Burnett's Landscaping

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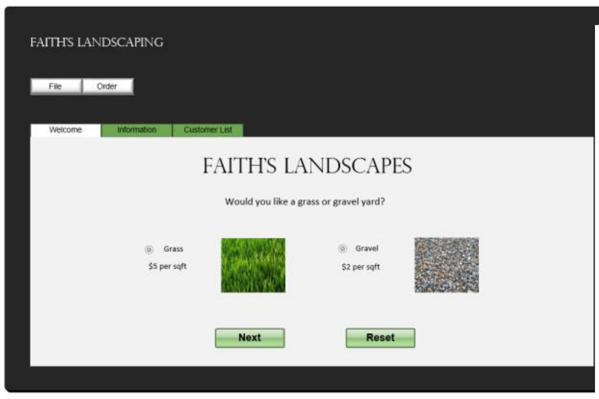
Introduction

Part 1	Design application by building wireframe and uml diagram
Part 2	Begin creating the GUI starting with the information page
Part 3	Continue building out the GUI by creating the welcome page
Part 4	Combining frames into single frame using panels and creating the customer page
Part 5	Setup file storage to track orders and customer information
Part 6	Setup database for storing orders and customer information to replace file storage

Design

- Create wireframe to map out components location and to serve as a guide in the design process
- Create UML diagram to organize data to serve as a guide for building classes and storing data in either file or database

Wireframe

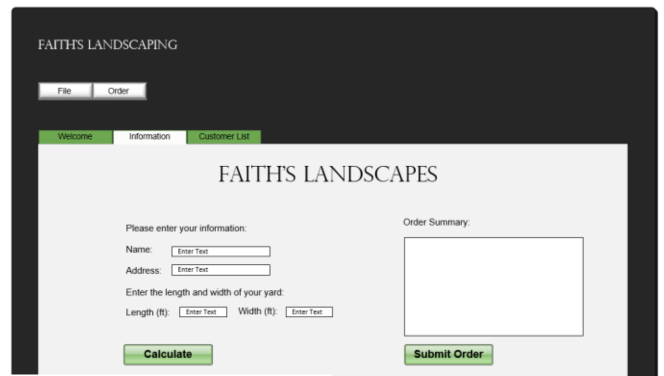

FAITH'S LANDSCAPING

FAITH'S LANDSCAPES

Would you like a grass or gravel yard?

○ Grass $5 per sqft

○ Gravel $2 per sqft


FAITH'S LANDSCAPING

FAITH'S LANDSCAPES

Please enter your information:

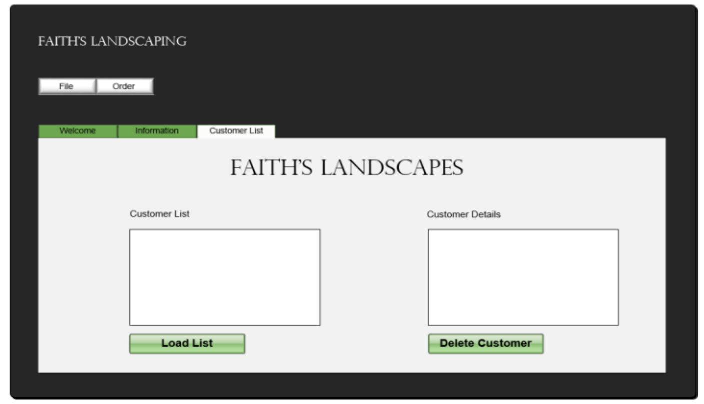
Name: Enter Text

Address: Enter Text

Enter the length and width of your yard:

Length (ft): Enter Text Width (ft): Enter Text

Order Summary:

