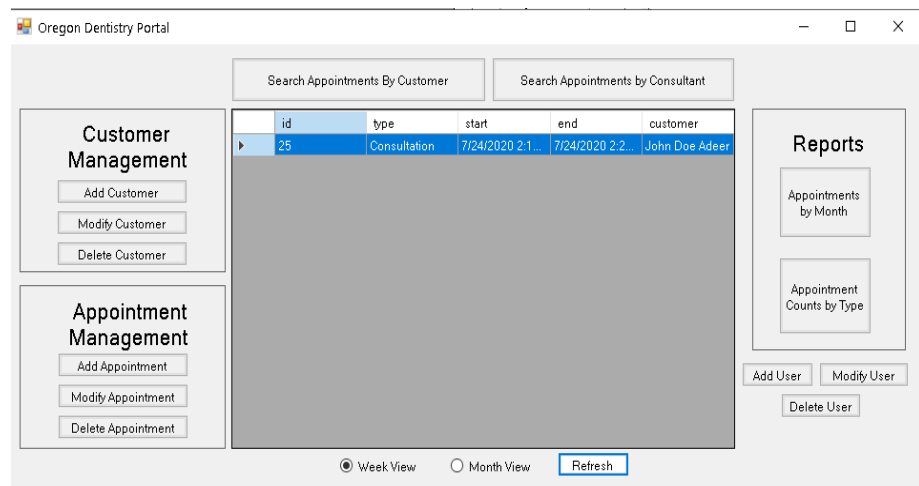
## UI Design

The design of the application will focus on being easy to use so that appointments can be quickly and efficiently recorded. All main elements of the application will be accessible from the main landing page after login. The following pictures are select high-fidelity UI elements.



A login window titled "Login" with a light gray background. It contains two text input fields: "Username" and "Password". Below the "Password" field are two buttons: "Login" (highlighted with a blue border) and "Exit".

Fig 1. Login Screen



The main application window titled "Oregon Dentistry Portal". It features a top navigation bar with two search filters: "Search Appointments By Customer" and "Search Appointments by Consultant". The main content area is divided into three sections:

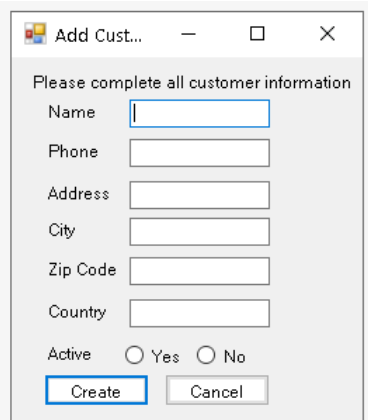
- Customer Management:** Includes buttons for "Add Customer", "Modify Customer", and "Delete Customer".
- Appointment Management:** Includes buttons for "Add Appointment", "Modify Appointment", and "Delete Appointment".
- Reports:** Includes buttons for "Appointments by Month", "Appointment Counts by Type", "Add User", "Modify User", and "Delete User".

In the center, there is a table displaying appointment data:

id	type	start	end	customer
25	Consultation	7/24/2020 2:1...	7/24/2020 2:2...	John Doe Adeer

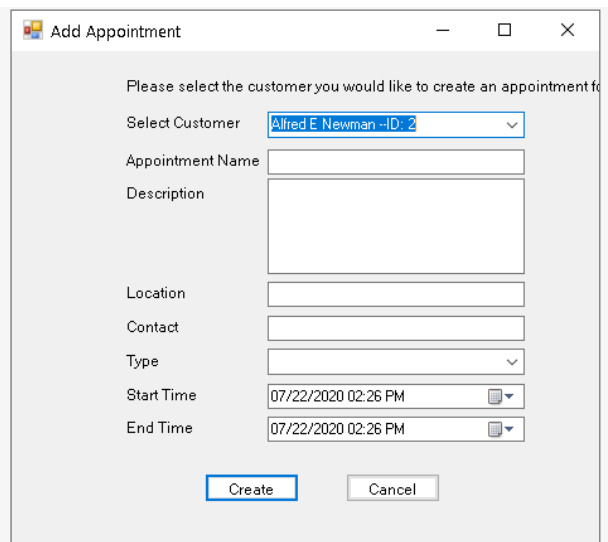
At the bottom, there are radio buttons for "Week View" (selected) and "Month View", along with a "Refresh" button.

