

## Appendix

Transcript:

### **First Meeting with CLIENT:**

Me: So, good morning Ms. Goppert!

Ms. Goppert: Morning!

Me: I am a Computer Science IB student and I heard that you have a problem for me to solve with a program so can you outline your problem to me?

Ms. Goppert: Yes, so the problem is that we have so many people that check in and check out materials but we've got no way of logging what's going where. Nothing that's sophisticated and it means that if someone borrows for example, paints for the weekend and doesn't return them, it means that we have to go and email them or try to catch them in school which is not very efficient use of our time. So, what I would like is for you to create something where students can take out things from the art department like paints, paintbrushes, watercolor paints that your system logs it and if they forget to bring it back that reminders are sent home to them.

Me: Oh, so you like a program to keep track, that contains a list of all the equipment that they can borrow?

Ms. Goppert: And the date that they have to bring it back by.

Me: When they want to borrow something, they can use the program to choose an item and choose the date that they will return it back, and if they do not return it the program can be used to notify the borrower.

Ms. Goppert: Yes, so that they are aware that it's overdue and that we don't lose lots of equipment just because they have forgotten, a little bit like a library I suppose, when you take out a book.

Me: Yes, so the program can be simple just for the purpose of letting them borrowing the equipment.

Ms. Goppert: Yes.

Me: Can you also provide me with the list of the equipment?

Ms. Goppert: Yes, so they would be allowed to borrow: acrylic paint, poster paint, water color paint, paintbrushes, masking tape, double sided tape, coloring pencils, oil pastel and normal pencils.

Me: That's a lot.

Ms. Goppert: It's the main things basically, and what we have done because we have started doing this, but it's very unsophisticated. We use, oh, no, not this one. So, at this moment, we have just asked them to fill out a piece of paper where they write their name, their form, the items they have taken, the day they have taken it, when they will return it and their signature. So it's a promise that they will return it to us, but, like I said, they forget so I'm left with these wondering why this person has not returned it. So yeah, it should be something easy for them to check out, alerts us that they have borrowed something or that they want to borrow it in case we can't even give out the sheet.

Me: So the students must be able to put down their email as well so they can be notified.

Ms. Goppert: Yes, yes.

Me: So, we need the students to put down their names, and their emails.

Ms. Goppert: Their forms as well, so I can contact their form tutor as well.

Me: Oh yes.

Ms. Goppert: But hopefully your system will be able to do it.

Me: Oh so you want the system to message the form tutor as well?

Ms. Goppert: No, actually it's fine. If it just alerts them that should be enough, especially if it's the older students.

Me: Do you want it to keep track of the available items, so if a student borrow one and it's already borrowed, the other students can't borrowed it.

Ms. Goppert: Yes, exactly.

Me: So there will be a note next to the item that said that it's already been borrowed.

Ms. Goppert: Yes, great! Yes great idea! I love that.

Me: Okay, let's see. Is there anything else that needs to be considered?

Ms. Goppert: And I think it would be useful if your system could say exactly how many there are so like you said if someone has taken something.

Me: Oh yes so it will show how many items there are?

Ms. Goppert: Yes, because for example, coloring pencils, they're not going to take an entire box so if they borrow eight of those maybe an option for them to put in eight, the number so that when they return it we can see they've brought eight back.

Me: Oh yes.

Ms. Goppert: And maybe, even the time that they will return it at so that we're there to receive it because otherwise, how will we know that they've returned it.

Me: Yes, oh like so when they go back and return it they will log again and click that they have returned it?

Ms. Goppert: Oh yes I supposed. Does this mean that items would need a barcode or how would they do it. They just have to be honest and say they've returned it because what if they go back on to the computer and they say they've returned it but they actually haven't. How could I keep control of that?

Me: Maybe like.. I should create a mini account for them so they can log in and then registered for the system and when they log in they can, if they use their account to like, rent an item it will be noted down that it's them that borrowed it and they can log in into their account again to return it.

Ms. Goppert: Maybe it would be a good idea that they select that the return time is always at break time or lunchtime so that I can be here to double checked that they are bringing it back.

Me: Oh okay.

Ms. Goppert: So that I know what would have been returned.

Me: So I could include a message that says "Please return this at break or lunch time."?

Ms. Goppert: Yes.

Me: So the account is unnecessary right? Because you already see that they are the one who returned it?

Ms. Goppert: Yes, well they should still have an account I think. It's still important so I can see who's taken it out but just so that I can check for example if they're bringing back eight coloring pencils that I'm here and they log in to say they've returned it but I can count yes there are eight and they can log it out or something.

Me: Okay but isn't it unnecessary if like the students already input their name and email address before.

Ms. Goppert: Oh I suppose maybe then there should be a function on my site where when they return it I can tick it and it disappears so instead of them having to go log on and say that they've returned it I'll be here anyway and I just have it on my site that said yes they've returned it and the one that's in control of saying of whether they've brought it back or not.

Me: Okay Miss.

Ms. Goppert: Does that make it more difficult?

Me: Yes, it makes it more complex.

Ms. Goppert: If it's too complex then maybe tell me what other options there are so I can choose the best fit. Have a little think about it maybe.

Me: Yes. Is it necessary to do that when you are the one who's staying in here when they returned it? Like you can click it for them on the program instead of like creating another program to click it on.

Ms. Goppert: Yes, that would be better, yes. But maybe that it's just my account and Ms. Miller account that said that we can, does that make it easier?

Me: Yes, a bit.

Ms. Goppert: Good.

Me: So when like only people with special accounts can say that they've brought it back.

Ms. Goppert: Yes. Otherwise I'd be worried that they just say I've brought it back and I will never know, I can't check.

Me: Yes, okay, I think that's it for now.

Ms. Goppert: Great!

Me: I will discuss with you about further specifications later.

Ms. Goppert: Great, thanks so much. This is a really good thing that you're doing because we have so many issues with it. Do you need my email address?

Me: Yes, please. Thank you.

**Email on the process of developing the program:**

My email:

Dear Ms. Goppert,

Here are the initial design for the screens, do you have any recommendations on how to improve it or is it okay?

Hope to hear from you soon,  
Bao Son

Her email:

Hi Bao Son,

I think it is pretty good, but it would be nicer if you can separate the screen for borrowing the equipment and returning the equipment into two separate screens because then it would make it looks more organized since they have different purposes. Apart from that, good job!

My email:

Dear Ms. Goppert,

Can you please send me the list of equipment to be input into the program, please. Also, if you are free can I have a meeting with you this Monday to discuss about the program?

Thank you,  
Bao Son

Her reply:

Hi Bao Son,

Thank you for your email. The Art equipment that students want to borrow are:

- Watercolour paints
- Acrylic Paints
- Inks
- Brushes
- Black Pen
- Colouring pencils
- Felt tip pens
- Graphite pencil set

- Charcoal
- Oil Pastels
- Chalk pastels
- Cutting knife

That would be enough for the moment, but it would also be very helpful to include the quantity they are taking, because very often they just need 5 oil pastels (we don't give them sets).

It would also be great if it could show which teacher they are borrowing it from and which classroom so that they know who and where to return it to.

It would be great to meet up. How about break time, 10:30am in my new Art room in S104?

Thanks

*My email:*

Hi Ms. Goppert,

I'm sorry that I can't meet with you this wednesday. Recently I was busy working on my written part of my IA. Can you give me some comments on my program on what I did good at and what could I improve from that?

Hope to receive your feedback soon.

Bao Son

*Client's reply:*

Hi Bao Son,

Sorry about the delay in replying.

Some feedback about your program:

I love the way you have made it easy to use and thought not just about its purpose, but also about the way it looks.

It looks professional and is clearly related to Art with the design you have created. I know it will be very useful and efficient and I am already looking forward to using it.

Some things to improve... it would be great if there was a way in which an email could be automatically sent out to students that keep the equipment past the return date.

Otherwise I am really happy and very excited to use it.

Transcript:

**Last Meeting with CLIENT:**

Me: Good afternoon Ms. Goppert!

Ms. Goppert: Good afternoon!

Me: So I am here today to discuss with you more about my product overall and how you feel about the program after you have experienced it so can you give me some details?

Ms. Goppert: Sure! Hmm. Apart from the thing I told you in the email I sent you before about the email part, I would like to actually write the content of the email myself when I want to send it to the students sometimes because I might have other thing to discuss with them so it would be very convenient if you can improve that.

Me: That is actually one nice extension to the program, anything else you want to change about the program?

Ms. Goppert: I would like a separate screen for students and teacher. Like since the students can only borrow and return so maybe only allowing that option to be displayed on their screen. And for me as the teacher I need to manage the equipment list and the history of all the actions of the students but the students don't need that so maybe stop them from accessing those information. One more thing, when I made mistakes when I tried to add new equipment into the program, and I made a lot of those when I was testing the program, and I click add without fixing it it would be permanent. Maybe because of a mistype or I want to change the information later. I would like to be able to delete some of the mistyped information or edit it so maybe you can add that function into future versions?

Me: Yes indeed I think that is also a very important thing to considered in future development. Thank you for today and see you later Ms. Goppert.

Ms. Goppert: No problem!

## RAW CODE OF THE PROGRAM:

Borrow Class:

```
package equipment.management.system;
```

```
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.util.Properties;
import javax.mail.Message;
import javax.mail.MessagingException;
import javax.mail.PasswordAuthentication;
import javax.mail.Session;
import javax.mail.Transport;
import javax.mail.internet.InternetAddress;
import javax.mail.internet.MimeMessage;
import javax.swing.JOptionPane;
import javax.swing.JTextField;
```

```
/**
```

```
 *
```

```
 * @author Bao Son
```

```
 */
```

```
public class Borrow extends javax.swing.JFrame {
```

```

Connection connection = null;
ResultSet resultSet;
PreparedStatement preparedStatement;
/**
 * Creates new from Borrow
 */
public Borrow() {
    super("Borrow Equipment");
    initComponents();
    connection = new JavaConnectionDataBase().connectToDatabase();
    EquipmentIDTextField.setVisible(false);
    StudentIDTextField.setVisible(false);
}

```

```

private void initComponents() {

```

```

    StudentInfoPanel = new javax.swing.JPanel();
    ClassTextField = new javax.swing.JTextField();
    ClassLabel = new javax.swing.JLabel();
    FullNameLabel = new javax.swing.JLabel();
    FullNameTextField = new javax.swing.JTextField();
    EmailLabel = new javax.swing.JLabel();
    EmailTextField = new javax.swing.JTextField();
    StudentIDTextField = new javax.swing.JTextField();
    EquipmentPanel = new javax.swing.JPanel();
    SupplierTextField = new javax.swing.JTextField();
    SearchEquipmentButton = new javax.swing.JButton();
    EquipmentNameTextField = new javax.swing.JTextField();
    SupplierLabel = new javax.swing.JLabel();
    ClassroomTextField = new javax.swing.JTextField();
    EquipmentNameLabel = new javax.swing.JLabel();
    EquipmentCodeLabel = new javax.swing.JLabel();
    EquipmentCodeTextField = new javax.swing.JTextField();
    EquipmentDescriptionLabel = new javax.swing.JLabel();
    ClassroomLabel = new javax.swing.JLabel();
    EquipmentDescriptionTextField = new javax.swing.JTextField();
    EquipmentIDTextField = new javax.swing.JTextField();
    BorrowDateLabel = new javax.swing.JLabel();
    BorrowDateCombobox = new datechooser.beans.DateChooserCombo();
    BorrowButton = new javax.swing.JButton();
    BackButton = new javax.swing.JButton();
    ReturnDateLabel = new javax.swing.JLabel();
    ReturnDateCombobox = new datechooser.beans.DateChooserCombo();
    TimeReturnedCombobox = new javax.swing.JComboBox();
    TimeReturnedLabel = new javax.swing.JLabel();

