

C868-Software Project Capstone Summary

Task 2- Section C



Capstone Proposal Project Name: Matthews Orthodontics Scheduler Application

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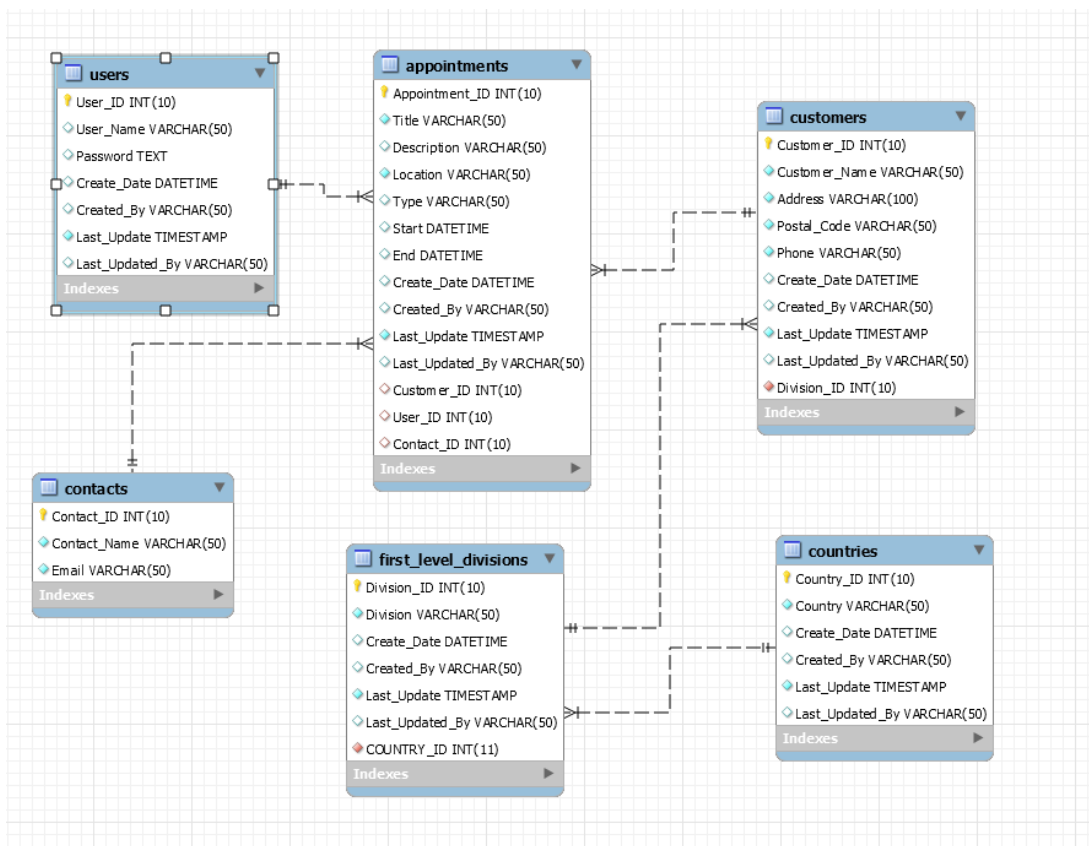
Task 2 Part C-C868 Software Development Capstone