Fig 2. Main page of application with view of appointments for the month or week.



A window titled "Add Cust..." with a light gray background. It contains a heading "Please complete all customer information". Below this are several text input fields: "Name", "Phone", "Address", "City", "Zip Code", and "Country". There is also a section for "Active" with two radio buttons: "Yes" and "No". At the bottom are two buttons: "Create" (highlighted with a blue border) and "Cancel".

Fig 3. Add Customer Page (modify and delete use the same UI)



A window titled "Add Appointment" with a light gray background. It contains a heading "Please select the customer you would like to create an appointment for". Below this is a dropdown menu for "Select Customer" with the value "Alfred E. Newman -ID: 2". There are several text input fields: "Appointment Name", "Description", "Location", "Contact", and "Type". There are also two date/time pickers for "Start Time" and "End Time", both showing "07/22/2020 02:26 PM". At the bottom are two buttons: "Create" (highlighted with a blue border) and "Cancel".

Fig 4. Add Appointment Page (modify and delete use the same UI)

Select the customer you wish to see appointments for:

John Doe Adee -ID:1

Title	Start Time	End Time	Location	Contact	Type
not needed	12/31/2018 4:0...	12/31/2018 4:0...	not needed	not needed	Presentation
TSKLDKLFkj...	4/9/2020 8:40 ...	4/9/2020 3:40 ...	lkjsakldlkdsdl...	slkkslsdjljkj	Other
TESTTSDTsdts	4/10/2020 11:2...	4/10/2020 12:2...	aalksjdlkajsdjk	alkajdlkajsdjk	Wisdom Teeth
TEST	4/10/2020 2:44...	4/10/2020 3:44...	TEST	TEST	Cleaning
TSET	4/11/2020 9:15...	4/11/2020 9:17...	set	setset	Wisdom Teeth
TEST	4/11/2020 3:07...	4/11/2020 3:08...	TEST	TEST	Cavities
TeST	4/12/2020 1:15...	4/12/2020 2:15...	sets	sets	Wisdom Teeth
Test	4/14/2020 1:06...	4/14/2020 2:06...	set	set	Cleaning
test	4/16/2020 11:1...	4/16/2020 2:17...	test	test	Consultation
TEST	4/26/2020 2:44...	4/26/2020 3:44...	TEST	TEST	Cleaning
TEST	5/1/2020 2:44 ...	5/1/2020 3:44 ...	TEST	TEST	Cleaning
Appointment 1	7/24/2020 2:19...	7/24/2020 2:20...	Salem	John	Consultation

Cancel 7/22/2020 2:31:12 PM

Fig 5. Select customer and view all appointments scheduled under their name.

Appointment Count By Type

Cleanings: 5

Cavities: 2

Wisdom Teeth: 7

Consultations: 4

Root Canals: 0

Other: 3

Cancel 7/22/2020 2:40:33 PM

Fig 6. View report of total number of type of appointments

## Unit Test Plan

### Introduction

#### Purpose

The purpose of the following unit test plan is to ensure a functioning product for the customer Oregon Dentistry. The following unit test will ensure that the login form at application start does not accept incorrect values and only accepts accurate values.

Test No.	Description	Data	Expected Results	Actual Results	Pass/Fail
1	Login	Username: Test Account Password: test	Successful login.	Successful login.	Pass
2	Login	Username: null Password: null	Failed login with error message.	Failed login with error message.	Pass
3	Login	Username: wrong username Password: Wrong password	Failed login with error message.	Failed login with error message.	Pass

## Overview

The unit test will be performed manually by using the user interface in the application. The developer will input correct, incorrect, and no values into the fields and inspect the result. The test plan and results are in the table above. There were no errors observed during the test.

## Test Plan

### Items

In order to complete the testing all steps of the test plan must pass and all steps must be complete. If a step fails, the bug must be reported and assigned to a developer in order to have it fixed, at which point testing begins again from the start. Once all test steps are completed without failure the testing is complete.