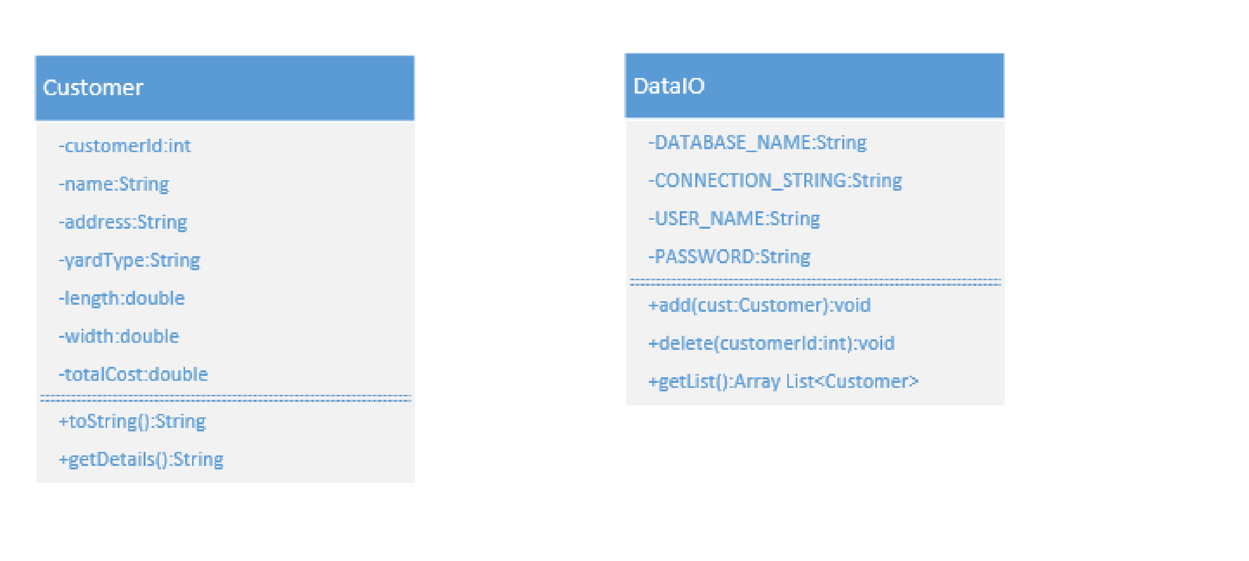

FAITH'S LANDSCAPING

FAITH'S LANDSCAPES

Customer List

Customer Details

UML



Customer

-customerId:int

-name:String

-address:String

-yardType:String

-length:double

-width:double

-totalCost:double

+toString():String

+getDetails():String

DataIO

-DATABASE_NAME:String

-CONNECTION_STRING:String

-USER_NAME:String

-PASSWORD:String

+add(cust:Customer):void

+delete(customerId:int):void

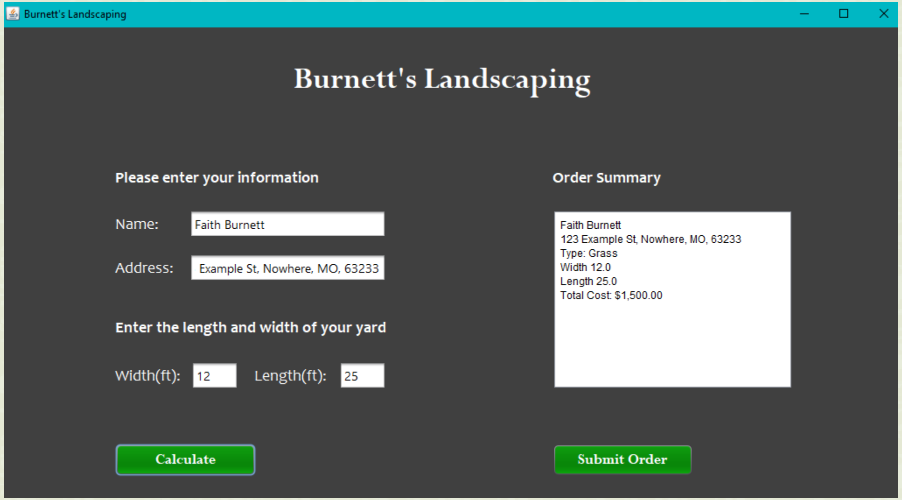
+getList():Array List<Customer>

Information Page

- Using the UML class diagram for customer build a java class
- Create a new Jframe for entering customer order information
- Create an instance of the customer object
- Perform validation on input fields from JFrame

Preparing Order

At this stage of the application user input is retrieved and the cost of the order is calculated and displayed when calculate button is pressed. Submit is not functional at this time.



