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PROJECT REPORT

TOPIC : RESUME GENERATOR

COURSE NAME : OBJECT ORIENTED PROGRAMMING

COURSE CODE : XCS309

DEPARTMENT : B.TECH CSE

BRANCH : CSE (SPEC IN AI & ML) – ‘B’

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Project Overview:

The **Resume Builder** project is a Java-based application that helps users create professional resumes quickly and easily. It has a simple graphical user interface (GUI) that allows users to input personal information like their name, email, phone number, education, work experience, and skills. Once the user fills in the details, the program generates a resume in different templates that look professional and polished.

Introduction:

- **Overview:**

The Resume Builder is a Java application that helps users create, edit, and download their resumes. It allows users to fill in their personal details, choose a resume template, and then download it as a PDF.

- **Goal:**

The aim of this project is to create an easy-to-use tool where people can build professional resumes quickly and customize them according to their needs.

- **Scope:**

The application lets users input their details, pick a resume template, and download their resume in PDF format.

System Design:

- **Technology Used:**
 - **Java:** The programming language used to write the application.
 - **Swing:** A tool in Java to build the user interface (UI) with buttons, text fields, and forms.
 - **iTextPDF:** A library used to create PDF files of the resume.
- **Features of the Application:**
 - **User Form:** Users can enter their details like name, contact information, skills, work experience, etc.
 - **Template Selection:** Users can pick from three resume templates (Professional, Modern, Creative).
 - **Resume Preview:** The user can see a preview of their resume.
 - **Download as PDF:** Users can download their resume as a PDF file.
 - **Edit or Go Back:** Users can go back and edit their information or select a different template.

Implementation:

- **User Input:** The `collectUserData()` method collects personal information like name, email, skills, experience, etc., using text fields and text areas. Users can also upload a photo using a file chooser.

java

Copy code

```
JTextField fieldName = new JTextField();
JTextArea fieldSummary = new JTextArea(2, 20);
JButton nextButton = new JButton("Next");
```

When the user clicks "Next," the program collects the data and moves to the template selection.

- **Choosing a Template:** The `showTemplates()` method shows buttons for three templates. When the user clicks a button, the program shows a preview of the resume based on the selected template.

java

Copy code

```
JButton template1Button = new JButton("Template 1");
template1Button.addActionListener(e -> { displayResume("Template 1"); });
```

- **Building the Resume in HTML:** The `buildResumeHTML()` method generates an HTML version of the resume. This includes styling like fonts, colors, and layout.

java

Copy code

```
String html = "<html><body style='font-family: Arial, sans-serif; margin: 20px;'>";
html += "<h1>" + name + "</h1>";
html += "<p>" + email + "</p>";
```

- **Saving as PDF:** The `saveAsPDF()` method uses the **iTextPDF** library to create a PDF from the resume data. It also adds the user's photo to the PDF if available.

java

Copy code

```
Document document = new Document();
PdfWriter.getInstance(document, new FileOutputStream("Resume_" + name +
```

```
".pdf")); document.open();  
document.add(new Paragraph(name));
```

Challenges Faced:

- **File Upload for Photo:**

Handling the photo upload required careful attention to file paths, especially because different operating systems may use different formats.

- **HTML Layout:**

Creating a layout for the resume that looks good and works for all data was challenging, but using basic HTML and CSS helped.

- **PDF Formatting:**

Positioning the text and images in the PDF required precision, which was done using the iTextPDF library.

Program:

```
import javax.swing.*; import
```

```
java.awt.*; import
```

```
java.awt.event.ActionEvent; import
```

```
java.awt.event.ActionListener; import
```

```
java.io.FileOutputStream; import
```

```
com.itextpdf.text.*; import
```

```
com.itextpdf.text.pdf.*;
```

```
public class ResumeBuilder {
```

```
    private static String name, email, phone, address, summary, education, skills,  
    experience, certifications, languages, linkedin, photoPath;
```

```
    public static void main(String[] args) {
```

```
        collectUserData();
```

}

private static void collectUserData() {

JFrame frame = new JFrame("Professional Resume Builder");

frame.setSize(600, 800);

frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

frame.setLayout(new BorderLayout());

JPanel inputPanel = new JPanel(new GridLayout(12, 2, 10, 10));

inputPanel.setBorder(BorderFactory.createEmptyBorder(20, 20, 20, 20));