Application Design and Testing

Design document

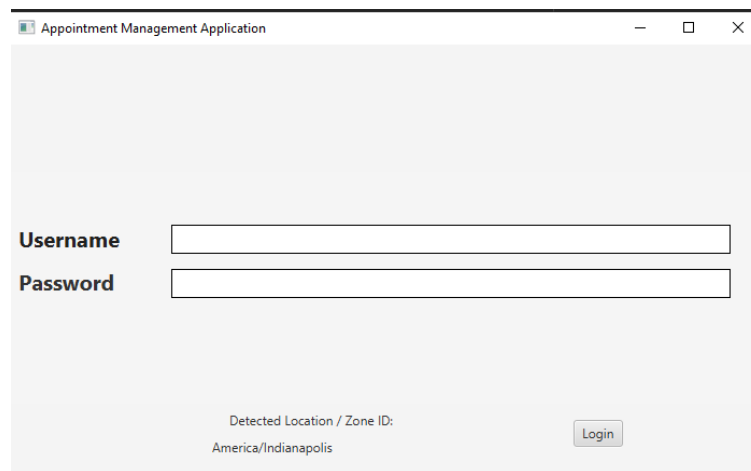
Class Design

This is an ERD diagram of the application. There are “users” that schedule “appointments” using the “customer” database. The customer consists of various items including an id, name, address, postal code, phone, city and country. The appointments consist of various items including a title, description, location, type, start date, and end date.



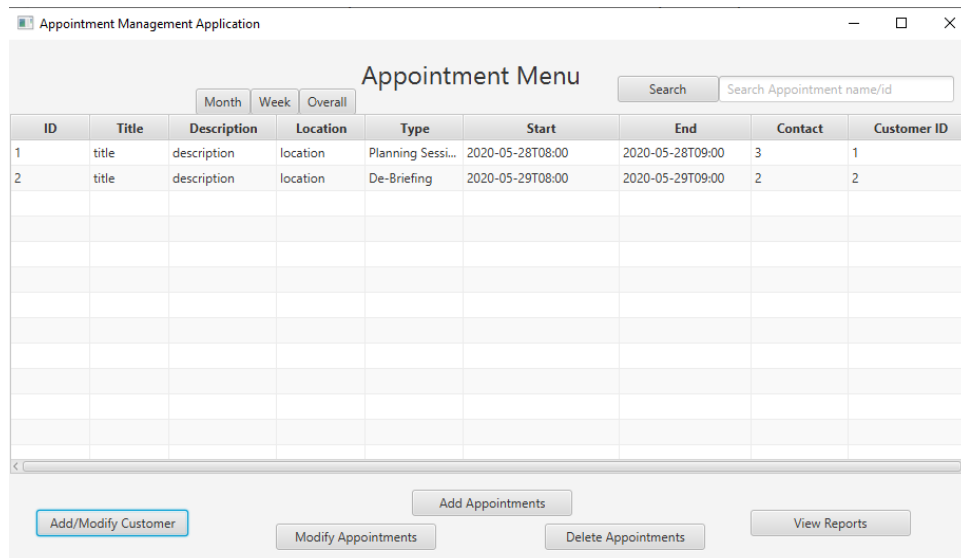
UI Design

This following section demonstrates some high-fidelity elements of the user interface. The design of the application is very user friendly and allows the user to see all the important elements from the main screen after passing through the login section. Here are the sections of the application:



The screenshot shows a login window titled "Appointment Management Application". It features two input fields: "Username" and "Password". Below these fields, it displays the detected location: "Detected Location / Zone ID: America/Indianapolis". A "Login" button is positioned at the bottom right of the form area.