Name: Faith Burnett

Address: Example St, Nowhere, MO, 63233

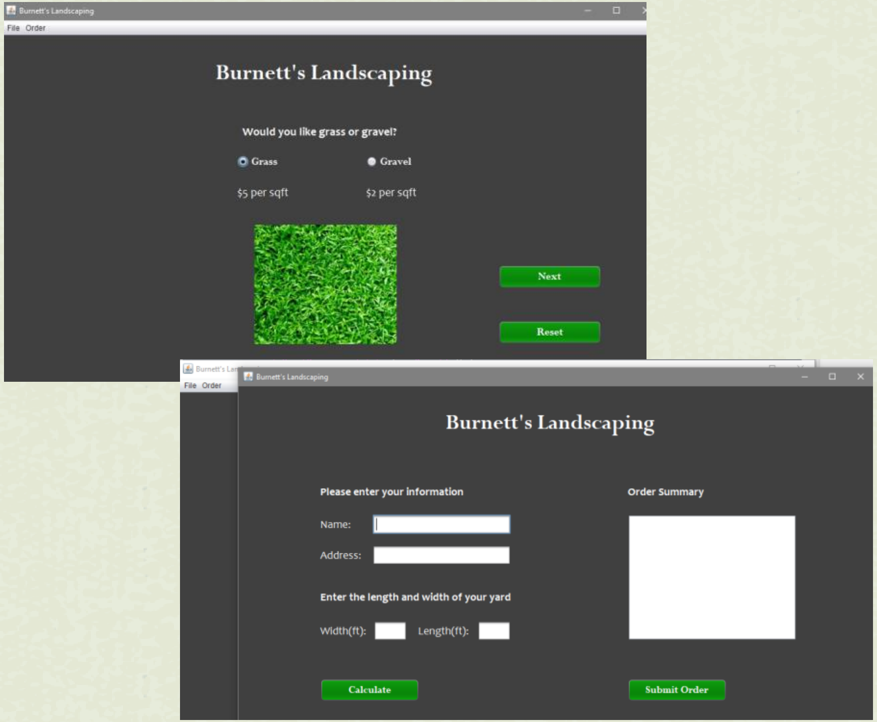
Width(ft): 12 Length(ft): 25

```
Faith Burnett
123 Example St, Nowhere, MO, 63233
Type: Grass
Width 12.0
Length 25.0
Total Cost: $1,500.00
```

Welcome Page

- Create a new Jframe for entering customer order options
- Create navigation from frame to frame
- Perform a reset on selected options for new order

Select Option



Burnett's Landscaping

Would you like grass or gravel?

◉ Grass ○ Gravel

$5 per sqft $2 per sqft

Burnett's Landscaping

Please enter your information

Name:

Address:

Enter the length and width of your yard

Width(ft): Length(ft):

Order Summary

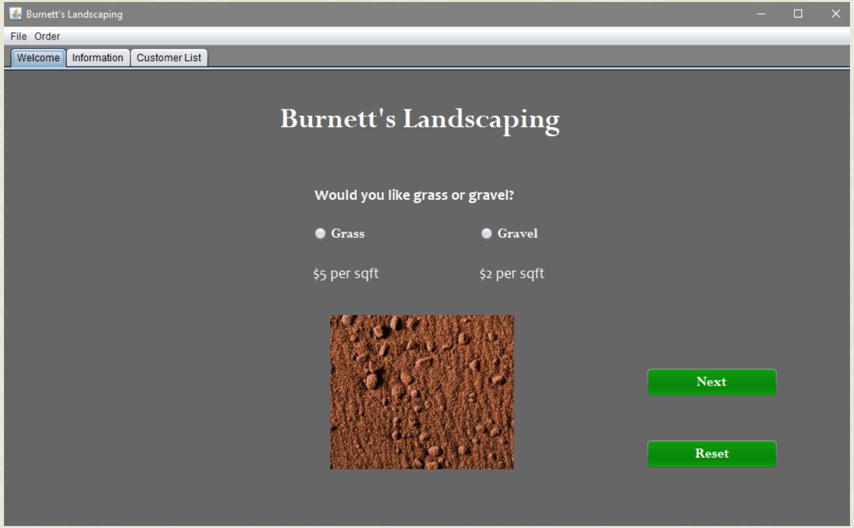
The user will select a landscape option when next is pressed you are directed next frame to enter customer information and calculate order details. If reset is hit option selected is cleared for a fresh order to be placed.

Customer Page

- Create a new Jframe from existing Jframe for welcome page
- Add panels for information and customer pages
- Copy Jframe design for information paste into information panel, copy customer design and paste into customer panel
- Implement delete functionality for customer order

Completed Design

After adding a menu bar and tabbed panel all frames are now included in this one frame.