JLabel labelName = new JLabel("Full Name:");

JTextField fieldName = new JTextField();

JLabel labelEmail = new JLabel("Email:");

JTextField fieldEmail = new JTextField();

JLabel labelPhone = new JLabel("Phone:");

JTextField fieldPhone = new JTextField();

JLabel labelAddress = new JLabel("Address:");

JTextField fieldAddress = new JTextField();

JLabel labelLinkedIn = new JLabel("LinkedIn ID:");

JTextField fieldLinkedIn = new JTextField();

JLabel labelSummary = new JLabel("Professional Summary:");

JTextArea fieldSummary = new JTextArea(2, 20);

JLabel labelEducation = new JLabel("Education:");

JTextArea fieldEducation = new JTextArea(2, 20);

JLabel labelSkills = new JLabel("Skills:");

```

JTextArea fieldSkills = new JTextArea(2, 20);

JLabel labelLanguages = new JLabel("Languages:");

JTextArea fieldLanguages = new JTextArea(2, 20);

JLabel labelExperience = new JLabel("Work Experience:");

JTextArea fieldExperience = new JTextArea(2, 20);

JLabel labelPhoto = new JLabel("Upload Photo:");

JButton photoButton = new JButton("Choose Photo");

photoButton.addActionListener(e -> {

    JFileChooser fileChooser = new JFileChooser();           int

returnValue = fileChooser.showOpenDialog(null);           if

(returnValue == JFileChooser.APPROVE_OPTION) {

photoPath = fileChooser.getSelectedFile().getAbsolutePath();

    JOptionPane.showMessageDialog(frame, "Photo uploaded successfully!");

    }

});

JButton nextButton = new JButton("Next");

inputPanel.add(labelName);

inputPanel.add(fieldName);

inputPanel.add(labelEmail);

inputPanel.add(fieldEmail);

inputPanel.add(labelPhone);

inputPanel.add(fieldPhone);

```

```

inputPanel.add(labelAddress);

inputPanel.add(fieldAddress);

inputPanel.add(labelLinkedIn);

inputPanel.add(fieldLinkedIn);

inputPanel.add(labelSummary);    inputPanel.add(new
JScrollPane(fieldSummary));

inputPanel.add(labelEducation);    inputPanel.add(new
JScrollPane(fieldEducation));

inputPanel.add(labelSkills);    inputPanel.add(new
JScrollPane(fieldSkills));

inputPanel.add(labelLanguages);    inputPanel.add(new
JScrollPane(fieldLanguages));

inputPanel.add(labelExperience);    inputPanel.add(new
JScrollPane(fieldExperience));

inputPanel.add(labelPhoto);

inputPanel.add(photoButton);

```

```

    frame.add(inputPanel, BorderLayout.CENTER);

frame.add(nextButton, BorderLayout.SOUTH);

```

```

    nextButton.addActionListener(e -> {

name = fieldName.getText();    email

= fieldEmail.getText();    phone =

fieldPhone.getText();    address =

fieldAddress.getText();    linkedin =