```

```

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

```

```

    StudentInfoPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Student
Information", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 18),

```

```
new java.awt.Color(0, 153, 204)); // NOI18N
```

```
ClassTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
ClassLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
ClassLabel.setText("Class");
```

```
FullNameLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
FullNameLabel.setText("Full Name");
```

```
FullNameTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
EmailLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
EmailLabel.setText("Email");
```

```
EmailTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
EmailTextField.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        EmailTextFieldActionPerformed(evt);  
    }  
});
```

```
javax.swing.GroupLayout StudentInfoPanelLayout = new  
javax.swing.GroupLayout(StudentInfoPanel);  
StudentInfoPanel.setLayout(StudentInfoPanelLayout);  
StudentInfoPanelLayout.setHorizontalGroup(
```

```
StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)  
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
```

```
StudentInfoPanelLayout.createSequentialGroup()  
    .addGap(20, 20, 20)
```

```
    .addComponent(StudentIDTextField, javax.swing.GroupLayout.PREFERRED_SIZE,  
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)  
    .addContainerGap(398, Short.MAX_VALUE))
```

```
    .addGroup(StudentInfoPanelLayout.createSequentialGroup()  
    .addContainerGap()
```

```
    .addGroup(StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
    .addComponent(FullNameLabel)
```

```
    .addComponent(ClassLabel)
```

```
    .addComponent>EmailLabel))
```

```
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 89,  
Short.MAX_VALUE)
```

```
    .addGroup(StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
```

```
    .addComponent(FullNameTextField)
```

```
    .addComponent(ClassTextField)
```

```
    .addComponent>EmailTextField, javax.swing.GroupLayout.PREFERRED_SIZE, 253,  
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
    .addContainerGap())
```

```
);
```



```

StudentInfoPanelLayout.setVerticalGroup(

StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(StudentInfoPanelLayout.createSequentialGroup()
        .addGap(58, 58, 58)
        .addGroup(StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
StudentInfoPanelLayout.createSequentialGroup()
                .addComponent(FullNameTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(46, 46, 46))
            .addGroup(StudentInfoPanelLayout.createSequentialGroup()
                .addComponent(FullNameLabel)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
            .addGroup(StudentInfoPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addGroup(StudentInfoPanelLayout.createSequentialGroup()
                    .addComponent(ClassLabel)
                    .addGap(62, 62, 62)
                    .addComponent(EmailLabel))
                .addGroup(StudentInfoPanelLayout.createSequentialGroup()
                    .addComponent(ClassTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(47, 47, 47)
                    .addComponent(EmailTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGap(174, 174, 174)
                .addComponent(StudentIDTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );

```

```

EquipmentPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Equipment
Information", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 18),
new java.awt.Color(0, 153, 204))); // NOI18N

```

```

SupplierTextField.setEditable(false);
SupplierTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

```

```

SearchEquipmentButton.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
SearchEquipmentButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/search-icon.png"))); // NOI18N
SearchEquipmentButton.setText("Search");
SearchEquipmentButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        SearchEquipmentButtonActionPerformed(evt);
    }
}

```

```

});

EquipmentNameTextField.setEditable(false);
EquipmentNameTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

SupplierLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
SupplierLabel.setText("From Teacher");

ClassroomTextField.setEditable(false);
ClassroomTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

EquipmentNameLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentNameLabel.setText("Equipment Name");

EquipmentCodeLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentCodeLabel.setText("Equipment Code");

EquipmentCodeTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

EquipmentDescriptionLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentDescriptionLabel.setText("Equipment Description");

ClassroomLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
ClassroomLabel.setText("Classroom");

EquipmentDescriptionTextField.setEditable(false);
EquipmentDescriptionTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

EquipmentIDTextField.setEnabled(false);

    javax.swing.GroupLayout EquipmentPanelLayout = new
javax.swing.GroupLayout(EquipmentPanel);
    EquipmentPanel.setLayout(EquipmentPanelLayout);
    EquipmentPanelLayout.setHorizontalGroup(

EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(EquipmentPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.LEADING)
            .addComponent(SupplierLabel)
            .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Ali
gnment.TRAILING)
                .addComponent(SearchEquipmentButton)
                .addGroup(EquipmentPanelLayout.createSequentialGroup()
                    .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.LEADING)
                        .addComponent(EquipmentCodeLabel)
                        .addComponent(EquipmentNameLabel)
                        .addComponent(EquipmentDescriptionLabel)
                        .addComponent(ClassroomLabel))
                    )
                )
            )
        )
    )

```

```

        .addGap(38, 38, 38)
        .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
ut.Alignment.LEADING, false)
            .addComponent(SupplierTextField)
            .addComponent(EquipmentCodeTextField)
            .addComponent(EquipmentNameTextField)
            .addComponent(EquipmentDescriptionTextField)
            .addComponent(ClassroomTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, 253,
javax.swing.GroupLayout.PREFERRED_SIZE))))
        .addComponent(EquipmentIDTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, 19,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addContainerGap(35, Short.MAX_VALUE))
    );
    EquipmentPanelLayout.setVerticalGroup(

EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(EquipmentPanelLayout.createSequentialGroup()
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(SearchEquipmentButton)
        .addGap(18, 18, 18)
        .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(EquipmentCodeLabel)
            .addComponent(EquipmentCodeTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(46, 46, 46)
            .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
                .addComponent(EquipmentNameLabel)
                .addComponent(EquipmentNameTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(47, 47, 47)
                .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
                    .addComponent(EquipmentDescriptionLabel)
                    .addComponent(EquipmentDescriptionTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(43, 43, 43)
                    .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
                        .addComponent(SupplierLabel)
                        .addComponent(SupplierTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(18, 18, 18)
                        .addComponent(EquipmentIDTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    )
                )
            )
        )
    )

```

```

        .addGap(17, 17, 17)
        .addGroup(EquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align-
ment.LEADING)
            .addComponent(ClassroomLabel)
            .addComponent(ClassroomTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(29, 29, 29))
    );

    BorrowDateLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    BorrowDateLabel.setText("Borrow Date: ");

    BorrowButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/borrow-
button-icon.png"))); // NOI18N
    BorrowButton.setText("Borrow");
    BorrowButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            BorrowButtonActionPerformed(evt);
        }
    });

    BackButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/back.png"))); // NOI18N
    BackButton.setText("Back");
    BackButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            BackButtonActionPerformed(evt);
        }
    });

    ReturnDateLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    ReturnDateLabel.setText("Return Date");

    TimeReturnedCombobox.setModel(new javax.swing.DefaultComboBoxModel(new String[]
{ "Break", "Lunch" }));
    TimeReturnedCombobox.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            TimeReturnedComboboxActionPerformed(evt);
        }
    });

    TimeReturnedLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    TimeReturnedLabel.setText("Time Returned");

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addGap(17, 17, 17)

```

```

        .addComponent(EquipmentPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 56,
Short.MAX_VALUE)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addComponent(StudentInfoPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(48, 48, 48))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAI
LING)
        .addGroup(layout.createSequentialGroup())
        .addComponent(BorrowButton)
        .addGap(18, 18, 18)
        .addComponent(BackButton, javax.swing.GroupLayout.PREFERRED_SIZE,
95, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING, false)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addComponent(ReturnDateLabel)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATE
D, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(ReturnDateCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE, 261,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment
.LEADING)
        .addComponent(TimeReturnedLabel)
        .addComponent(BorrowDateLabel))
        .addGap(50, 50, 50)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment
.LEADING)
        .addComponent(TimeReturnedCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE, 261,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(BorrowDateCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE, 261,
javax.swing.GroupLayout.PREFERRED_SIZE))))))
        .addGap(57, 57, 57))))
);
layout.setVerticalGroup(
layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
.addGroup(layout.createSequentialGroup()
.addGap(36, 36, 36)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

        .addComponent(EquipmentPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
414, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGroup(layout.createSequentialGroup()
            .addComponent(StudentInfoPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
271, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASE
LINE)
                .addComponent(TimeReturnedLabel)
                .addComponent(TimeReturnedCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEAD
ING, false)
                    .addComponent(BorrowDateCombobox,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(BorrowDateLabel,
javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEAD
ING)
                        .addComponent(ReturnDateLabel,
javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(ReturnDateCombobox,
javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                .addGap(21, 21, 21)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                    .addComponent(BackButton, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(BorrowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addContainerGap(34, Short.MAX_VALUE))
    );

    setSize(new java.awt.Dimension(1060, 590));
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void BorrowButtonActionPerformed(java.awt.event.ActionEvent evt) {
String emailValidate =
"^[_A-Za-z0-9-\\+]+(\\.[_A-Za-z0-9-]+)*@"
+ "[A-Za-z0-9-]+(\\.[A-Za-z0-9]+)*(\\.[A-Za-z]{2,})$";
if (EmailTextField.getText().matches(emailValidate)) {
String sqlInsertBorrow = "INSERT INTO Borrow(EquipmentID, FullName \n"
+ ", Class, Email, TimeReturned, ReturnDate, DateBorrow) VALUES (?, ?, ?, ?, ?, ?, ?)";

```

```

try {
    preparedStatement = connection.prepareStatement(sqlInsertBorrow);
    preparedStatement.setString(1, EquipmentIDTextField.getText());
    preparedStatement.setString(2, FullNameTextField.getText());
    preparedStatement.setString(3, ClassTextField.getText());
    preparedStatement.setString(4, EmailTextField.getText());
    preparedStatement.setString(5, (String) TimeReturnedCombobox.getSelectedItem());
    preparedStatement.setString(6, ReturnDateCombobox.getText());
    preparedStatement.setString(7, BorrowDateCombobox.getText());
    preparedStatement.execute();
    JOptionPane.showMessageDialog(null, "Equipment Borrowed Successfully");
} catch (Exception e) {
    JOptionPane.showMessageDialog(null, e);
}
}
else {
    JOptionPane.showMessageDialog(null, "Please enter a proper email");
}
}

```

```

private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false); //close the screen
    DashBoard dashBoard = new DashBoard();
    dashBoard.setVisible(true); //open the dashboard screen
    if (BackButton.isEnabled());
    Properties prop = System.getProperties(); //setup email properties when back button is clicked
    prop.put("mail.smtp.host", "smtp.gmail.com");
    prop.put("mail.smtp.port", "465");
    prop.put("mail.smtp.auth", "true");
    prop.put("mail.smtp.socketFactory.port", "465");
    prop.put("mail.smtp.socketFactory.class", "javax.net.ssl.SSLSocketFactory");
    final String GmailAccountEmail = "baosonprogramtest@gmail.com";
    final String GmailPassword = "programtest123";

    Session session = null;
    session = Session.getInstance(prop, new javax.mail.Authenticator() {
        protected PasswordAuthentication getPasswordAuthentication() {
            return new PasswordAuthentication(GmailAccountEmail, GmailPassword); //process of
validating email account
        }
    });
    try{
        MimeMessage message;
        message = new MimeMessage(session);

        message.setFrom(new InternetAddress(GmailAccountEmail));

        message.addRecipient(Message.RecipientType.TO,
            new InternetAddress(EmailTextField.getText()));
    }
}