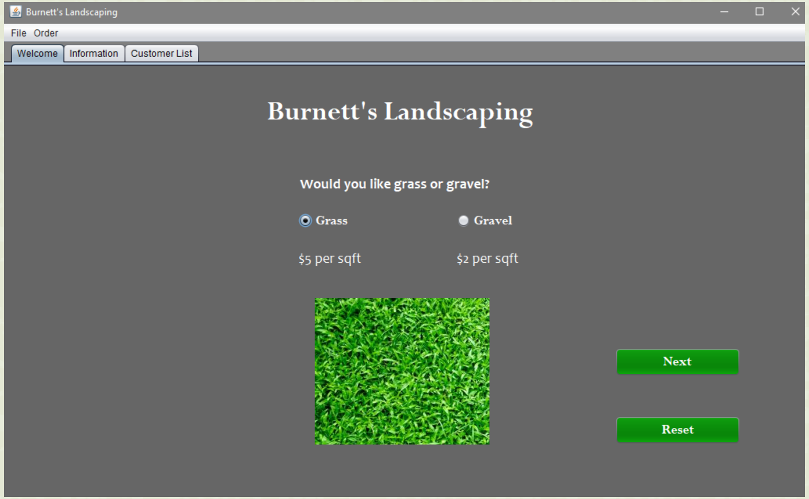


Burnett's Landscaping

Would you like grass or gravel?

Current Functionality

When the application is opened the user has the option to select a grass landscape or gravel landscape then the user will hit next.



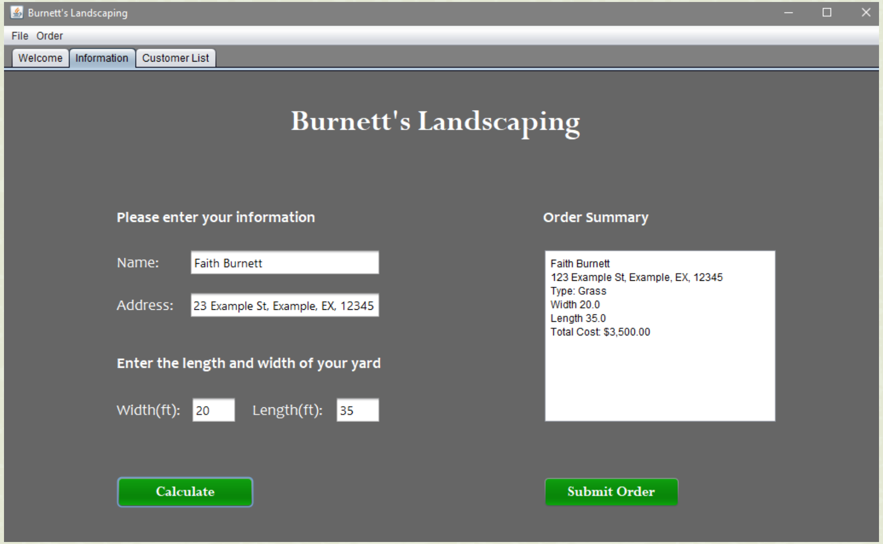
Burnett's Landscaping

Would you like grass or gravel?

● Grass ○ Gravel

$5 per sqft $2 per sqft

Current Functionality cont..