```

```
fieldLinkedIn.getText();      summary
= fieldSummary.getText();
education = fieldEducation.getText();
skills = fieldSkills.getText();
languages = fieldLanguages.getText();
experience = fieldExperience.getText();
```

```
        frame.dispose();
showTemplates();
    });
```

```
        frame.setVisible(true);
    }
```

```
private static void showTemplates() {
    JFrame templateFrame = new JFrame("Choose a Resume Template");
    templateFrame.setSize(800, 600);
    templateFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
    JPanel templatePanel = new JPanel(new GridLayout(1, 3, 10, 10));
    templatePanel.setBorder(BorderFactory.createEmptyBorder(20, 20, 20, 20));
```

```
        JButton template1Button    =    new    JButton("<html><center>Template
1<br>(Professional)</center></html>");
```

```
        JButton template2Button    =    new    JButton("<html><center>Template
2<br>(Modern)</center></html>");
```



```
        JButton template3Button    =    new    JButton("<html><center>Template  
3<br>(Creative)</center></html>");
```

```
        templatePanel.add(template1Button);
```

```
templatePanel.add(template2Button);    templatePanel.add(template3Button);
```

```
templateFrame.add(templatePanel, BorderLayout.CENTER);
```

```
        ActionListener templateListener = e -> {
```

```
            JButton source = (JButton) e.getSource();
```

```
String chosenTemplate = source.getText();
```

```
templateFrame.dispose();
```

```
displayResume(chosenTemplate);
```

```
    };
```

```
        template1Button.addActionListener(templateListener);
```

```
template2Button.addActionListener(templateListener);
```

```
template3Button.addActionListener(templateListener);
```

```
        templateFrame.setVisible(true);
```

```
    }
```

```
private static void displayResume(String template) {
```

```
    JFrame resumeFrame = new JFrame("Generated Resume - " + template);
```

```
resumeFrame.setSize(800, 1100);
```

```
resumeFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); JTextPane  
resumePane = new JTextPane();    resumePane.setEditable(false);
```

```
String htmlContent = buildResumeHTML(template);  
resumePane.setContentType("text/html");    resumePane.setText(htmlContent);
```

```
JScrollPane scrollPane = new JScrollPane(resumePane);
```

```
JPanel buttonPanel = new JPanel(new FlowLayout());
```

```
JButton backButton = new JButton("Back");
```

```
JButton editButton = new JButton("Edit");
```

```
JButton downloadButton = new JButton("Download PDF");
```

```
backButton.addActionListener(e -> {  
resumeFrame.dispose();    showTemplates();  
});
```

```
editButton.addActionListener(e -> {  
resumeFrame.dispose();    collectUserData();  
});
```

```
downloadButton.addActionListener(e -> {  
    try {  
        saveAsPDF(template);  
        JOptionPane.showMessageDialog(resumeFrame, "PDF downloaded  
successfully!");
```

```

        } catch (Exception ex) {

            JOptionPane.showMessageDialog(resumeFrame, "Failed to download PDF: " +
ex.getMessage());

        }

    });

    buttonPanel.add(backButton);

buttonPanel.add(editButton);

buttonPanel.add(downloadButton);


    resumeFrame.add(scrollPane, BorderLayout.CENTER);

resumeFrame.add(buttonPanel, BorderLayout.SOUTH);

resumeFrame.setVisible(true);

    }

    private static String buildResumeHTML(String template) {

        // Build the HTML for the resume with a circular photo, name, and two-column
        layout

        String html = "<html><body style='font-family: Arial, sans-serif; margin: 20px;'>";

        html += "<div style='display: flex; align-items: center;'>";

        html += "<img src='file:///\" + photoPath + \"' style='border-radius: 50%; width:
120px; height: 120px; margin-right: 20px;'>";

        html += "<div><h1 style='margin: 0; font-size: 26px;'>\" + name + \"</h1></div>";

        html += "</div>";    html += "<hr>";    html += "<div style='display: flex;'>";

        html += "<div style='width: 45%; padding-right: 20px;'>";    html +=

"<h2>Contact Info</h2>";

        html += "<p><strong>Email:</strong> \" + email + \"<br><strong>Phone:</strong>

```

```

"    + phone    + "<br><strong>Address:</strong>"    + address    +
"<br><strong>LinkedIn:</strong>" + linkedin + "</p>";    html +=

"<h2>Profile Summary</h2><p>" + summary + "</p>";    html +=

"<h2>Skills</h2><ul>";    for (String skill : skills.split(",")) html +=

"<li>" + skill.trim() + "</li>";    html +=

"</ul><h2>Languages</h2><ul>";

    for (String language : languages.split(",")) html += "<li>" + language.trim() +
"</li>";    html += "</ul></div>";    html += "<div style='width:
55%;>";    html += "<h2>Professional Experience</h2><p>" + experience
+ "</p>";    html += "<h2>Education</h2><p>" + education + "</p>";
html += "</div></div>";    html += "</body></html>";    return html;

}

```

```

private static void saveAsPDF(String template) throws Exception {

    Document document = new Document(PageSize.A4);
    PdfWriter.getInstance(document, new FileOutputStream("Resume_" +
name.replace(" ", "_") + ".pdf"));

    document.open();

    // Add photo    if

(photoPath != null) {

        Image photo = Image.getInstance(photoPath);

        photo.scaleToFit(120, 120);

        photo.setAlignment(Element.ALIGN_LEFT);

        photo.setAbsolutePosition(40, 730);    document.add(photo);

    }
}