```

```
message.setSubject("You Have Borrowed An Item From The Art Department"); //set title of the email
```

```
message.setText("Dear Student \n The item you have borrowed is expected by Ms. Goppert to be return on the proposed day! Please return it on time");
```

```
Transport.send(message);  
System.out.println("Email Sent");  
} catch (MessagingException mex) {  
    mex.printStackTrace();  
}
```

```
}
```

```
private void SearchEquipmentButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    String sqlSearchEquipment = "SELECT * FROM Equipment WHERE EquipmentCode=?";  
    try {  
        preparedStatement = connection.prepareStatement(sqlSearchEquipment);  
        preparedStatement.setString(1, EquipmentCodeTextField.getText());  
        resultSet = preparedStatement.executeQuery();  
        if (resultSet.next()) {  
            EquipmentNameTextField.setText(resultSet.getString("EquipmentName"));  
            EquipmentDescriptionTextField.setText(resultSet.getString("EquipmentDescription"));  
            SupplierTextField.setText(resultSet.getString("Supplier"));  
            ClassroomTextField.setText(resultSet.getString("Classroom"));  
            EquipmentIDTextField.setText(resultSet.getString("EquipmentID"));  
            resultSet.close();  
            preparedStatement.close();  
        }  
        else {  
            JOptionPane.showMessageDialog(null, "No results were found");  
        }  
    } catch (Exception e) {  
        JOptionPane.showMessageDialog(null, "Error when searching for equipment");  
    } finally {  
        try {  
            resultSet.close();  
            preparedStatement.close();  
        } catch (Exception e) {  
        }  
    }  
}
```

```
private void EmailTextFieldActionPerformed(java.awt.event.ActionEvent evt) {  
  
}
```

```
private void TimeReturnedComboboxActionPerformed(java.awt.event.ActionEvent evt) {  
}
```



```

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Borrow.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Borrow.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Borrow.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Borrow.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    }
}
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new Borrow().setVisible(true);
    }
});
}

private javax.swing.JButton BackButton;
private javax.swing.JButton BorrowButton;
private datechooser.beans.DateChooserCombo BorrowDateCombobox;
private javax.swing.JLabel BorrowDateLabel;
private javax.swing.JLabel ClassLabel;
private javax.swing.JTextField ClassTextField;
private javax.swing.JLabel ClassroomLabel;
private javax.swing.JTextField ClassroomTextField;
private javax.swing.JLabel EmailLabel;
private javax.swing.JTextField EmailTextField;
private javax.swing.JLabel EquipmentCodeLabel;

```

```

private javax.swing.JTextField EquipmentCodeTextField;
private javax.swing.JLabel EquipmentDescriptionLabel;
private javax.swing.JTextField EquipmentDescriptionTextField;
private javax.swing.JTextField EquipmentIDTextField;
private javax.swing.JLabel EquipmentNameLabel;
private javax.swing.JTextField EquipmentNameTextField;
private javax.swing.JPanel EquipmentPanel;
private javax.swing.JLabel FullNameLabel;
private javax.swing.JTextField FullNameTextField;
private datechooser.beans.DateChooserCombo ReturnDateCombobox;
private javax.swing.JLabel ReturnDateLabel;
private javax.swing.JButton SearchEquipmentButton;
private javax.swing.JTextField StudentIDTextField;
private javax.swing.JPanel StudentInfoPanel;
private javax.swing.JLabel SupplierLabel;
private javax.swing.JTextField SupplierTextField;
private javax.swing.JComboBox TimeReturnedCombobox;
private javax.swing.JLabel TimeReturnedLabel;
}

```

Dashboard Class:

```
package equipment.management.system;
```

```

/**
 *
 * @author Bao Son
 */
public class DashBoard extends javax.swing.JFrame {

    /**
     * Creates new form DashBoard
     */
    public DashBoard() {
        initComponents();
    }

    private void initComponents() {

        jRadioButtonMenuItem1 = new javax.swing.JRadioButtonMenuItem();
        ImageTitle = new javax.swing.JLabel();
        TitleDashboard = new javax.swing.JLabel();
        DashboardPanel = new javax.swing.JPanel();
        EquipmentListLabel = new javax.swing.JLabel();
        ReturnEquipmentLabel = new javax.swing.JLabel();
        BorrowEquipmentLabel = new javax.swing.JLabel();
        ReturnEquipmentButton = new javax.swing.JButton();
        EquipmentListButton = new javax.swing.JButton();
        BorrowEquipmentButton = new javax.swing.JButton();
        NewEquipmentButton = new javax.swing.JButton();
        NewEquipmentLabel = new javax.swing.JLabel();

```

```

HistoryButton = new javax.swing.JButton();
HistoryLabel = new javax.swing.JLabel();
DashboardMenuBar = new javax.swing.JMenuBar();
DashboardMenu = new javax.swing.JMenu();
ExitMenuItem = new javax.swing.JMenuItem();
LogoutMenuItem = new javax.swing.JMenuItem();

jRadioButtonMenuItem1.setSelected(true);
jRadioButtonMenuItem1.setText("jRadioButtonMenuItem1");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

ImageTitle.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/Graphics-
Painting-icon.png"))); // NOI18N

TitleDashboard.setFont(new java.awt.Font("Tahoma", 1, 36)); // NOI18N
TitleDashboard.setForeground(new java.awt.Color(0, 153, 204));
TitleDashboard.setText("Equipment Management System");
TitleDashboard.setAlignmentX(0.5F);

DashboardPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFact
ory.createLineBorder(new java.awt.Color(204, 204, 255)), "Action",
javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 24),
new java.awt.Color(0, 153, 204))); // NOI18N

EquipmentListLabel.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
EquipmentListLabel.setText("Equipment List");

ReturnEquipmentLabel.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
ReturnEquipmentLabel.setText("Return Equipment");

BorrowEquipmentLabel.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
BorrowEquipmentLabel.setText("Borrow Equipment");

ReturnEquipmentButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/Return-Icon.png"))); // NOI18N
ReturnEquipmentButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ReturnEquipmentButtonActionPerformed(evt);
    }
});

EquipmentListButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/list_1.png"))); // NOI18N
EquipmentListButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipmentListButtonActionPerformed(evt);
    }
});

```

```

        BorrowEquipmentButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/Borrow.png"))); // NOI18N
        BorrowEquipmentButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                BorrowEquipmentButtonActionPerformed(evt);
            }
        });

        NewEquipmentButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/addequipment.png"))); // NOI18N
        NewEquipmentButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                NewEquipmentButtonActionPerformed(evt);
            }
        });

        NewEquipmentLabel.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
        NewEquipmentLabel.setText("New Equipment");

        HistoryButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/history.png"))); // NOI18N
        HistoryButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                HistoryButtonActionPerformed(evt);
            }
        });

        HistoryLabel.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
        HistoryLabel.setText("History");

        javax.swing.GroupLayout DashboardPanelLayout = new
javax.swing.GroupLayout(DashboardPanel);
        DashboardPanel.setLayout(DashboardPanelLayout);
        DashboardPanelLayout.setHorizontalGroup(

DashboardPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(DashboardPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addGroup(DashboardPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(BorrowEquipmentLabel)
            .addComponent(BorrowEquipmentButton))
        .addGap(184, 184, 184)
        .addGroup(DashboardPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(ReturnEquipmentButton)
            .addComponent(ReturnEquipmentLabel))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 219,
Short.MAX_VALUE)
        .addGroup(DashboardPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment

```



```

        .addGroup(DashboardPanelLayout.createSequentialGroup()
            .addComponent(HistoryButton)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(HistoryLabel)))
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

DashboardMenu.setText("File");

ExitMenuItem.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/close-
icon.png"))); // NOI18N
ExitMenuItem.setText("Exit");
ExitMenuItem.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ExitMenuItemActionPerformed(evt);
    }
});
DashboardMenu.add(ExitMenuItem);

LogoutMenuItem.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/Login-icon.png"))); // NOI18N
LogoutMenuItem.setText("Logout");
LogoutMenuItem.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        LogoutMenuItemActionPerformed(evt);
    }
});
DashboardMenu.add(LogoutMenuItem);

DashboardMenuBar.add(DashboardMenu);

setJMenuBar(DashboardMenuBar);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(ImageTitle)
                    .addGap(44, 44, 44)
                    .addComponent(TitleDashboard)
                    .addGap(344, 344, 344))
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addComponent(DashboardPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(84, 84, 84))))

```

```

);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(ImageTitle)
                .addComponent(TitleDashboard))
            .addGap(18, 18, 18)
            .addComponent(DashboardPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );

```

```

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void ExitMenuItemActionPerformed(java.awt.event.ActionEvent evt) {
    System.exit(0);
}

```

```

private void LogoutMenuItemActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    Login lg = new Login();
    lg.setVisible(true);
}

```

```

private void HistoryButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    History history = new History();
    history.setVisible(true);
}

```

```

private void NewEquipmentButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    NewEquipment newEquipment = new NewEquipment();
    newEquipment.setVisible(true);
}

```

```

private void BorrowEquipmentButtonActionPerformed(java.awt.event.ActionEvent evt) {

    setVisible(false);
    Borrow borrow = new Borrow();
    borrow.setVisible(true);
}

```

```

private void ReturnEquipmentButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    ReturnEquipment returnEquipment = new ReturnEquipment();
}

```

```

        returnEquipment.setVisible(true);
    }

    private void EquipmentListButtonActionPerformed(java.awt.event.ActionEvent evt) {
        setVisible(false);
        EquipmentList equipmentList = new EquipmentList();
        equipmentList.setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {

        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
                javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

            java.util.logging.Logger.getLogger(DashBoard.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

            java.util.logging.Logger.getLogger(DashBoard.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

            java.util.logging.Logger.getLogger(DashBoard.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

            java.util.logging.Logger.getLogger(DashBoard.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new DashBoard().setVisible(true);
        }
    });
}

private javax.swing.JButton BorrowEquipmentButton;

```



```

private javax.swing.JLabel BorrowEquipmentLabel;
private javax.swing.JMenu DashboardMenu;
private javax.swing.JMenuBar DashboardMenuBar;
private javax.swing.JPanel DashboardPanel;
private javax.swing.JButton EquipmentListButton;
private javax.swing.JLabel EquipmentListLabel;
private javax.swing.JMenuItem ExitMenuItem;
private javax.swing.JButton HistoryButton;
private javax.swing.JLabel HistoryLabel;
private javax.swing.JLabel ImageTitle;
private javax.swing.JMenuItem LogoutMenuItem;
private javax.swing.JButton NewEquipmentButton;
private javax.swing.JLabel NewEquipmentLabel;
private javax.swing.JButton ReturnEquipmentButton;
private javax.swing.JLabel ReturnEquipmentLabel;
private javax.swing.JLabel TitleDashboard;
private javax.swing.JRadioButtonMenuItem jRadioButtonMenuItem1;

```

```

}

```

Email Class:

```

package equipment.management.system;

```

```

import java.util.Properties;
import javax.mail.Message;
import javax.mail.MessagingException;
import javax.mail.PasswordAuthentication;
import javax.mail.Session;
import javax.mail.Transport;
import javax.mail.internet.InternetAddress;
import javax.mail.internet.MimeMessage;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

```

```

/**
 *
 * @author Bao Son
 */

```

```

public class Email extends javax.swing.JFrame {
    private final String GmailAccountEmail = "baosonprogramtest@gmail.com";
    private final String GmailPassword = "programtest123";

    public void SendMail() {
        Properties prop = System.getProperties();
        prop.put("mail.smtp.host", "smtp.gmail.com");
        prop.put("mail.smtp.port", "465");
        prop.put("mail.smtp.auth", "true");
        prop.put("mail.smtp.socketFactory.port", "465");
        prop.put("mail.smtp.socketFactory.class", "javax.net.ssl.SSLSocketFactory");
    }
}