### Features

The testing is completed via the UI. The results from the UI element shows whether the test was a success or failure. When the tester inputs values in the username and password fields and then clicks “login” the application calls the `userCheck()` method. This method runs a MySQL command to see if a row exists in the database with the given username and password. If it does it returns a 1 and proceeds with login. If it does not it returns a 0 and throws a login error to the tester. See code below.

```
1 reference
public static int userCheck(string user, string password)
{
    MySqlConnection connection = new MySqlConnection(connectionString);
    connection.Open();
    MySqlCommand command = new MySqlCommand($"SELECT userID, userName FROM user where userName = '{user}' AND password = '{password}'", connection);
    MySqlDataReader reader = command.ExecuteReader();
    if (reader.HasRows)
    {
        reader.Read();
        setUserID(Convert.ToInt32(reader[0]));
        setUserName(Convert.ToString(reader[1]));
        reader.Close();
        connection.Close();
        return 1;
    }
    connection.Close();
    return 0;
}
```

## Deliverables

The deliverables for the unit test are the test plans and test results in the table on page 5.

**Tasks**

To perform the tests in the test plan you first must run the application in Debug mode in Visual Studio 2019. The tester will follow the steps according to the test plan and input the given values into the Username and Password fields. The tester will record the results of each input and whether it was a success or failure.

**Needs**

Windows 10, Visual Studio Community 2019, MySql Connection are needed for testing.

**Pass/Fail Criteria**

If the test plans actual results do not meet with the expected result the test is a failure. If it is the same as the expected result it is a pass.

**C4. Source Code**

Source code for the application is included in the .zip file submitted with the other materials.

**User Guide**

*Note: This may be included as a separate document if you desire.*

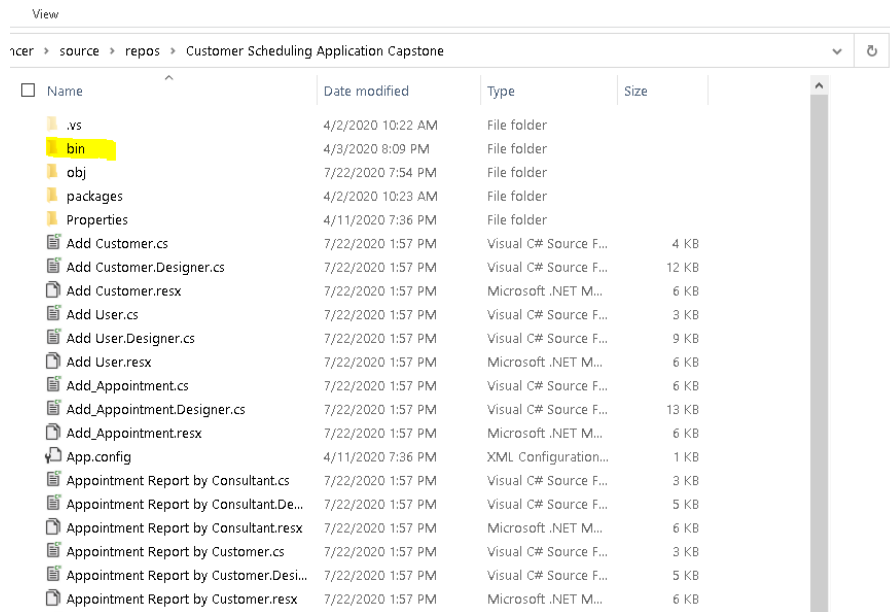
**Introduction**

The following user guide's purpose is to document steps to install the application on a Windows 10 PC and perform some most of the basic functions in the application.

**Installation and Using the Application*****Installation.***

1. Download or transfer the .zip file from a flash drive or the network.
2. Extract the .zip to the desired location.

3. Open the Customer Schedule Application folder and navigate to the “bin” folder.



4. Open the “Release” folder.



er\source\repos\Customer Scheduling Application Capstone\bin

/view

> source > repos > Customer Scheduling Application Capstone > bin

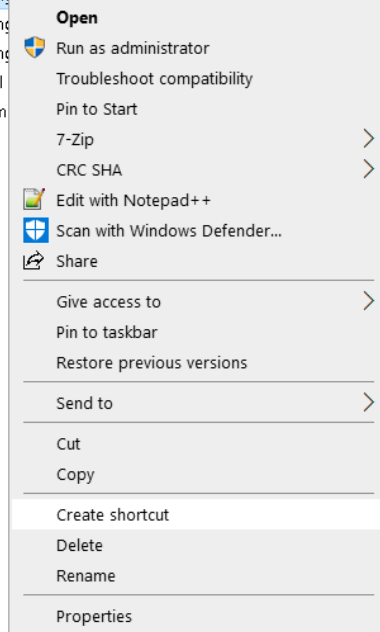
Name	Date modified	Type	Size
Debug	4/12/2020 2:20 PM	File folder	
Release	7/22/2020 7:54 PM	File folder	
Debug_access_records.txt	7/22/2020 6:44 PM	Text Document	21 KB

- If you wish to create a shortcut to the application right click on Customer Scheduling Application.exe and click create shortcut.