```

```

// Add text content

document.add(new Paragraph(name,
FontFactory.getFont(FontFactory.HELVETICA_BOLD, 20)));

document.add(new Paragraph("\nContact Info"));    document.add(new
Paragraph("Email: " + email));    document.add(new Paragraph("Phone: " +
phone));    document.add(new Paragraph("Address: " + address));

document.add(new Paragraph("LinkedIn: " + linkedin));    document.add(new
Paragraph("\nProfessional Summary\n" + summary));    document.add(new
Paragraph("\nSkills\n" + skills));    document.add(new
Paragraph("\nLanguages\n" + languages));    document.add(new
Paragraph("\nProfessional Experience\n" + experience));    document.add(new
Paragraph("\nEducation\n" + education)); document.close();

}

}

```

Result:

Professional Resume Builder

Full Name:

Email:

Phone:

Address:

LinkedIn ID:

Professional Summary:

Education:

Skills:

Languages:

Work Experience:

Upload Photo:


Choose a Resume Template

Template 1
(Professional)

Template 2
(Modern)

Template 3
(Creative)

Generated Resume - <html><center>Template 3
(Creative)</center></html>



John Doe

Contact Info

Email: johndoe@email.com
Phone: (123) 456-7890
Address: 123 Main Street, Apt. 4B New York, NY, 10001 USA
LinkedIn: linkedin.com/in/johndoe

Profile Summary

Highly motivated and results-driven marketing professional with 5+ years of experience in digital marketing, content creation, and social media management. Proven track record of driving engagement and increasing brand visibility across various online platforms. Adept at managing cross-functional teams and collaborating with clients to achieve marketing goals. Passionate about staying on top of industry trends and leveraging new technologies to drive innovative marketing strategies. Seeking to contribute to a dynamic marketing team at a forward-thinking company.

Skills

- Digital Marketing Social Media Management Content Creation & Copywriting SEO & SEM Data Analytics & Reporting Email Marketing Campaigns Adobe Creative Suite (Photoshop
- Illustrator) Google Analytics & Ads Project Management

Languages

Back

Edit

Download PDF

Generated Resume - <html><center>Template 3
(Creative)</center></html>

- Digital Marketing Social Media Management Content Creation & Copywriting SEO & SEM Data Analytics & Reporting Email Marketing Campaigns Adobe Creative Suite (Photoshop
- Illustrator) Google Analytics & Ads Project Management

Languages

- English (Fluent) Spanish (Intermediate) French (Beginner)

Professional Experience

Marketing Manager Creative Solutions Agency, New York, NY June 2021 – Present Led a team of 5 to create and execute digital marketing campaigns for 10+ clients across various industries. Increased social media engagement by 30% through strategic content planning and paid advertising. Managed a \$200,000 annual marketing budget, optimizing spend to achieve a 25% increase in ROI. Developed and implemented email marketing strategies that resulted in a 15% increase in click-through rates. Social Media Specialist Innovative Brands LLC, New York, NY June 2020 – May 2021 Created and curated content for social media platforms (Instagram, Facebook, Twitter), growing follower base by 40%. Collaborated with influencers and brand ambassadors to increase brand awareness. Analyzed social media metrics and adjusted strategies, improving engagement rates by 20%. Produced monthly performance reports and presented findings to senior leadership. Marketing Intern XYZ Corporation, New York, NY January 2020 – May 2020 Assisted in the development of marketing materials, including brochures, flyers, and digital content. Supported the creation of email marketing campaigns, achieving a 10% increase in open rates. Conducted market research to identify consumer trends and helped adjust marketing strategies accordingly. Participated in brainstorming sessions for new marketing initiatives and campaign ideas.

Education

Bachelor of Science in Marketing University of New York, New York, NY Graduation Date: May 2020
Relevant Coursework: Digital Marketing, Consumer Behavior, Market Research, Branding, Advertising Strategies

Back

Edit

Download PDF

CONCLUSION:

☐ **Achievements:**

This project successfully created an easy-to-use application for building and downloading professional resumes. It provides customizable templates and offers a preview before downloading the PDF.

☐ **Future Improvements:**

In the future, more templates could be added, and users could be allowed to save multiple resumes. Other improvements could include a spelling check feature and the ability to change font styles.