Burnett's Landscaping

Please enter your information

Name: Faith Burnett

Address: 23 Example St, Example, EX, 12345

Enter the length and width of your yard

Width(ft): 20 Length(ft): 35

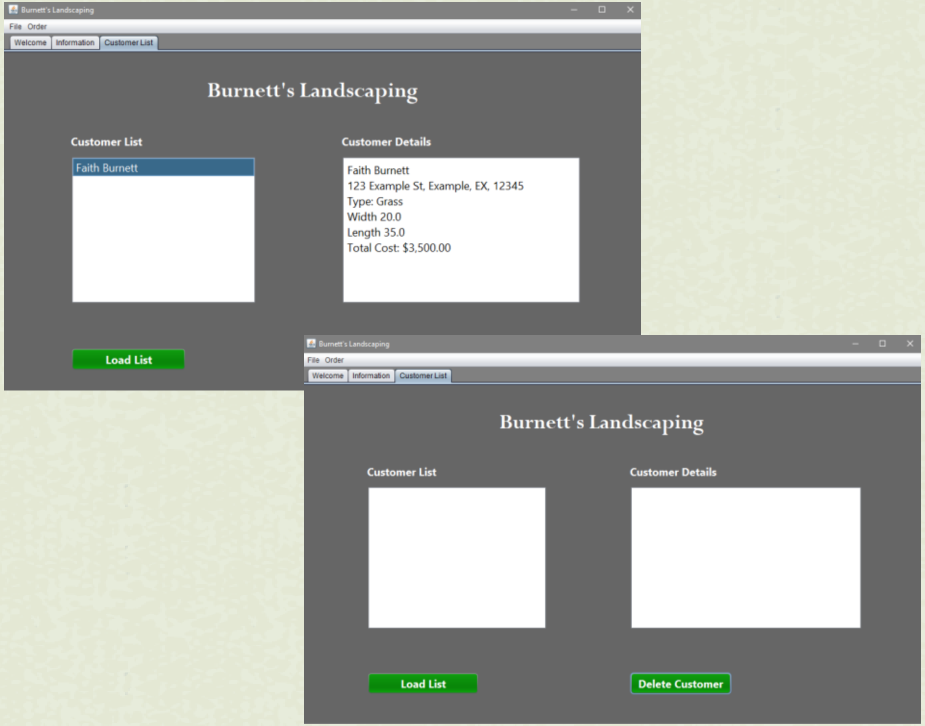
Order Summary

```
Faith Burnett
123 Example St, Example, EX, 12345
Type: Grass
Width 20.0
Length 35.0
Total Cost: $3,500.00
```

From the welcome page the user is navigated to the information page where customer details are entered an the price of the order is calculated by pressing calculate. Once submit order is pressed they are navigated to the customer page.

Current Functionality cont..

From the information page here the customer that was added is displayed and the details of the order are displayed. When you select a customer from the list you can hit delete and that customer order will be deleted.

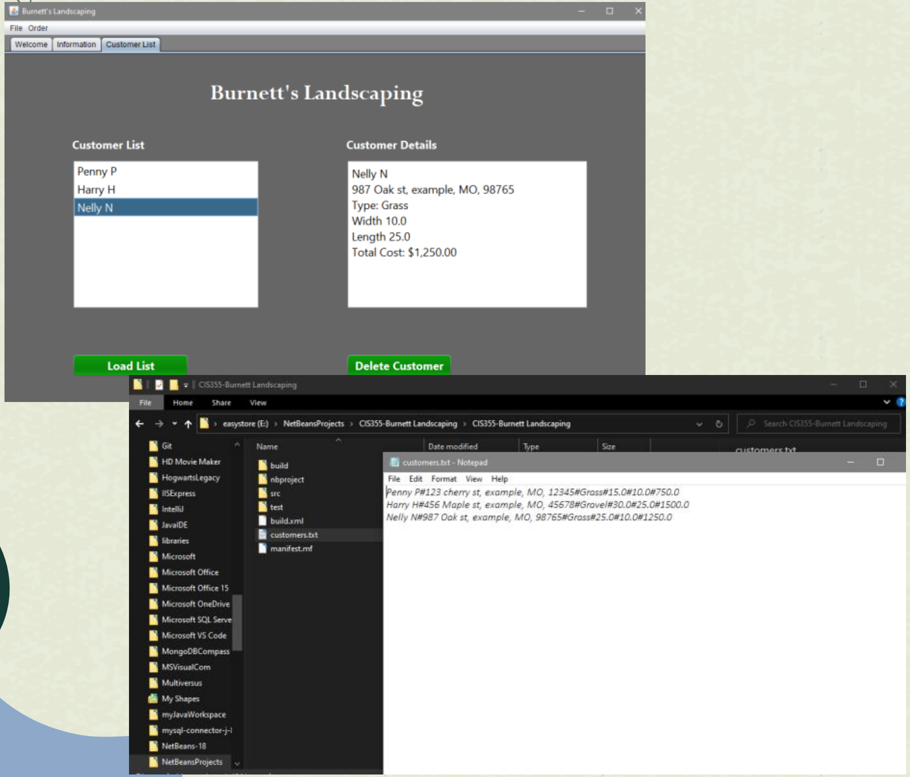


Faith Burnett
123 Example St, Example, EX, 12345
Type: Grass
Width 20.0
Length 35.0
Total Cost: $3,500.00