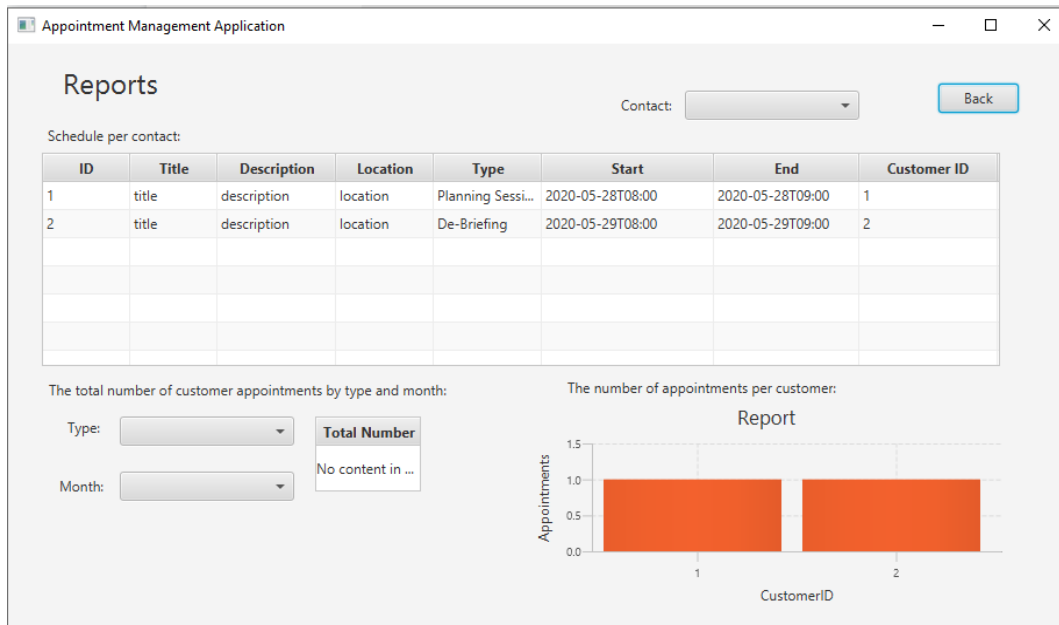
1. Login Screen



The screenshot shows the main interface of the "Appointment Management Application". At the top, there is an "Appointment Menu" section with tabs for "Month", "Week", and "Overall". A search bar is located to the right of the tabs. Below the menu is a table displaying appointment data. The table has columns for ID, Title, Description, Location, Type, Start, End, Contact, and Customer ID. Two appointments are listed: ID 1 (Planning Sessi...) and ID 2 (De-Briefing). At the bottom of the screen, there is a navigation bar with buttons for "Add/Modify Customer", "Add Appointments", "Modify Appointments", "Delete Appointments", and "View Reports".

ID	Title	Description	Location	Type	Start	End	Contact	Customer ID
1	title	description	location	Planning Sessi...	2020-05-28T08:00	2020-05-28T09:00	3	1
2	title	description	location	De-Briefing	2020-05-29T08:00	2020-05-29T09:00	2	2

2. Main Screen with Appointment View



5. Reports Screen

Unit Test Plan

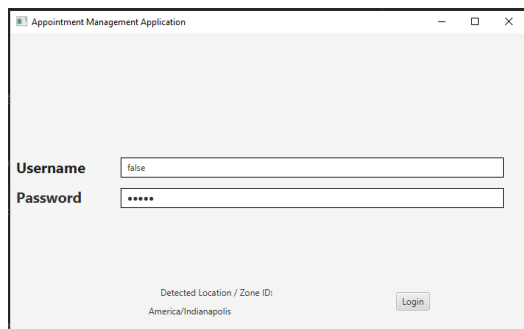
Introduction

Purpose

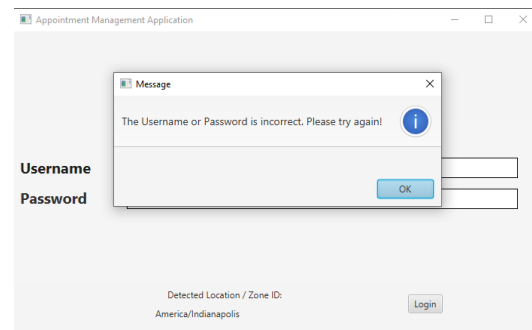
This unit test plan is for Matthews Orthodontics to ensure that they have a fully functional application. This unit test will demonstrate that the login form only accepts correct values and does not allow user entry into the application with incorrect values.

Test number	Test 1	Test 2	Test 3	Test 4
Description	Login	Login	Login	Login
Data (username, password)	admin, admin	blank, blank	false, false	test, test
Expected Results	User logs in successfully	User logs in unsuccessfully and receives an error	User logs in unsuccessfully and receives an error	User logs in successfully
Actual Results	User logs in successfully	User logs in unsuccessfully and receives an error	User logs in unsuccessfully and receives an error	User logs in successfully
Pass/Fail	Pass	Pass	Pass	Pass