```

```

Session session = null;
session = Session.getInstance(prop, new javax.mail.Authenticator() {
    protected PasswordAuthentication getPasswordAuthentication() {
        return new PasswordAuthentication(GmailAccountEmail, GmailPassword);
    }
});

try{
    MimeMessage message;
    message = new MimeMessage(session);

    message.setFrom(new InternetAddress(GmailAccountEmail));

    message.addRecipient(Message.RecipientType.TO,
        new InternetAddress(StudentEmailTextField.getText()));

    message.setSubject("Your Borrowed Item is Due In TODAY");

    message.setText("Dear Student \n The item you have borrowed is expected by Ms. Goppert to
be return today! Please return it on time");

    Transport.send(message);
    JFrame frame = new JFrame("JOptionPane showMessageDialog example");
    JOptionPane.showMessageDialog(frame,
        "Email Sent Successful ",
        "",
        JOptionPane.INFORMATION_MESSAGE);
} catch (MessagingException mex) {
    mex.printStackTrace();
}
}

/**
 * Creates new form Email
 */
public Email() {
    initComponents();
}

private void initComponents() {

    StudentEmailTextField = new javax.swing.JTextField();
    EmailSendButton = new javax.swing.JButton();
    EmailTitleLabel = new javax.swing.JLabel();
    StudentEmailLabel = new javax.swing.JLabel();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
    setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));

    StudentEmailTextField.setCursor(new
java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));

```

```

StudentEmailTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        StudentEmailTextFieldActionPerformed(evt);
    }
});

EmailSendButton.setText("Send");
EmailSendButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EmailSendButtonActionPerformed(evt);
    }
});

EmailTitleLabel.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
EmailTitleLabel.setForeground(new java.awt.Color(0, 204, 255));
EmailTitleLabel.setText("Notify student to return their item");

StudentEmailLabel.setText("Student Email:");

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(62, 62, 62)
                    .addComponent(EmailTitleLabel))
                .addGroup(layout.createSequentialGroup()
                    .addGap(31, 31, 31)
                    .addComponent(StudentEmailLabel)))
            .addGap(74, 74, 74)
            .addComponent(EmailSendButton,
                javax.swing.GroupLayout.PREFERRED_SIZE, 71,
                javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGroup(layout.createSequentialGroup()
            .addGap(18, 18, 18)
            .addComponent(StudentEmailTextField,
                javax.swing.GroupLayout.PREFERRED_SIZE, 213,
                javax.swing.GroupLayout.PREFERRED_SIZE))))
    .addContainerGap(54, Short.MAX_VALUE))
);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(74, 74, 74)
            .addComponent(EmailTitleLabel)
            .addGap(44, 44, 44)

```

```

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE,
E)        .addComponent(StudentEmailTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(StudentEmailLabel))
        .addGap(18, 18, 18)
        .addComponent(EmailSendButton)
        .addContainerGap(83, Short.MAX_VALUE))
    );

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void StudentEmailTextFieldActionPerformed(java.awt.event.ActionEvent evt) {
}

private void EmailSendButtonActionPerformed(java.awt.event.ActionEvent evt) {
    SendMail();
    setVisible(false);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

        java.util.logging.Logger.getLogger(Email.class.getName()).log(java.util.logging.Level.SEVERE,
        null, ex);
    } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(Email.class.getName()).log(java.util.logging.Level.SEVERE,
        null, ex);
    } catch (IllegalAccessException ex) {

        java.util.logging.Logger.getLogger(Email.class.getName()).log(java.util.logging.Level.SEVERE,
        null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(Email.class.getName()).log(java.util.logging.Level.SEVERE,
        null, ex);
    }
}

```

```

    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Email().setVisible(true);
        }
    });
}

private javax.swing.JButton EmailSendButton;
private javax.swing.JLabel EmailTitleLabel;
private javax.swing.JLabel StudentEmailLabel;
private javax.swing.JTextField StudentEmailTextField;
}

```

EquipmentList class:

```
package equipment.management.system;
```

```

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;
import net.proteanit.sql.DbUtils;

```

```

/**
 *
 * @author Bao Son
 */

```

```

public class EquipmentList extends javax.swing.JFrame {
    Connection connection = null; //object Connection
    ResultSet resultSet; //create an object that act as a data storage taken from database
    PreparedStatement preparedStatement; //create an object that store queries of database
    /**
     * Creates new form EquipmentList
     * Constructor of JFrame
     */
    public EquipmentList() {
        super("Equipment List");
        initComponents();

        //Connect to Database
        connection = JavaConnectionDataBase.connectToDatabase();
        String sqlEquipmentList = "SELECT EquipmentName AS 'Equipment Name', "
            + "EquipmentCode AS 'Equipment Code', Quantity, Supplier AS 'From Teacher',
            Classroom FROM Equipment";

        try { //proceed with connection, put in try because there might be a connection error

```

```

        preparedStatement = connection.prepareStatement(sqlEquipmentList); //this create a query
from connection
        resultSet = preparedStatement.executeQuery();
        //execute queries above, the result of the execution is stored in resultSet
        EquipmentListTable.setModel(DbUtils.resultSetToTableModel(resultSet));
        //assign and convert resultSet to Table Model
    } catch (SQLException ex) {
        //if there is an error in connection then the error will be caught and displayed
        Logger.getLogger(EquipmentList.class.getName()).log(Level.SEVERE, null, ex);
    }
}

```

```

private void initComponents() {

    jButton3 = new javax.swing.JButton();
    jPanel1 = new javax.swing.JPanel();
    jButton1 = new javax.swing.JButton();
    EquipmentListPanel2 = new javax.swing.JPanel();
    EquipmentListPanel = new javax.swing.JPanel();
    jScrollPane2 = new javax.swing.JScrollPane();
    EquipmentListTable = new javax.swing.JTable();
    BackButton = new javax.swing.JButton();

    jButton3.setText("jButton3");

    jPanel1.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Equipment List",
javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 0, 18),
new java.awt.Color(0, 153, 204))); // NOI18N

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 460, Short.MAX_VALUE)
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 311, Short.MAX_VALUE)
    );

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    jButton1.setText("jButton1");

    EquipmentListPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null,
"Equipment List", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 0, 18),
new java.awt.Color(0, 153, 204))); // NOI18N

    EquipmentListTable.setModel(new javax.swing.table.DefaultTableModel(

```

```

        new Object [][] {
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null}
        },
        new String [] {
            "Title 1", "Title 2", "Title 3", "Title 4"
        }
    ));
    jScrollPane2.setViewportViewView(EquipmentListTable);

    javax.swing.GroupLayout EquipmentListPanelLayout = new
    javax.swing.GroupLayout(EquipmentListPanel);
    EquipmentListPanel.setLayout(EquipmentListPanelLayout);
    EquipmentListPanelLayout.setHorizontalGroup(
        EquipmentListPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(EquipmentListPanelLayout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT_SIZE, 619,
                    Short.MAX_VALUE)
                .addContainerGap())
    );
    EquipmentListPanelLayout.setVerticalGroup(
        EquipmentListPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(EquipmentListPanelLayout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 271,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap())
    );

    BackButton.setIcon(new
    javax.swing.ImageIcon(getClass().getResource("/images/back.png"))); // NOI18N
    BackButton.setText("Back");
    BackButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            BackButtonActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout EquipmentListPanel2Layout = new
    javax.swing.GroupLayout(EquipmentListPanel2);
    EquipmentListPanel2.setLayout(EquipmentListPanel2Layout);
    EquipmentListPanel2Layout.setHorizontalGroup(
        EquipmentListPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(EquipmentListPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 619,
                    Short.MAX_VALUE)
                .addContainerGap())
    );
    EquipmentListPanel2Layout.setVerticalGroup(
        EquipmentListPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(EquipmentListPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 271,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap())
    );

```

```

        .addContainerGap()
        .addComponent(EquipmentListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
EquipmentListPanel2Layout.createSequentialGroup())
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(BackButton)
        .addGap(26, 26, 26))
    );
    EquipmentListPanel2Layout.setVerticalGroup(

EquipmentListPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
G)
        .addGroup(EquipmentListPanel2Layout.createSequentialGroup())
        .addGap(22, 22, 22)
        .addComponent(EquipmentListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(18, 18, 18)
        .addComponent(BackButton)
        .addContainerGap(35, Short.MAX_VALUE))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 158,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        .addGroup(layout.createSequentialGroup())
        .addGap(46, 46, 46)
        .addComponent(EquipmentListPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(31, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup())
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 0,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(EquipmentListPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
    );

```



```

        setSize(new java.awt.Dimension(764, 480));
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {

        setVisible(false);
        DashBoard dashboard = new DashBoard();
        dashboard.setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
                javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

            java.util.logging.Logger.getLogger(EquipmentList.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

            java.util.logging.Logger.getLogger(EquipmentList.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

            java.util.logging.Logger.getLogger(EquipmentList.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

            java.util.logging.Logger.getLogger(EquipmentList.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
    } //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new EquipmentList().setVisible(true);
        }
    });
}

private javax.swing.JButton BackButton;

```

```

private javax.swing.JPanel EquipmentListPanel;
private javax.swing.JPanel EquipmentListPanel2;
private javax.swing.JTable EquipmentListTable;
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton3;
private javax.swing.JPanel jPanel1;
private javax.swing.JScrollPane jScrollPane2;
}

```

EquipmentManagementSystem class:  
package equipment.management.system;

```

import javax.swing.JOptionPane;
import javax.swing.UIManager;

```

```

/**
 *
 * @author Bao Son
 */
public class EquipmentManagementSystem {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        Login a = new Login();
        JavaConnectionDataBase jcD = new JavaConnectionDataBase();
        jcD.connectToDatabase();
        if (jcD.connectToDatabase() == null) {
            JOptionPane.showMessageDialog(null, "Cannot connect to database");
        }
        else {
            a.setVisible(true);
        }
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                UIManager.setLookAndFeel("com.jtattoo.plaf.acrypl.AcryplLookAndFeel");
            }
        }
        catch (Exception e) {
        }

    }
}

```

History Class:

```
package equipment.management.system;
```

```
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.util.ArrayList;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;
import net.proteanit.sql.DbUtils;
```

```
/**
```

```
 *
```

```
 * @author Bao Son
```

```
 */
```

```
public class History extends javax.swing.JFrame {
```

```
    Connection connection = null;
```

```
    ResultSet resultSet;
```

```
    PreparedStatement preparedStatement;
```

```
/**
```

```
 * Creates new form StatisticScreen
```

```
 */
```

```
public History() {
```

```
    super("History");
```

```
    initComponents();
```

```
    connection = JavaConnectionDataBase.connectToDatabase();
```

```
    BorrowTable();
```

```
    ReturnTable();
```

```
}
```

```
public void BorrowTable () {
```

```
    try {
```

```
        if (BorrowListTable.getRowCount() > 0) {
```

```
            String SqlBorrowList = "SELECT Borrow.FullName AS \"Full Name\", Borrow.Email  
AS \"Email\", "
```

```
            + "Equipment.EquipmentName AS \"Equipment Name\", Borrow.DateBorrow AS  
\"Borrow Date\"\\n, Borrow.TimeReturned AS \"Return At\"\" +
```

```
            "FROM Borrow \\n" +
```

```
            "INNER JOIN Equipment ON Borrow.EquipmentID =  
Equipment.EquipmentID";
```

```
            preparedStatement = connection.prepareStatement(SqlBorrowList);
```

```
            resultSet = preparedStatement.executeQuery();
```

```
            BorrowListTable.setModel(DbUtils.resultSetToTableModel(resultSet));
```

```
        }
```

```
    } else {
```

```
        //BorrowListTable.set
```

```
    }
```

```

    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
    }
}

public void ReturnTable () {
    try {
        String SqlReturnList = "SELECT [Return].FullName AS \"Full Name\", [Return].Email AS
\"Email\", Equipment.EquipmentName AS \"Equipment Name\", [Return].DateOfReturn AS
\"Return Date\"\\n\" +
            \"FROM [Return] \\n\" +
            \"INNER JOIN Equipment ON [Return].EquipmentID =
Equipment.EquipmentID\";
        preparedStatement = connection.prepareStatement(SqlReturnList);
        resultSet = preparedStatement.executeQuery();
        ReturnListTable.setModel(DbUtils.resultSetToTableModel(resultSet));
    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
    }
}

private void initComponents() {

    ReturnListPanel = new javax.swing.JPanel();
    jScrollPane1 = new javax.swing.JScrollPane();
    ReturnListTable = new javax.swing.JTable();
    BorrowListPanel = new javax.swing.JPanel();
    jScrollPane2 = new javax.swing.JScrollPane();
    BorrowListTable = new javax.swing.JTable();
    BorrowEquipmentCountButton = new javax.swing.JButton();
    Back = new javax.swing.JButton();
    AlertStudentButton = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    ReturnListPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Returned
List", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 0, 24),
new java.awt.Color(0, 153, 204))); // NOI18N

    ReturnListTable.setModel(new javax.swing.table.DefaultTableModel(
        new Object [][] {
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null},
            {null, null, null, null}
        },
        new String [] {
            "Student Name", "Equipment Name", "Borrow Date", "Return Date"
        }
    ));