File Storage

- Using the UML diagram create the DataIO class it will be used to store details of each order

Saving to File



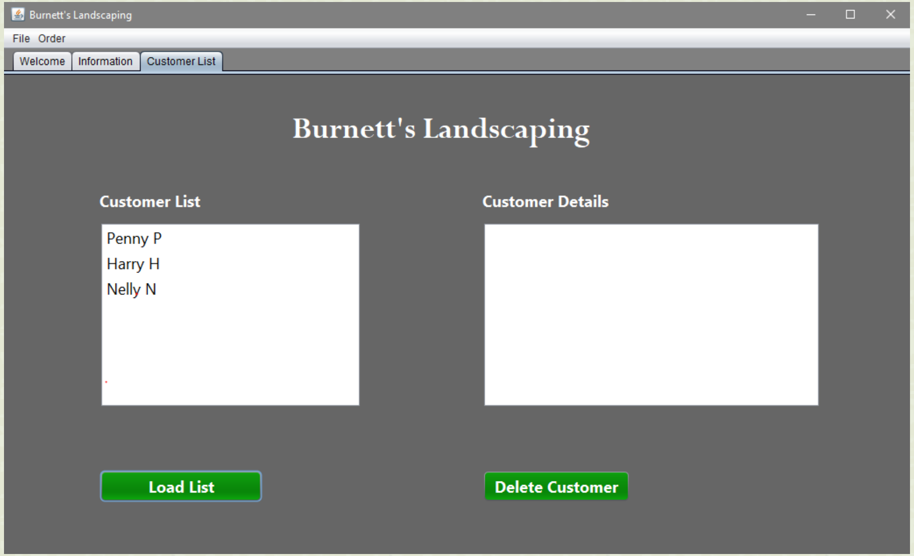
Penny P
Harry H
Nelly N

Nelly N
987 Oak st, example, MO, 98765
Type: Grass
Width 10.0
Length 25.0
Total Cost: $1,250.00

```
Penny P#123 cherry st, example, MO, 12345#Grass#15.0#10.0#750.0
Harry H#456 Maple st, example, MO, 45678#Gravel#30.0#25.0#1500.0
Nelly N#987 Oak st, example, MO, 98765#Grass#25.0#10.0#1250.0
```

The order is submitted from the information page then displayed on the customer page. At the same time the data is being saved to a local text file.