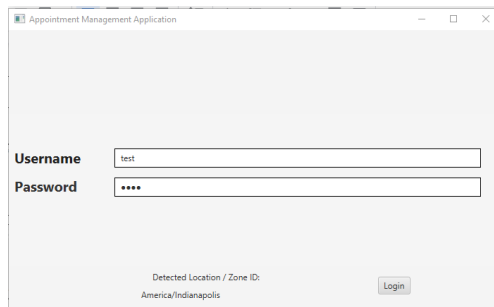
Test Chart summarizing the results



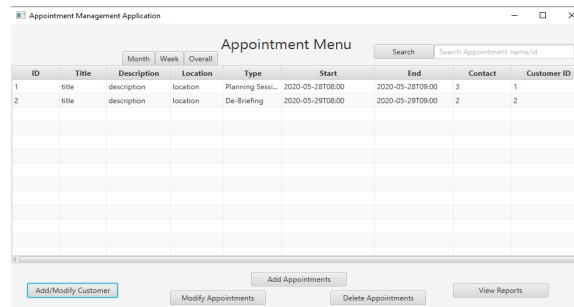
Left: incorrect credentials “false”, “false”



Right: Expected error message



Left: correct credentials “test”, “test”



Right: Expected Application Menu Screen

Overview

The test was successful based on the results of the table above. The test was completed in the user interface and the credentials were entered manually by the developer. The credentials entered involved the correct username and password, an incorrect username and password, and empty values.

Test Plan

Items

All the steps of the plan must be completed and all of the results of the testing must pass in order for the test to be successful. If during the testing any attempts result in a failure due to any errors or bugs the developer must take note of these errors and fix them. Once the fix has been implemented the testing must begin again from the beginning.

Features

The user interface was used to conduct the testing for the login.

The results of the test were visible via the user interface since the incorrect credentials would result in an error message whereas the correct credentials would result in the Appointment Menu being visible.

Deliverables

The deliverables here are the results of the test and test plan. It would also include documentation of any errors that may have been encountered during testing

or any comments placed within the code that might inform future developers of the testing that was conducted during the initial implementation.

Tasks

The tests need to be completed in the order listed in the chart above. If any failures are encountered they must be reported to the developer who will then document these errors. If errors do occur then once the error has been corrected by the developer, the test process will need to start over beginning with Test 1.

Needs

The tests need to be completed in a machine that runs a Windows 10 (or higher) operating system. A MySQL connection is also needed as well as Java Runtime Environment Version 8 or higher for testing.

Specifications

Here is some of the sample code that was used to develop the user interface for that was used during the unit testing:

```

public void loginButtonClicked(ActionEvent actionEvent) throws SQLException, IOException {

    Connection conn = DBConnection.getConnection();
    String sqlPasswordAndUsernameSelect = "SELECT * FROM users WHERE User_Name='" + userIdTextField.getText() +
        "' AND Password='" + passwordTextField.getText() + "'";
    System.out.println(sqlPasswordAndUsernameSelect);
    DBQuery.setPreparedStatementSQL(conn, sqlPasswordAndUsernameSelect);

    PreparedStatement ps = DBQuery.getPreparedStatement();

    ps.execute();

    ResultSet rs = ps.executeQuery(sqlPasswordAndUsernameSelect);

    if (rs.next()) {
        LoginSuccessful();
        System.out.println("success");
        stage = (Stage) ((Button) actionEvent.getSource()).getScene().getWindow();
        scene = FXMLLoader.load(Objects.requireNonNull(getClass().getResource("/view/AppointmentMenu.fxml")));
        stage.setScene(new Scene(scene));
        stage.show();
        try {
            AppointmentMenu.FifteenMinuteAlert();
        } catch (SQLException throwables) {
            throwables.printStackTrace();
        }
    }
}

```

Results

The Actual Results row of the chart above indicates whether the test was a success or a failure. A successful test is observed if the Actual Results row is the same as the Expected Results row.

C4. Source Code

The source code for this application is in a separate file included in the .zip folder that was submitted with this document. The folder that contains this file is titled “Task 1 C195”.