```

```

jScrollPane1.setViewportView(ReturnListTable);

javax.swing.GroupLayout ReturnListPanelLayout = new
javax.swing.GroupLayout(ReturnListPanel);
ReturnListPanel.setLayout(ReturnListPanelLayout);
ReturnListPanelLayout.setHorizontalGroup(

ReturnListPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(ReturnListPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 790,
Short.MAX_VALUE))
    );
ReturnListPanelLayout.setVerticalGroup(

ReturnListPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(ReturnListPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 214,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

BorrowListPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Borrowed
List", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 0, 24),
new java.awt.Color(0, 153, 204))); // NOI18N

BorrowListTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null}
    },
    new String [] {
        "Student Name", "Equipment Name", "Borrow Date", "Return Date"
    }
));
jScrollPane2.setViewportView(BorrowListTable);

BorrowEquipmentCountButton.setText("Borrowed Equipment Count");
BorrowEquipmentCountButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        BorrowEquipmentCountButtonActionPerformed(evt);
    }
});

javax.swing.GroupLayout BorrowListPanelLayout = new
javax.swing.GroupLayout(BorrowListPanel);
BorrowListPanel.setLayout(BorrowListPanelLayout);

```

```

BorrowLayoutPanelLayout.setHorizontalGroup(

BorrowLayoutPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(BorrowLayoutPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT_SIZE, 790,
Short.MAX_VALUE))
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
BorrowLayoutPanelLayout.createSequentialGroup()
    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
    .addComponent(BorrowEquipementCountButton)
    .addContainerGap())
);
BorrowLayoutPanelLayout.setVerticalGroup(

BorrowLayoutPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(BorrowLayoutPanelLayout.createSequentialGroup()
        .addComponent(BorrowEquipementCountButton)
        .addGap(17, 17, 17)
        .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 214,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

Back.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/back.png"))); //
NOI18N
Back.setText("Back");
Back.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        BackActionPerformed(evt);
    }
});

AlertStudentButton.setText("Alert Student");
AlertStudentButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        AlertStudentButtonActionPerformed(evt);
    }
});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addContainerGap(83, Short.MAX_VALUE)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
            .addComponent(AlertStudentButton)
            .addComponent(Back)

```

```

        .addComponent(ReturnListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(58, 58, 58))
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addContainerGap(83, Short.MAX_VALUE)
        .addComponent(BorrowListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(58, 58, 58)))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addContainerGap(331, Short.MAX_VALUE)
        .addComponent(AlertStudentButton)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(ReturnListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(18, 18, 18)
        .addComponent(Back)
        .addGap(16, 16, 16))
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
        .addGap(23, 23, 23)
        .addComponent(BorrowListPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(367, Short.MAX_VALUE)))
    );

    setSize(new java.awt.Dimension(969, 732));
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void BackActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    DashBoard dashboard = new DashBoard();
    dashboard.setVisible(true);
}

```

```

private void AlertStudentButtonActionPerformed(java.awt.event.ActionEvent evt) {
    Email email = new Email();
    email.setVisible(true);
}

```

```

private void BorrowEquipementCountButtonActionPerformed(java.awt.event.ActionEvent evt)
{
    ArrayList<Object> list = new ArrayList<>();
    try {
        if (BorrowListTable.getRowCount() > 0) {

```

```

        String SqlBorrowList = "SELECT Borrow.FullName AS \"Full Name\", Borrow.Email
AS \"Email\", Equipment.EquipmentName AS \"Equipment Name\", \"
        + \"Equipment.Quantity, Borrow.DateBorrow AS \"Borrow Date\\n\" +
        \"FROM Borrow \\n\" +
        \"INNER JOIN Equipment ON Borrow.EquipmentID =
Equipment.EquipmentID ORDER BY [Borrow Date] DESC\";
        preparedStatement = connection.prepareStatement(SqlBorrowList);
        resultSet = preparedStatement.executeQuery();
        while (resultSet.next()) {
            list.add(resultSet.getString(\"Quantity\"));
        }
        int sum = 0;
        for (Object var : list) {
            sum += Integer.parseInt(var.toString());
        }
        JOptionPane.showMessageDialog(rootPane, \"Sum of all borrowed equipment: \" + sum,
\"Doing Calculations...\", 1);
    }
    else {
        JOptionPane.showMessageDialog(rootPane, \"There are no items borrowed\", \"It's getting
lonely in here...\", 1);
    }

    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
    }
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if (\"Nimbus\".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

        java.util.logging.Logger.getLogger(History.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(History.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (IllegalAccessException ex) {

```



```

java.util.logging.Logger.getLogger(History.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

```

```

java.util.logging.Logger.getLogger(History.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    }

```

```

//</editor-fold>

```

```

//</editor-fold>

```

```

/* Create and display the form */

```

```

java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new History().setVisible(true);
    }
});

```

```

    }

```

```

    }

```

```

    }

```

```

    }

```

```

}

```

```

private javax.swing.JButton AlertStudentButton;

```

```

private javax.swing.JButton Back;

```

```

private javax.swing.JButton BorrowEquipementCountButton;

```

```

private javax.swing.JPanel BorrowListPanel;

```

```

private javax.swing.JTable BorrowListTable;

```

```

private javax.swing.JPanel ReturnListPanel;

```

```

private javax.swing.JTable ReturnListTable;

```

```

private javax.swing.JScrollPane jScrollPane1;

```

```

private javax.swing.JScrollPane jScrollPane2;

```

```

}

```

JavaConnectionDatabase Class:

```

package equipment.management.system;

```

```

/**

```

```

 *

```

```

 * @author Bao Son

```

```

 */

```

```

import java.sql.*;

```

```

import javax.swing.JOptionPane;

```

```

public class JavaConnectionDataBase {

```

```

    public static Connection connectToDatabase() {

```

```

        Connection connection = null;

```

```

        ResultSet resultSet;

```

```

        PreparedStatement preparedStatement;

```

```

        try {

```

```

            //a configuration string to store information of database

```

```

            String dbUrl = "jdbc:sqlserver://BAOSON-

```

```

LAPTOP\\BAOSONSQL;databaseName=Equipment Management;user=sa;password=123456";

```

```

            Class.forName("com.microsoft.sqlserver.jdbc.SQLServerDriver");//a driver to help with

```

```

the connection to database

```

```

        connection = DriverManager.getConnection(dbUrl);
        //create a connection from the information from string dbUrl
        if (connection != null) {
            DatabaseMetaData dm = (DatabaseMetaData) connection.getMetaData();
            System.out.println("Driver name: " + dm.getDriverName());
            System.out.println("Driver version: " + dm.getDriverVersion());
            System.out.println("Product name: " + dm.getDatabaseProductName());
            System.out.println("Product version: " + dm.getDatabaseProductVersion());
        }
        return connection;
    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
        return null;
    }
}
}

```

Login Class:

```
package equipment.management.system;
```

```

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import javax.swing.JOptionPane;

```

```

/**
 *
 * @author Bao Son
 */

```

```

public class Login extends javax.swing.JFrame {
    Connection connection;
    ResultSet resultSet;
    PreparedStatement preparedStatement;
    /**
     * Creates new form Login
     */
    public Login() {
        initComponents();
        connection = JavaConnectionDataBase.connectToDatabase();
    }
}

```

```
private void initComponents() {
```

```

    label1 = new java.awt.Label();
    label3 = new java.awt.Label();
    SpacePanel = new javax.swing.JPanel();
    TitleImageLabel = new javax.swing.JLabel();
    TitleLabel = new java.awt.Label();
    LoginPanel = new javax.swing.JPanel();
    jPanel2 = new javax.swing.JPanel();
}

```

```

UsernameLabel = new javax.swing.JLabel();
PasswordLabel = new javax.swing.JLabel();
UserNameTextField = new javax.swing.JTextField();
LoginButton = new javax.swing.JButton();
SignupButton = new javax.swing.JButton();
PasswordField = new javax.swing.JPasswordField();
SubtitleLabel = new java.awt.Label();

label1.setText("label1");

label3.setText("label3");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setForeground(java.awt.Color.lightGray);

javax.swing.GroupLayout SpacePanelLayout = new javax.swing.GroupLayout(SpacePanel);
SpacePanel.setLayout(SpacePanelLayout);
SpacePanelLayout.setHorizontalGroup(
    SpacePanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.LEADING, SpacePanelLayout.createSequentialGroup()
            .addGap(0, 75, Short.MAX_VALUE)
            .addContainerGap())
);
SpacePanelLayout.setVerticalGroup(
    SpacePanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.LEADING, SpacePanelLayout.createSequentialGroup()
            .addGap(0, 0, Short.MAX_VALUE)
            .addContainerGap())
);

TitleImageLabel.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/Art-
icon.png"))); // NOI18N
TitleImageLabel.setToolTipText("");
TitleImageLabel.setMaximumSize(new java.awt.Dimension(48, 48));
TitleImageLabel.setMinimumSize(new java.awt.Dimension(48, 48));
TitleImageLabel.setPreferredSize(new java.awt.Dimension(47, 47));

TitleLabel.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
TitleLabel.setForeground(new java.awt.Color(0, 102, 204));
TitleLabel.setName(""); // NOI18N
TitleLabel.setText("EQUIPMENT MANAGEMENT SYSTEM V1.0");

LoginPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "Login",
javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 0, 24),
new java.awt.Color(0, 102, 204))); // NOI18N

UsernameLabel.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
UsernameLabel.setText("Username");

PasswordLabel.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
PasswordLabel.setText("Password");

UserNameTextField.setBorder(null);
UserNameTextField.addActionListener(new java.awt.event.ActionListener() {

```

```

        public void actionPerformed(java.awt.event.ActionEvent evt) {
            UserNameTextFieldActionPerformed(evt);
        }
    });

    LoginButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/Login-
icon.png"))); // NOI18N
    LoginButton.setText("Login");
    LoginButton.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));
    LoginButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            LoginButtonActionPerformed(evt);
        }
    });

    SignupButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/sign-
add-icon.png"))); // NOI18N
    SignupButton.setText("Signup");
    SignupButton.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));
    SignupButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            SignupButtonActionPerformed(evt);
        }
    });

    PasswordField.setBorder(null);

    javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
    jPanel2.setLayout(jPanel2Layout);
    jPanel2Layout.setHorizontalGroup(
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(UnameLabel)
                    .addComponent>PasswordLabel))
                .addGap(45, 45, 45)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(UserNameTextField)
                    .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
                        .addComponent(LoginButton, javax.swing.GroupLayout.PREFERRED_SIZE, 127,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(18, 18, 18)
                        .addComponent(SignupButton, javax.swing.GroupLayout.PREFERRED_SIZE,
135, javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addContainerGap()
    );