Load Customer

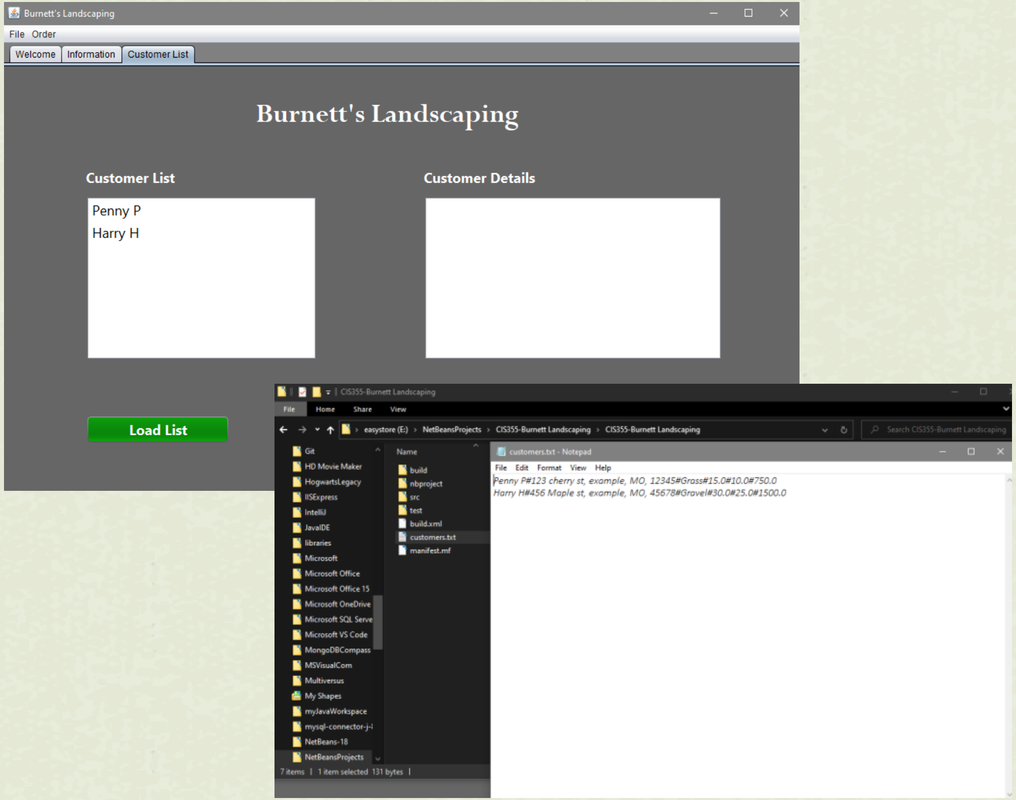


Penny P
Harry H
Nelly N

If you open the application and go straight to the customer page you can hit load list and the customer data is retrieved from the text file and displayed.

Delete Customer

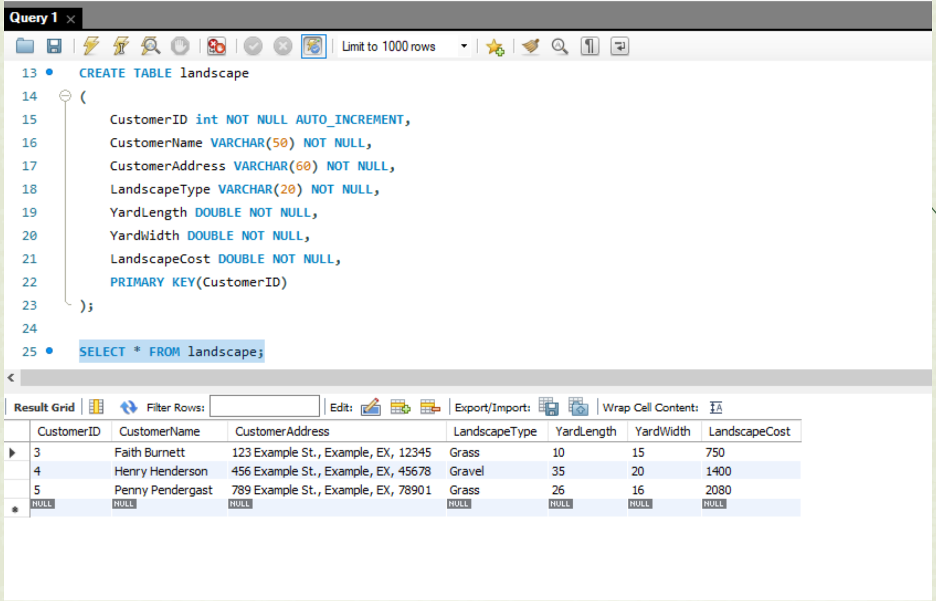
Now that the customers are loaded if you select one and hit delete the customer is deleted from the list and the text file.



Penny P
Harry H

```
Penny P#123 cherry st, example, MO, 12345#Grass#15.0#10.0#750.0
Harry H#456 Maple st, example, MO, 45678#Gravel#30.0#25.0#1500.0
```