User Guide

Introduction

This user guide will walk the user through the installation process as well as guide them through using the application including the login process and how to use the other functions of the product. They will be able to launch the application from an IDE to empower them to alter the source code if needed.

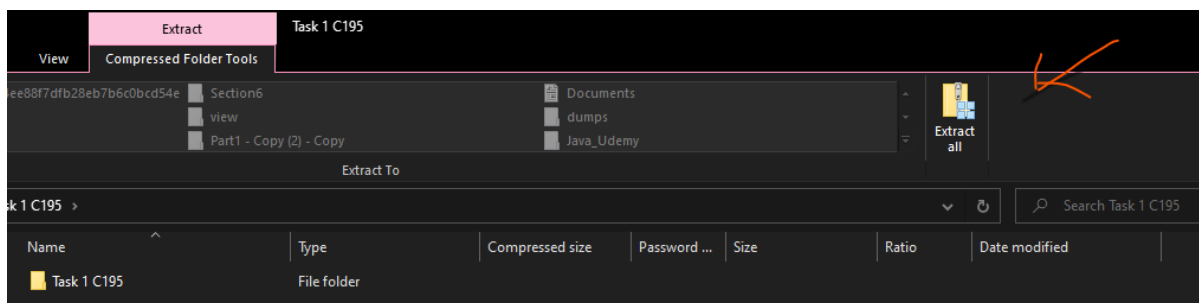
Prerequisites:

- IntelliJ 2020.2.1
- Java JDK 8
- Scene Builder
- MySQL DBMS

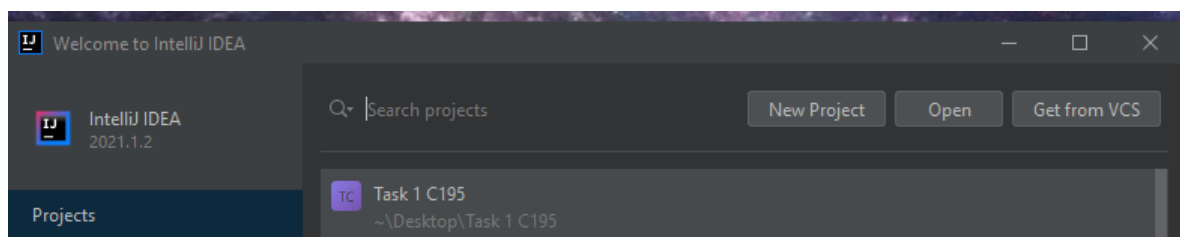
Installation and Using the Application

Here is how to download and run the application on a Windows 10 machine:

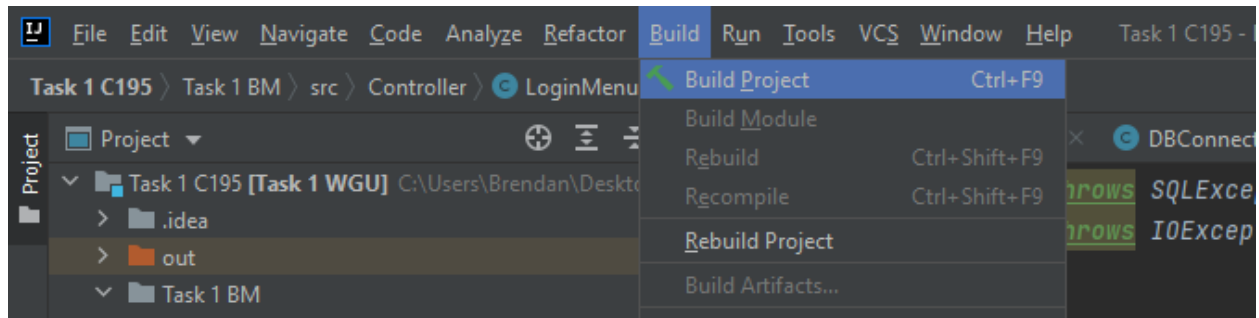
1. Download the .zip file from the network
2. Then you will extract the .zip file to a location like Documents or Desktop where it will be easily located.