```

```

        .addComponent(PasswordField))
        .addGap(23, 23, 23))
    );
    jPanel2Layout.setVerticalGroup(
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup())
        .addGap(58, 58, 58)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
        .addComponent(UsernameLabel)
        .addComponent(UserNameTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
22, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(27, 27, 27)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
        .addComponent>PasswordLabel)
        .addGroup(jPanel2Layout.createSequentialGroup())
        .addGap(2, 2, 2)
        .addComponent(PasswordField, javax.swing.GroupLayout.PREFERRED_SIZE,
22, javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addGap(18, 18, 18)
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BA
SELINE)
        .addComponent(LoginButton, javax.swing.GroupLayout.PREFERRED_SIZE, 39,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(SignupButton, javax.swing.GroupLayout.PREFERRED_SIZE, 39,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addContainerGap(72, Short.MAX_VALUE))
    );

    javax.swing.GroupLayout LoginPanelLayout = new javax.swing.GroupLayout(LoginPanel);
    LoginPanel.setLayout(LoginPanelLayout);
    LoginPanelLayout.setHorizontalGroup(
        LoginPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(LoginPanelLayout.createSequentialGroup())
        .addContainerGap()
        .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap())
    );
    LoginPanelLayout.setVerticalGroup(
        LoginPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(LoginPanelLayout.createSequentialGroup())
        .addGap(0, 0, 0)
        .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    SubtitleLabel.setFont(new java.awt.Font("Dialog", 0, 14)); // NOI18N
    SubtitleLabel.setForeground(new java.awt.Color(0, 102, 204));

```

```

SubtitleLabel.setText("By: Nguyen Bao Son 13I");

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(27, 27, 27)
            .addComponent(TitleImageLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 264,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(SubtitleLabel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(LoginPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(SpacePanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addComponent(TitleLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 509,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        );
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(24, 24, 24)
            .addComponent(TitleLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 63,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(SpacePanel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                            .addComponent(SubtitleLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                            .addGap(0, 0, Short.MAX_VALUE)
                            .addComponent(LoginPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
244, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(30, 30, 30))))
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(TitleImageLabel, javax.swing.GroupLayout.PREFERRED_SIZE,

```

```

273, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(63, 63, 63))))
    );

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

private void UserNameTextFieldActionPerformed(java.awt.event.ActionEvent evt) {
}

private void SignupButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    Signup signup = new Signup();
    signup.setVisible(true);
}

private void LoginButtonActionPerformed(java.awt.event.ActionEvent evt) {
    String sql = "SELECT * FROM Account Where UserName=? And Password=?";
    try {
        preparedStatement = connection.prepareStatement(sql);
        preparedStatement.setString(1, UserNameTextField.getText());
        preparedStatement.setString(2, PasswordField.getText());
        resultSet = preparedStatement.executeQuery();
        if (resultSet.next()) {
            resultSet.close();
            preparedStatement.close();
            setVisible(false);
            DashBoard dashBoard = new DashBoard();
            dashBoard.setVisible(true);
        }
        else {
            JOptionPane.showMessageDialog(null, "Incorrect Username or Password");
        }
    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
    } finally {
        try {
            resultSet.close();
            preparedStatement.close();
        }
        catch (Exception e) {
        }
    }
}

/**
 * @param args the command line arguments
 */

```

```

    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
                javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE,
            null, ex);
        } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE,
            null, ex);
        } catch (IllegalAccessException ex) {

        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE,
            null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE,
            null, ex);
        }
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Login().setVisible(true);
        }
    });
}

private javax.swing.JButton LoginButton;
private javax.swing.JPanel LoginPanel;
private javax.swing.JPasswordField PasswordField;
private javax.swing.JLabel PasswordLabel;
private javax.swing.JButton SignupButton;
private javax.swing.JPanel SpacePanel;
private java.awt.Label SubtitleLabel;
private javax.swing.JLabel TitleImageLabel;
private java.awt.Label TitleLabel;
private javax.swing.JTextField UserNameTextField;
private javax.swing.JLabel UsernameLabel;
private javax.swing.JPanel jPanel2;
private java.awt.Label label1;
private java.awt.Label label3;
}

```



NewEquipment Class:

```
package equipment.management.system;
```

```
import com.sun.java.swing.plaf.windows.WindowsBorders;
```

```
import java.sql.Connection;
```

```
import java.sql.PreparedStatement;
```

```
import java.sql.ResultSet;
```

```
import javax.swing.JOptionPane;
```

```
/**
```

```
 *
```

```
 * @author Bao Son
```

```
 */
```

```
public class NewEquipment extends javax.swing.JFrame {
```

```
    Connection connection = null;
```

```
    ResultSet resultSet;
```

```
    PreparedStatement preparedStatement;
```

```
/**
```

```
 * Creates new form NewEquipment
```

```
 */
```

```
public NewEquipment() {
```

```
    super("New Equipment");
```

```
    initComponents();
```

```
    connection = JavaConnectionDataBase.connectToDatabase();
```

```
}
```

```
private void initComponents() {
```

```
    EquipDescriptionTextField1 = new javax.swing.JTextField();
```

```
    jLabel5 = new javax.swing.JLabel();
```

```
    jLabel7 = new javax.swing.JLabel();
```

```
    EquipDescriptionTextField3 = new javax.swing.JTextField();
```

```
    jLabel8 = new javax.swing.JLabel();
```

```
    EquipDescriptionTextField4 = new javax.swing.JTextField();
```

```
    jLabel9 = new javax.swing.JLabel();
```

```
    EquipDescriptionTextField5 = new javax.swing.JTextField();
```

```
    NewEquipmentPanel = new javax.swing.JPanel();
```

```
    jButton1 = new javax.swing.JButton();
```

```
    jButton2 = new javax.swing.JButton();
```

```
    EquipmentCodeLabel = new javax.swing.JLabel();
```

```
    EquipmentDescriptionLabel = new javax.swing.JLabel();
```

```
    EquipmentDescriptionTextField = new javax.swing.JTextField();
```

```
    EquipmentNameLabel = new javax.swing.JLabel();
```

```
    EquipNameTextField = new javax.swing.JTextField();
```

```
    EquipmentCodeTextField = new javax.swing.JTextField();
```

```
    QuantityLabel = new javax.swing.JLabel();
```

```
    QuantityTextField = new javax.swing.JTextField();
```

```
    SupplierLabel = new javax.swing.JLabel();
```

```
    SupplierTextField = new javax.swing.JTextField();
```

```
    ClassroomTextField = new javax.swing.JTextField();
```

```
    ClassroomLabel = new javax.swing.JLabel();
```

```

EquipDescriptionTextField1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipDescriptionTextField1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipDescriptionTextField1ActionPerformed(evt);
    }
});

jLabel5.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel5.setText("Quantity");

jLabel7.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel7.setText("From Teacher");

EquipDescriptionTextField3.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipDescriptionTextField3.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipDescriptionTextField3ActionPerformed(evt);
    }
});

jLabel8.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel8.setText("From Teacher");

EquipDescriptionTextField4.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipDescriptionTextField4.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipDescriptionTextField4ActionPerformed(evt);
    }
});

jLabel9.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel9.setText("From Teacher");

EquipDescriptionTextField5.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipDescriptionTextField5.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipDescriptionTextField5ActionPerformed(evt);
    }
});

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

NewEquipmentPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "New
Equipment", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 18),
new java.awt.Color(0, 153, 204))); // NOI18N

jButton1.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/sign-add-
icon.png"))); // NOI18N
jButton1.setText("Add");

```

```

jButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton1ActionPerformed(evt);
    }
});

jButton2.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/back.png")));
// NOI18N
jButton2.setText("Back");
jButton2.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton2ActionPerformed(evt);
    }
});

EquipmentCodeLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentCodeLabel.setText("Equipment Code");

EquipmentDescriptionLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentDescriptionLabel.setText("Equipment Description");

EquipmentDescriptionTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentDescriptionTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EquipmentDescriptionTextFieldActionPerformed(evt);
    }
});

EquipmentNameLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentNameLabel.setText("Equipment Name");

EquipNameTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

EquipmentCodeTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

QuantityLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
QuantityLabel.setText("Quantity");

QuantityTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        QuantityTextFieldActionPerformed(evt);
    }
});

SupplierLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
SupplierLabel.setText("From Teacher");

SupplierTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
SupplierTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        SupplierTextFieldActionPerformed(evt);
    }
});

```

```

    }
});

ClassroomTextField.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
ClassroomTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ClassroomTextFieldActionPerformed(evt);
    }
});

ClassroomLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
ClassroomLabel.setText("Classroom");

javax.swing.GroupLayout NewEquipmentPanelLayout = new
javax.swing.GroupLayout(NewEquipmentPanel);
NewEquipmentPanel.setLayout(NewEquipmentPanelLayout);
NewEquipmentPanelLayout.setHorizontalGroup(

NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
    .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.LEADING)
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addGap(0, 0, Short.MAX_VALUE)
                .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(54, 54, 54)
                .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addComponent(EquipmentCodeLabel)
                .addGap(82, 82, 82)
                .addComponent(EquipmentCodeTextField,
javax.swing.GroupLayout.DEFAULT_SIZE, 438, Short.MAX_VALUE))
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addComponent(EquipmentNameLabel)
                .addGap(79, 79, 79)
                .addComponent(EquipmentNameTextField))
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addComponent(EquipmentDescriptionLabel)
                .addGap(46, 46, 46)
                .addComponent(EquipmentDescriptionTextField))
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addComponent(QuantityLabel)
                .addGap(131, 131, 131)
                .addComponent(QuantityTextField))
            .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
                .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLay
out.Alignment.LEADING)

```

```

        .addComponent(SupplierLabel)
        .addComponent(ClassroomLabel))
    .addGap(99, 99, 99)
    .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
out.Alignment.LEADING)
        .addComponent(SupplierTextField)
        .addComponent(ClassroomTextField))))
    .addContainerGap()
);
NewEquipmentPanelLayout.setVerticalGroup(

```

```

NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)

```

```

    .addGroup(NewEquipmentPanelLayout.createSequentialGroup()
        .addContainerGap()
        .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
            .addComponent(EquipmentCodeLabel)
            .addComponent(EquipmentCodeTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(35, 35, 35)
            .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
                .addComponent(EquipmentNameLabel)
                .addComponent(EquipNameTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(38, 38, 38)
                .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
                    .addComponent(EquipmentDescriptionLabel)
                    .addComponent(EquipmentDescriptionTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(36, 36, 36)
                    .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
                        .addComponent(QuantityLabel)
                        .addComponent(QuantityTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(36, 36, 36)
                        .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.LEADING)
                            .addComponent(SupplierLabel)
                            .addComponent(SupplierTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                            .addGap(32, 32, 32)
                            .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
                                .addComponent(ClassroomTextField, javax.swing.GroupLayout.PREFERRED_SIZE,