Manage C:\Users\Spencer\source\repos\Customer Scheduling Application Capstone\bin\Release

er > source > repos > Customer Scheduling Application Capstone > bin > Release

Name	Date modified	Type	Size
BouncyCastle.Crypto.dll	8/11/2018 10:03 AM	Application extensi...	2,396 KB
Customer Scheduling Application.exe	7/22/2020 7:54 PM	Application	110 KB
Customer Scheduling		ML Configuration...	1 KB
Customer Scheduling		rogram Debug D...	232 KB
Google.Protobuf.dll		pplication extensi...	292 KB
Google.Protobuf.xml		ML Document	390 KB
MySQL.Data.dll		pplication extensi...	770 KB
MySQL.Data.xml		ML Document	846 KB
Renci.SshNet.dll		pplication extensi...	413 KB
Renci.SshNet.xml		ML Document	1,022 KB
Ubiety.Dns.Core.dll		pplication extensi...	58 KB



- Move the shortcut to wherever you desire. And double click on it to open the application.

This procedural information should follow the basic rules of such technical references. While some procedures may provide for personal judgment yours should be clear and concise.

Here are other rules to remember:

- Provide step-by-step sequences in the correct order.
- Follow the timing and sequencing of the actual operations.
- Provide visual stepping stones by using bullets or labeling steps.
- Strive to be concise. Avoid lengthy paragraphs but include enough detail so false assumptions are not made.
- Use common terms and jargon appropriate for the audience (someone with basic IT background).
- Explain why steps are completed or what they will yield as well as "How to" instructions.
- Test the instructions to ensure they match the actual product.
- Format the material for ease of reading and use graphic aids to clarify point/steps.
- Write in the present tense and the active voice.

***Login and Signup (An example)***

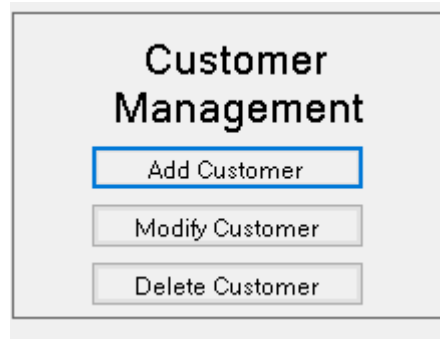
1. *To login simply open the application and enter your username and password.*
2. *The default username is 'Test Account' and the default password is 'test'*
3. *The system will notify you if you type it in wrong or the account does not exist.*

*Contact your administrator if you need help with your account.*

## Customers

### *Add Modify and Delete Customers*

1. Once logged in, you can add, modify and delete customers. That is done from this section of the application.



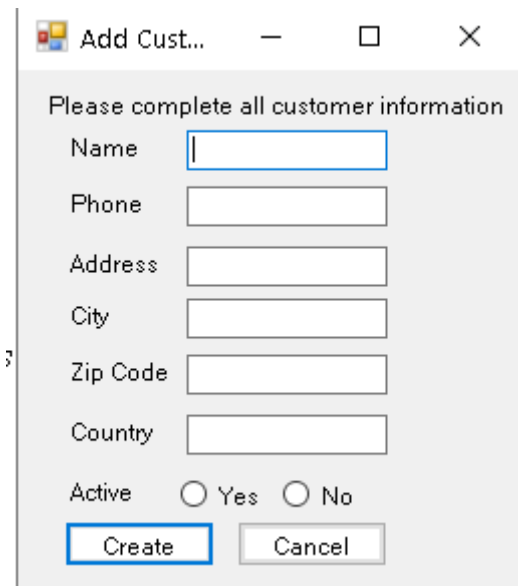
2. Click on “Add Customer”