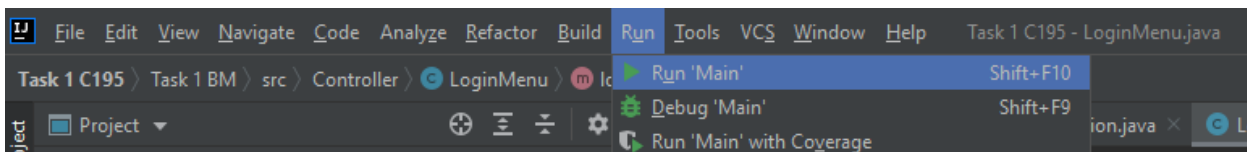
3. Open an IDE like IntelliJ and click “Open”



4. Choose the extracted folder in the area where it was saved and then click “OK”
5. Once the project is ready to run build the project



6. Once that is completed (and there are no errors preventing the project from being built) run the application.



The project should open up to the login screen on a separate application

Login and Signup

This tool is designed to give the user the opportunity to login and create customers and appointments and to pull reports.

A screenshot of a web application window titled 'Appointment Management Application'. The window has a light gray background. On the left, there are labels 'Username' and 'Password' in bold. To the right of each label is a text input field. At the bottom left, there is a small text label 'Detected Location / Zone ID: America/Indianapolis'. At the bottom right, there is a 'Login' button.

1. Login by opening the application and entering the username and password.
2. The default credentials are “test” (username) and “test” (password).
3. The application will throw an error if an incorrect username or password is used.

ID	Title	Description	Location	Type	Start	End	Contact	Customer ID
1	title	description	location	Planning Sessi...	2020-05-28T08:00	2020-05-28T09:00	3	1
2	title	description	location	De-Briefing	2020-05-29T08:00	2020-05-29T09:00	2	2

Overview of the Main Menu after a successful login

Customers

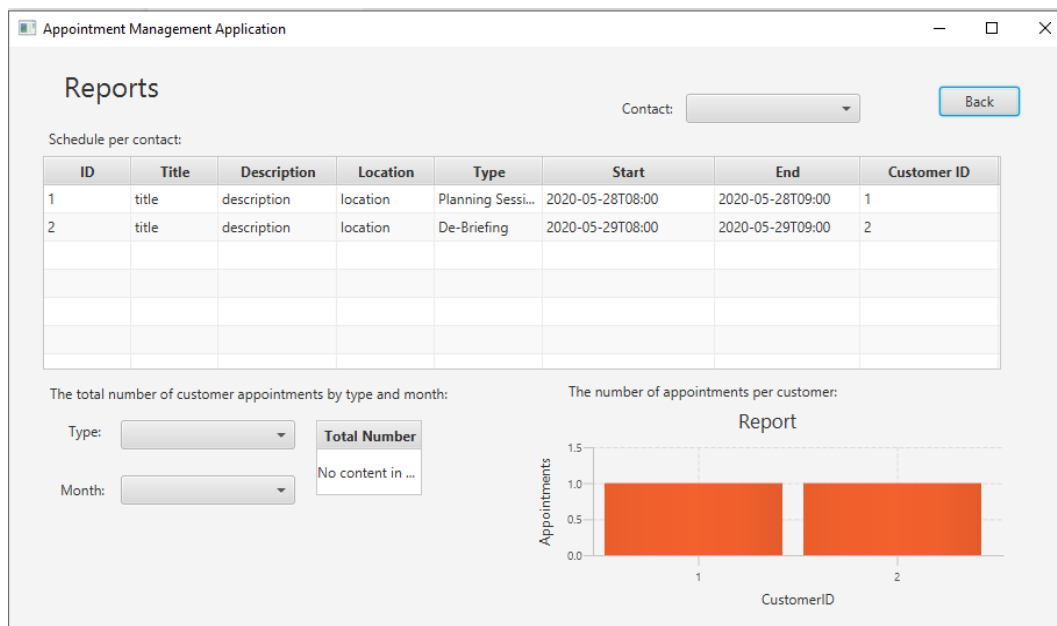
Add, Modify and Delete Customers

1. You can add or modify existing customers by clicking the Add/Modify Customer button.

CustomerID	Name	Address	Postal code	Phone	First Level Division	Country
1	Daddy Warbucks	1919 Boardwalk	01291	869-906-1875	New Jersey	U.S
2	Lady McAnderson	2 Wonder Way	A9198	11-445-910-2...	Scotland	UK
3	Dudley De-Right	48 Horse Manor	28198	874-916-2871	Northwest Territo...	Canada