```

```

javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(ClassroomLabel))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 70,
Short.MAX_VALUE)
    .addGroup(NewEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.
Alignment.BASELINE)
    .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 30,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 30,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addContainerGap())
);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
    .addContainerGap()
    .addComponent(NewEquipmentPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
    .addContainerGap(21, Short.MAX_VALUE))
);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
    .addContainerGap()
    .addComponent(NewEquipmentPanel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
    .addContainerGap())
);

setSize(new java.awt.Dimension(701, 526));
setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void EquipmentDescriptionTextFieldActionPerformed(java.awt.event.ActionEvent evt)
{
}

```

```

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

    setVisible(false);
    DashBoard dashboard = new DashBoard();
    dashboard.setVisible(true);
}

```

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    String sqlInsertNewEquipment = "INSERT INTO Equipment(EquipmentCode,
EquipmentName, EquipmentDescription, Quantity, Supplier, Classroom) VALUES (?, ?, ?, ?, ?)";
}

```

```

try {
    preparedStatement = connection.prepareStatement(sqlInsertNewEquipment);
    preparedStatement.setString(1, EquipmentCodeTextField.getText());
    preparedStatement.setString(2, EquipNameTextField.getText());
    preparedStatement.setString(3, EquipmentDescriptionTextField.getText());
    preparedStatement.setString(4, QuantityTextField.getText());
    preparedStatement.setString(5, SupplierTextField.getText());
    preparedStatement.setString(6, ClassroomTextField.getText());
    preparedStatement.execute();
    JOptionPane.showMessageDialog(null, "New Equipment Added Successfully");
}
catch(Exception e) {
    JOptionPane.showMessageDialog(null, "Failed to create new equipment. Please contact
with teacher");

}
}

private void EquipDescriptionTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

}

private void QuantityTextFieldActionPerformed(java.awt.event.ActionEvent evt) {

}

private void SupplierTextFieldActionPerformed(java.awt.event.ActionEvent evt) {

}

private void EquipDescriptionTextField3ActionPerformed(java.awt.event.ActionEvent evt) {

}

private void EquipDescriptionTextField4ActionPerformed(java.awt.event.ActionEvent evt) {

}

private void EquipDescriptionTextField5ActionPerformed(java.awt.event.ActionEvent evt) {

}

private void ClassroomTextFieldActionPerformed(java.awt.event.ActionEvent evt) {

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {

```

```

        javax.swing.UIManager.setLookAndFeel(info.getClassName());
        break;
    }
}
} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(NewEquipment.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(NewEquipment.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(NewEquipment.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(NewEquipment.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
}
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new NewEquipment().setVisible(true);
    }
});
}

private javax.swing.JLabel ClassroomLabel;
private javax.swing.JTextField ClassroomTextField;
private javax.swing.JTextField EquipDescriptionTextField1;
private javax.swing.JTextField EquipDescriptionTextField3;
private javax.swing.JTextField EquipDescriptionTextField4;
private javax.swing.JTextField EquipDescriptionTextField5;
private javax.swing.JTextField EquipNameTextField;
private javax.swing.JLabel EquipmentCodeLabel;
private javax.swing.JTextField EquipmentCodeTextField;
private javax.swing.JLabel EquipmentDescriptionLabel;
private javax.swing.JTextField EquipmentDescriptionTextField;
private javax.swing.JLabel EquipmentNameLabel;
private javax.swing.JPanel NewEquipmentPanel;
private javax.swing.JLabel QuantityLabel;
private javax.swing.JTextField QuantityTextField;
private javax.swing.JLabel SupplierLabel;
private javax.swing.JTextField SupplierTextField;
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JLabel jLabel5;

```



```

private javax.swing.JLabel jLabel7;
private javax.swing.JLabel jLabel8;
private javax.swing.JLabel jLabel9;
}

```

ReturnEquipment Class:

```

package equipment.management.system;

```

```

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JOptionPane;

```

```

/**

```

```

 *

```

```

 * @author Bao Son

```

```

 */

```

```

public class ReturnEquipment extends javax.swing.JFrame {

```

```

    Connection connection = null;

```

```

    ResultSet resultSet;

```

```

    PreparedStatement preparedStatement;

```

```

    /**

```

```

     * Creates new form ReturnEquipment

```

```

     */

```

```

    public ReturnEquipment() {

```

```

        super("Return Equipment");

```

```

        initComponents();

```

```

        EquipmentIDTextField.setVisible(false);

```

```

        connection = new JavaConnectionDataBase().connectToDatabase();

```

```

    }

```

```

    public void DeleteBorrowEquipmentByUser() {

```

```

        String sqlDelete = "DELETE FROM Borrow WHERE Email = ? AND EquipmentID = ?";

```

```

        try {

```

```

            preparedStatement = connection.prepareStatement(sqlDelete);

```

```

            preparedStatement.setString(1, EmailTextField.getText());

```

```

            preparedStatement.setString(2, EquipmentIDTextField.getText());

```

```

            preparedStatement.executeUpdate();

```

```

        }

```

```

        catch(Exception e){

```

```

            JOptionPane.showMessageDialog(null, e);

```

```

        }

```

```

    }

```

```

    public void UpdateReturnEquipmentByUser() {

```

```

        String sqlUpdate = "INSERT INTO [Return] (Email, FullName, EquipmentID, BorrowDate,
DateOfReturn) VALUES (?, ?, ?, ?, ?)";

```

```

        try {

```

```

        preparedStatement = connection.prepareStatement(sqlUpdate);
        preparedStatement.setString(1, EmailTextField.getText());
        preparedStatement.setString(2, FullNameTextField.getText());
        preparedStatement.setString(3, EquipmentIDTextField.getText());
        preparedStatement.setString(4, BorrowedDateTextField.getText());
        preparedStatement.setString(5, ReturnDateComboBox.getText());
        preparedStatement.execute();
        resultSet.close();
        preparedStatement.close();
        JOptionPane.showMessageDialog(null, "Equipment with Name: " +
EquipmentNameTextField.getText() + " Returned");
    }
    catch(Exception e){
        JOptionPane.showMessageDialog(null, e);
    }
}

private void Search() {
    String sqlSearchStudentEmailBorrowEquipment = "SELECT * FROM Borrow \n" +
        " INNER JOIN Equipment ON Borrow.EquipmentID =
Equipment.EquipmentID\n" +
        " WHERE Borrow.Email = ? ORDER BY Borrow.DateBorrow
DESC";
    try {
        preparedStatement =
connection.prepareStatement(sqlSearchStudentEmailBorrowEquipment);
        preparedStatement.setString(1, EmailTextField.getText());
        resultSet = preparedStatement.executeQuery();
        if (resultSet.next() == false) {
            EquipmentCodeTextField.setText("");
            EquipmentNameTextField.setText("");
            ReturnDateComboBox.setText("");
            BorrowedDateTextField.setText("");
            TimeReturnedTextField.setText("");
            resultSet.close();
            preparedStatement.close();
            JOptionPane.showMessageDialog(null, "Student with this email: " +
EmailTextField.getText() + " have not borrowed any equipment");
        }
    } catch (Exception e) {

    }
}

private void initComponents() {

    jLabel4 = new javax.swing.JLabel();
    ReturnEquipmentPanel = new javax.swing.JPanel();
    EquipmentNameLabel = new javax.swing.JLabel();
    BorrowedDateLabel = new javax.swing.JLabel();
    ClassLabel = new javax.swing.JLabel();

```

```
ClassTextField = new javax.swing.JTextField();
BorrowedDateTextField = new javax.swing.JTextField();
EmailLabel = new javax.swing.JLabel();
EquipmentCodeTextField = new javax.swing.JTextField();
EmailTextField = new javax.swing.JTextField();
FullNameTextField = new javax.swing.JTextField();
EquipmentCodeLabel = new javax.swing.JLabel();
FullNameLabel = new javax.swing.JLabel();
EquipmentNameTextField = new javax.swing.JTextField();
SearchButton = new javax.swing.JButton();
TimeReturnedLabel = new javax.swing.JLabel();
TimeReturnedTextField = new javax.swing.JTextField();
ReturnDateLabel = new javax.swing.JLabel();
ReturnDateComboBox = new datechooser.beans.DateChooserCombo();
ReturnButton = new javax.swing.JButton();
BackButton = new javax.swing.JButton();
StudentIDTextField = new javax.swing.JTextField();
EquipmentIDTextField = new javax.swing.JTextField();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```
ReturnEquipmentPanel.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(new java.awt.Color(153, 204, 255)), "Return Equipment",
javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 18),
new java.awt.Color(0, 153, 204))); // NOI18N
```

```
EquipmentNameLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentNameLabel.setText("Equipment Name");
```

```
BorrowedDateLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
BorrowedDateLabel.setText("Borrowed Date");
```

```
ClassLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
ClassLabel.setText("Class");
```

```
ClassTextField.setEditable(false);
ClassTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));
```

```
BorrowedDateTextField.setEditable(false);
BorrowedDateTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));
```

```
EmailLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EmailLabel.setText("Email");
```

```
EquipmentCodeTextField.setEditable(false);
EquipmentCodeTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));
```

```

FullNameTextField.setEditable(false);
FullNameTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));

EquipmentCodeLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
EquipmentCodeLabel.setText("Equipment Code");

FullNameLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
FullNameLabel.setText("Full Name");

EquipmentNameTextField.setEditable(false);
EquipmentNameTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));

SearchButton.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
SearchButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/search-
icon.png"))); // NOI18N
SearchButton.setText("Search");
SearchButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        SearchButtonActionPerformed(evt);
    }
});

TimeReturnedLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
TimeReturnedLabel.setText("Time Returned");

TimeReturnedTextField.setEditable(false);
TimeReturnedTextField.setBorder(new
javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));

ReturnDateLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
ReturnDateLabel.setText("Return Date:");

ReturnDateComboBox.setFieldFont(new java.awt.Font("Tahoma", java.awt.Font.PLAIN,
14));

ReturnButton.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
ReturnButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/return-
button-icon.png"))); // NOI18N
ReturnButton.setText("Return");
ReturnButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ReturnButtonActionPerformed(evt);
    }
});

BackButton.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
BackButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/back.png"))); // NOI18N

```

[illegible]

```

        .addComponent(TimeReturnedLabel)))
        .addGroup(ReturnEquipmentPanelLayout.createSequentialGroup()
            .addComponent(StudentIDTextField,
                javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(27, 27, 27)
            .addComponent(EquipmentIDTextField,
                javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addGap(22, 22, 22)
        .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
            .addComponent(BorrowedDateTextField,
                javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(EquipmentCodeTextField,
                javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(EquipmentNameTextField,
                javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(TimeReturnedTextField)
            .addGroup(ReturnEquipmentPanelLayout.createSequentialGroup()
                .addComponent(ReturnDateLabel)
                .addGap(74, 74, 74)
                .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(ReturnEquipmentPanelLayout.createSequentialGroup()
                        .addComponent(ReturnButton,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 101,
                            javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(28, 28, 28)
                        .addComponent(BackButton,
                            javax.swing.GroupLayout.PREFERRED_SIZE, 96,
                            javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addComponent(ReturnDateComboBox,
                        javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                        Short.MAX_VALUE))))
            .addGap(0, 27, Short.MAX_VALUE)))
        .addContainerGap()
    );
    ReturnEquipmentPanelLayout.setVerticalGroup(
        ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(ReturnEquipmentPanelLayout.createSequentialGroup()
            .addComponent(SearchButton, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
                    ReturnEquipmentPanelLayout.createSequentialGroup()
                        .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout

```