Switch Storage Method



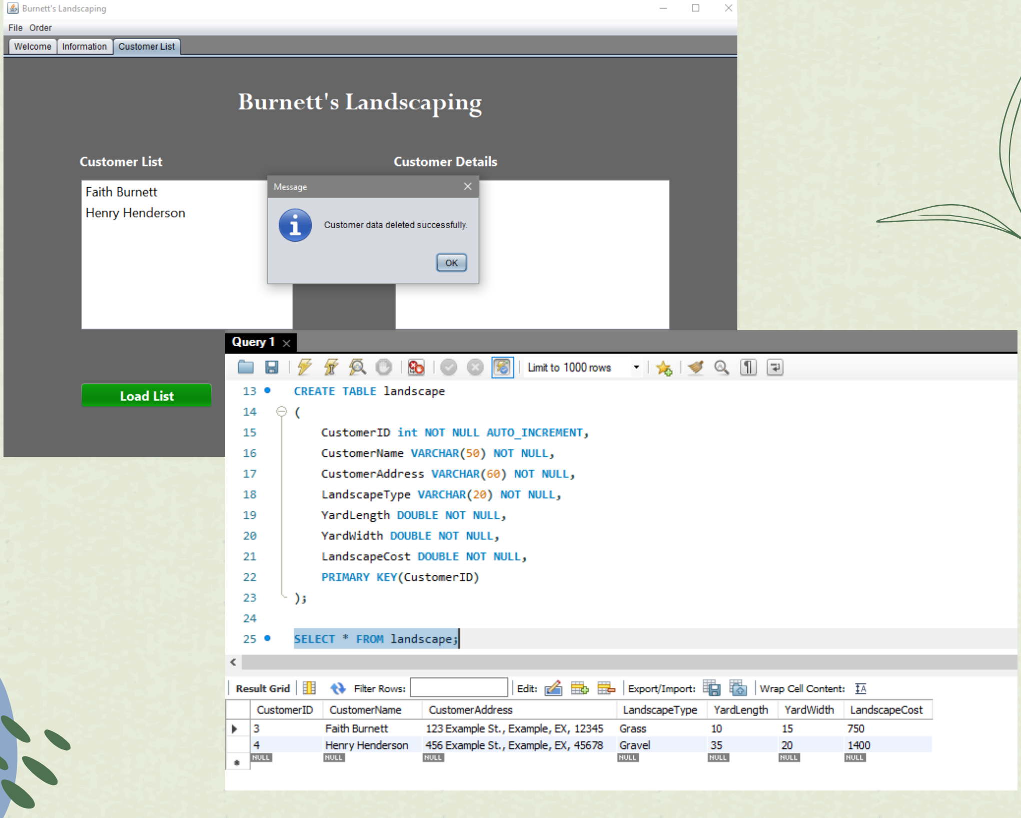
```
CREATE TABLE landscape
(
    CustomerID int NOT NULL AUTO_INCREMENT,
    CustomerName VARCHAR(50) NOT NULL,
    CustomerAddress VARCHAR(60) NOT NULL,
    LandscapeType VARCHAR(20) NOT NULL,
    YardLength DOUBLE NOT NULL,
    YardWidth DOUBLE NOT NULL,
    LandscapeCost DOUBLE NOT NULL,
    PRIMARY KEY(CustomerID)
);

SELECT * FROM landscape;
```

CustomerID	CustomerName	CustomerAddress	LandscapeType	YardLength	YardWidth	LandscapeCost
3	Faith Burnett	123 Example St., Example, EX, 12345	Grass	10	15	750
4	Henry Henderson	456 Example St., Example, EX, 45678	Gravel	35	20	1400
5	Penny Pendergast	789 Example St., Example, EX, 78901	Grass	26	16	2080
NULL	NULL	NULL	NULL	NULL	NULL	NULL

In this part we have created a connection to a MySQL database and instead of saving the customer object to a text file we’ll be saving it to the landscape table inside of the database.

Loading and Deleting



Burnett's Landscaping

Customer List

Faith Burnett
Henry Henderson

Customer Details

Message

Customer data deleted successfully.

OK

Load List

```
CREATE TABLE landscape
(
    CustomerID int NOT NULL AUTO_INCREMENT,
    CustomerName VARCHAR(50) NOT NULL,
    CustomerAddress VARCHAR(60) NOT NULL,
    LandscapeType VARCHAR(20) NOT NULL,
    YardLength DOUBLE NOT NULL,
    YardWidth DOUBLE NOT NULL,
    LandscapeCost DOUBLE NOT NULL,
    PRIMARY KEY(CustomerID)
);

SELECT * FROM landscape;
```

CustomerID	CustomerName	CustomerAddress	LandscapeType	YardLength	YardWidth	LandscapeCost
3	Faith Burnett	123 Example St., Example, EX, 12345	Grass	10	15	750
4	Henry Henderson	456 Example St., Example, EX, 45678	Gravel	35	20	1400
NULL	NULL	NULL	NULL	NULL	NULL	NULL

As before with the text file we can load customers and delete them and changes are made in both the list and the database.

Challenges

- Making sure components were named to uniquely so that I could remain organized
- Remembering to add comments so that someone else could know what each block does

Skills

- Using OOP principles
- Designing wireframe
- Creating UML diagrams
- Debugging
- Building a GUI

Thanks!

Do you have any questions?

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