2. Fill out all the fields on the left side and click “Add Customer” to add a new customer.
3. To modify a customer choose a row on the right side of the screen and click “modify”. The information should show up on the left side of the screen. Change what is needed and then click “Save” after making the changes.
4. To delete a customer choose a row on the right side of the screen and click “delete”.

Reports



This application has 3 reports that are available to view:

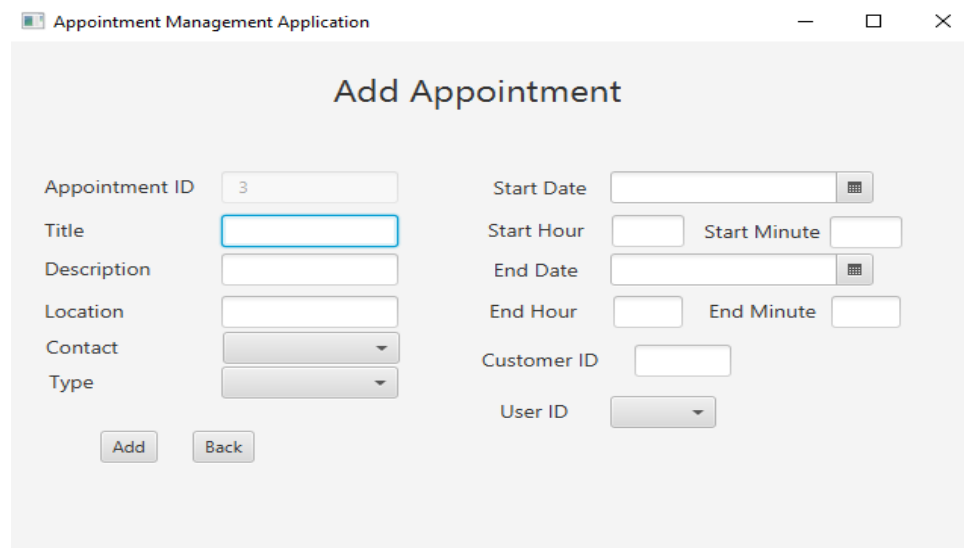
1. From the main page click “View Reports”
2. The top report allows you to view each appointment per contact. You can select these from the dropdowns.

3. The report on the bottom left lets you view appointment counts by month and by type. You can select these from the dropdowns.
4. The bottom right report shows the number of appointments per customer.

Appointments

This application allows you to add, modify or delete appointments:

1. To add an appointment click “Add Appointments” from the main menu



The screenshot shows a window titled "Appointment Management Application" with a standard Windows title bar (minimize, maximize, close buttons). The main content area is titled "Add Appointment". It contains two columns of form fields. The left column includes: "Appointment ID" (text input with "3"), "Title" (text input with a blue border), "Description" (text input), "Location" (text input), "Contact" (dropdown menu), and "Type" (dropdown menu). The right column includes: "Start Date" (calendar icon), "Start Hour" and "Start Minute" (text inputs), "End Date" (calendar icon), "End Hour" and "End Minute" (text inputs), "Customer ID" (text input), and "User ID" (dropdown menu). At the bottom left of the form are two buttons: "Add" and "Back".

2. Fill out all the fields and click “Add” to add a new appointment.
3. To modify an appointment choose a row on the Main Screen and click “Modify Appointments”. The information should show up on a separate screen. Change what is needed and then click “Save” after making the changes.
4. To delete an appointment choose a row on the Main Screen and click “Delete Appointments”.