```

ayout.Alignment.BASELINE)
    .addComponent(EquipmentCodeLabel)
    .addComponent(EquipmentCodeTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(EmailTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(46, 46, 46)
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupL
ayout.Alignment.BASELINE)
    .addComponent(EquipmentNameLabel)
    .addComponent(EquipmentNameTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(160, 160, 160))
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
ReturnEquipmentPanelLayout.createSequentialGroup())
    .addComponent(EmailLabel)
    .addGap(49, 49, 49)
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupL
ayout.Alignment.BASELINE)
    .addComponent(FullNameLabel)
    .addComponent(FullNameTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(45, 45, 45)
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupL
ayout.Alignment.BASELINE)
    .addComponent(BorrowedDateLabel)
    .addComponent(BorrowedDateTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(ClassLabel)
    .addComponent(ClassTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(44, 44, 44)
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupL
ayout.Alignment.BASELINE)
    .addComponent(TimeReturnedLabel)
    .addComponent(TimeReturnedTextField,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(27, 27, 27)))
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.LEADING)
    .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLay
out.Alignment.TRAILING)
    .addComponent(ReturnDateLabel)
    .addComponent(ReturnDateComboBox,
javax.swing.GroupLayout.PREFERRED_SIZE, 22,
javax.swing.GroupLayout.PREFERRED_SIZE))

```

```

        .addGroup(ReturnEquipmentPanelLayout.createSequentialGroup())
        .addGap(15, 15, 15)
        .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(StudentIDTextField,
                javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(EquipmentIDTextField,
                javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addGap(18, 18, 18)
        .addGroup(ReturnEquipmentPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(ReturnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 35,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(BackButton, javax.swing.GroupLayout.PREFERRED_SIZE, 35,
                javax.swing.GroupLayout.PREFERRED_SIZE))
        .addContainerGap(28, Short.MAX_VALUE))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(65, 65, 65)
                    .addComponent(jLabel4))
                .addGroup(layout.createSequentialGroup()
                    .addGap(23, 23, 23)
                    .addComponent(ReturnEquipmentPanel,
                        javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                        javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addContainerGap(51, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(ReturnEquipmentPanel,
                javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addComponent(jLabel4))
    );

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

```



```

private void SearchButtonActionPerformed(java.awt.event.ActionEvent evt) {
    String sqlSearchStudentEmailBorrowEquipment = "SELECT * FROM Borrow \n" +
        " INNER JOIN Equipment ON Borrow.EquipmentID =
Equipment.EquipmentID\n" +
        " WHERE Borrow.Email = ? ORDER BY Borrow.DateBorrow
DESC";
    try {
        preparedStatement =
connection.prepareStatement(sqlSearchStudentEmailBorrowEquipment);
        preparedStatement.setString(1, EmailTextField.getText());
        resultSet = preparedStatement.executeQuery();
        if (resultSet.next()) {
            EquipmentIDTextField.setText(resultSet.getString("EquipmentID"));
            FullNameTextField.setText(resultSet.getString("FullName"));
            ClassTextField.setText(resultSet.getString("Class"));
            EquipmentCodeTextField.setText(resultSet.getString("EquipmentCode"));
            EquipmentNameTextField.setText(resultSet.getString("EquipmentName"));
            ReturnDateComboBox.setText(resultSet.getString("ReturnDate"));
            BorrowedDateTextField.setText(resultSet.getString("DateBorrow").substring(0, 10));
            TimeReturnedTextField.setText(resultSet.getString("TimeReturned"));
            resultSet.close();
            preparedStatement.close();
        }
        else {
            JOptionPane.showMessageDialog(null, "Student with this email: " +
EmailTextField.getText() + " have not borrowed any equipment");
        }
    } catch (Exception e) {
        JOptionPane.showMessageDialog(null, e);
    } finally {
        try {
            resultSet.close();
            preparedStatement.close();
        } catch (SQLException ex) {
            Logger.getLogger(ReturnEquipment.class.getName()).log(Level.SEVERE, null, ex);
        }
    }
}

private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    DashBoard dashBoard = new DashBoard();
    dashBoard.setVisible(true);
}

private void ReturnButtonActionPerformed(java.awt.event.ActionEvent evt) {
    DeleteBorrowEquipmentByUser();
    UpdateReturnEquipmentByUser();
    Search();
}

```

```

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ReturnEquipment.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ReturnEquipment.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ReturnEquipment.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ReturnEquipment.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
    }
}
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new ReturnEquipment().setVisible(true);
    }
});
}

private javax.swing.JButton BackButton;
private javax.swing.JLabel BorrowedDateLabel;
private javax.swing.JTextField BorrowedDateTextField;
private javax.swing.JLabel ClassLabel;
private javax.swing.JTextField ClassTextField;
private javax.swing.JLabel EmailLabel;
private javax.swing.JTextField EmailTextField;
private javax.swing.JLabel EquipmentCodeLabel;
private javax.swing.JTextField EquipmentCodeTextField;
private javax.swing.JTextField EquipmentIDTextField;
private javax.swing.JLabel EquipmentNameLabel;

```

```

private javax.swing.JTextField EquipmentNameTextField;
private javax.swing.JLabel FullNameLabel;
private javax.swing.JTextField FullNameTextField;
private javax.swing.JButton ReturnButton;
private datechooser.beans.DateChooserCombo ReturnDateComboBox;
private javax.swing.JLabel ReturnDateLabel;
private javax.swing.JPanel ReturnEquipmentPanel;
private javax.swing.JButton SearchButton;
private javax.swing.JTextField StudentIDTextField;
private javax.swing.JLabel TimeReturnedLabel;
private javax.swing.JTextField TimeReturnedTextField;
private javax.swing.JLabel jLabel4;
}

```

Signup Class:

```
package equipment.management.system;
```

```

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import javax.swing.JDesktopPane;
import javax.swing.JOptionPane;

```

```

/**
 *
 * @author Bao Son
 */

```

```

public class Signup extends javax.swing.JFrame {
    Connection connection;
    ResultSet resultSet;
    PreparedStatement preparedStatement;
    /**
     * Creates new form Signup
     */
    public Signup() {
        super("Login");
        initComponents();
        connection = JavaConnectionDataBase.connectToDatabase();
    }

```

```

private void initComponents() {

    SignupLabel = new javax.swing.JPanel();
    BackButton = new javax.swing.JButton();
    EmailTextField = new javax.swing.JTextField();
    FullNameTextField = new javax.swing.JTextField();
    EmailLabel = new javax.swing.JLabel();
    PasswordTextField = new javax.swing.JPasswordField();
    UsernameLabel = new javax.swing.JLabel();
    SignupButton = new javax.swing.JButton();
    UserNameTextField = new javax.swing.JTextField();
    FullNameLabel = new javax.swing.JLabel();

```

```

PasswordLabel = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

SignupLabel.setBorder(javax.swing.BorderFactory.createTitledBorder(null, "New User
Account", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.TOP, new java.awt.Font("Tahoma", 0, 24), new java.awt.Color(0,
153, 255))); // NOI18N
SignupLabel.setToolTipText("");

BackButton.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/images/back.png"))); // NOI18N
BackButton.setText("Back To Login");
BackButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        BackButtonActionPerformed(evt);
    }
});

EmailTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        EmailTextFieldActionPerformed(evt);
    }
});

FullNameTextField.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        FullNameTextFieldActionPerformed(evt);
    }
});

EmailLabel.setText("Email");

UsernameLabel.setText("Username");

SignupButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/sign-
add-icon.png"))); // NOI18N
SignupButton.setText("Create User");
SignupButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        SignupButtonActionPerformed(evt);
    }
});

FullNameLabel.setText("Full Name");

PasswordLabel.setText("Password");

javax.swing.GroupLayout SignupLabelLayout = new
javax.swing.GroupLayout(SignupLabel);
SignupLabel.setLayout(SignupLabelLayout);

```

```

SignupLabelLayout.setHorizontalGroup(
    SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(SignupLabelLayout.createSequentialGroup()
            .addContainerGap()
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent>PasswordLabel)
                .addComponent>EmailLabel)
                .addComponent>FullNameLabel)
                .addComponent>UsernameLabel))
            .addGap(87, 87, 87)
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addComponent>UserNameTextField, javax.swing.GroupLayout.DEFAULT_SIZE,
360, Short.MAX_VALUE)
                .addComponent>FullNameTextField)
                .addComponent>PasswordTextField)
                .addComponent>EmailTextField)
                .addGroup(SignupLabelLayout.createSequentialGroup()
                    .addComponent>SignupButton)
                    .addGap(18, 18, 18)
                    .addComponent>BackButton)))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );
SignupLabelLayout.setVerticalGroup(
    SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(SignupLabelLayout.createSequentialGroup()
            .addGap(21, 21, 21)
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent>UsernameLabel)
                .addComponent>UserNameTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(48, 48, 48)
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent>FullNameLabel)
                .addComponent>FullNameTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(55, 55, 55)
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent>PasswordLabel)
                .addComponent>PasswordTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(48, 48, 48)
            .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent>EmailLabel)
                .addComponent>EmailTextField, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

```

```

        .addGap(33, 33, 33)
        .addGroup(SignupLabelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(SignupButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(BackButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                javax.swing.GroupLayout.PREFERRED_SIZE))
        .addContainerGap()
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(48, 48, 48)
                .addComponent(SignupLabel, javax.swing.GroupLayout.PREFERRED_SIZE,
                    javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(73, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(46, 46, 46)
                .addComponent(SignupLabel, javax.swing.GroupLayout.PREFERRED_SIZE,
                    javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void FullNameTextFieldActionPerformed(java.awt.event.ActionEvent evt) {
}

```

```

private void EmailTextFieldActionPerformed(java.awt.event.ActionEvent evt) {
}

```

```

private void SignupButtonActionPerformed(java.awt.event.ActionEvent evt) {
    String emailValidate =
        "^[_A-Za-z0-9-\\+]+(\\.[_A-Za-z0-9-]+)*@"
        + "[A-Za-z0-9-\\+](\\.[A-Za-z0-9-]+)*(\\.[A-Za-z]{2,})$";
    if (UserNameTextField.getText().equals("")) {
        JOptionPane.showMessageDialog(null, "Failed to create new user.");
    }
    else if (PasswordTextField.getText().equals("")) {
        JOptionPane.showMessageDialog(null, "Failed to create new user.");
    }
    else if (EmailTextField.getText().matches(emailValidate)) {
        try {
            String sqlInsert = "INSERT INTO Account(UserName, FullName, Password,

```

```

Email)\nVALUES (?, ?, ?, ?)";
    preparedStatement = connection.prepareStatement(sqlInsert);
    preparedStatement.setString(1, UserNameTextField.getText());
    preparedStatement.setString(2, FullNameTextField.getText());
    preparedStatement.setString(3, PasswordTextField.getText());
    preparedStatement.setString(4, EmailTextField.getText());
    preparedStatement.execute();
    JOptionPane.showMessageDialog(null, "New Account Created Successfully");

} catch (Exception e) {
    JOptionPane.showMessageDialog(null, "Failed to create new user."); }

}
else{
    JOptionPane.showMessageDialog(null, "Failed to create new user.");
} }

private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {
    setVisible(false);
    Login login = new Login();
    login.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Signup.class.getName()).log(java.util.logging.Level.SEVERE,

```

```
null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Signup().setVisible(true);
        }
    });
}

private javax.swing.JButton BackButton;
private javax.swing.JLabel EmailLabel;
private javax.swing.JTextField EmailTextField;
private javax.swing.JLabel FullNameLabel;
private javax.swing.JTextField FullNameTextField;
private javax.swing.JLabel PasswordLabel;
private javax.swing.JPasswordField PasswordTextField;
private javax.swing.JButton SignupButton;
private javax.swing.JPanel SignupLabel;
private javax.swing.JTextField UserNameTextField;
private javax.swing.JLabel UsernameLabel;
}
```