3. In this window you can add a new customer.

*Please ensure all fields are complete and accurate.*

4. Click “Create” to create the new customer and be directed back to the main portal.

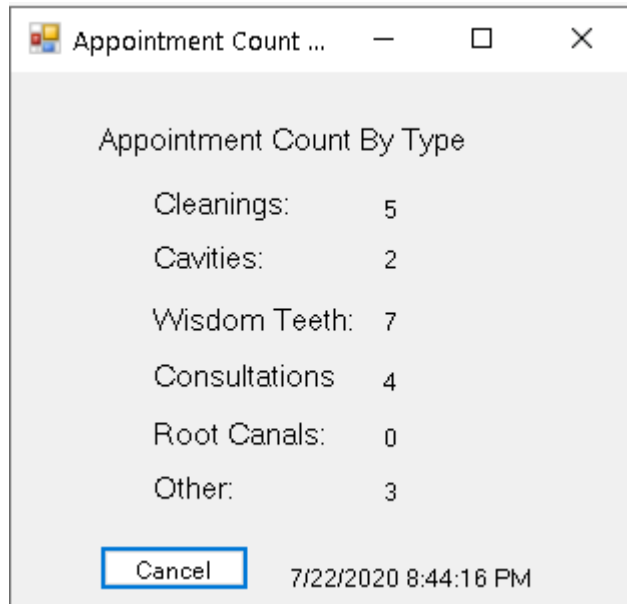
5. You can “Modify” and “Delete” a customer in a similar fashion. Click “Modify Customer” or “Delete Customer”, select the customer you wish to modify and then make your changes or delete the customer.

A screenshot of an 'Add Cust...' dialog box. The title bar says 'Add Cust...' with standard window controls. The main text says 'Please complete all customer information'. Below this are several text input fields: 'Name', 'Phone', 'Address', 'City', 'Zip Code', and 'Country'. Below the fields are two radio buttons for 'Active', labeled 'Yes' and 'No'. At the bottom are two buttons: 'Create' (highlighted with a blue border) and 'Cancel'.

*\*If you delete a customer with appointments attached to the customer the appointments will also be deleted.*

### ***Reports***

1. *The application has a number of reports built in. To access the reports simply click the report you wish to view. You can view the amount of appointments in a given month or view the amount of appointments of a given type. Simply select the report you wish to view.*

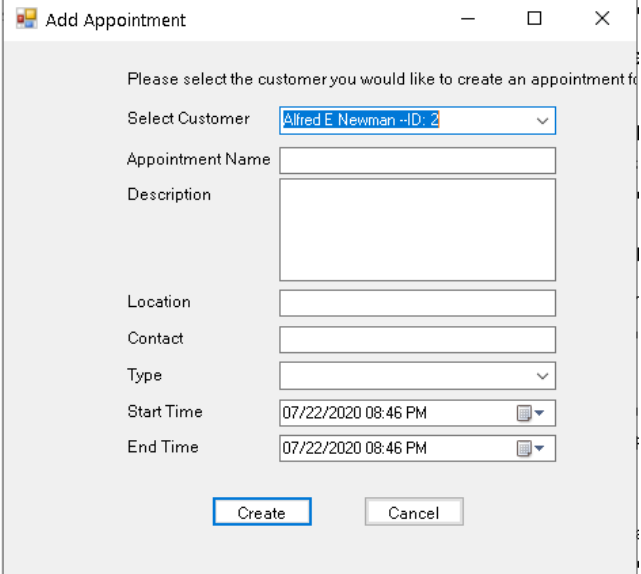


### ***Appointments***

1. *The application has functionality to add, modify, and delete appointments.*
2. *To perform one of those actions simply click on the corresponding button.*



3. *First you will have to select the customer you wish to make an appointment for. Select one from the drop-down menu.*
4. *Then you can input all the details of the appointment.*
5. *The appointments start time must not be after the end time and the application will confirm that the appointment does not overlap with an existing appointment.*
6. *Click create to create your appointment.*



The screenshot shows a window titled "Add Appointment" with a close button (X) in the top right corner. The window contains the following fields and controls:

- A message: "Please select the customer you would like to create an appointment for"
- "Select Customer": A dropdown menu showing "Alfred E. Newman--ID: 2".
- "Appointment Name": A text input field.
- "Description": A larger text input area.
- "Location": A text input field.
- "Contact": A text input field.
- "Type": A dropdown menu.
- "Start Time": A date/time picker showing "07/22/2020 08:46 PM".
- "End Time": A date/time picker showing "07/22/2020 08:46 PM".
- "Create": A blue button.
- "Cancel": A grey button.