CSS 418

APPLICATION SECURITY

GROUP 14

SOFTWARE DOCUMENTATION

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TITLE: STUDENTS SCHOOL PORTAL

Project Objectives and Audience:

The objective of this endeavour is to develop a fully operational web application tailored for students of a specific school. This platform will enable students to access their school portal, process tuition fee payments, register for courses online, and conveniently view their registered courses.

VITAL QUESTIONS TO NOTE:

1. Can a student do a course registration without tuition fee payment?
   Answer is No. This web app aims at restricting students from being able to do their course registration until the tuition fees have been paid.

General Features;

The website contains students' data but the major features include tuition fees payment and course registration.

How it works

-A student logs into the school portal

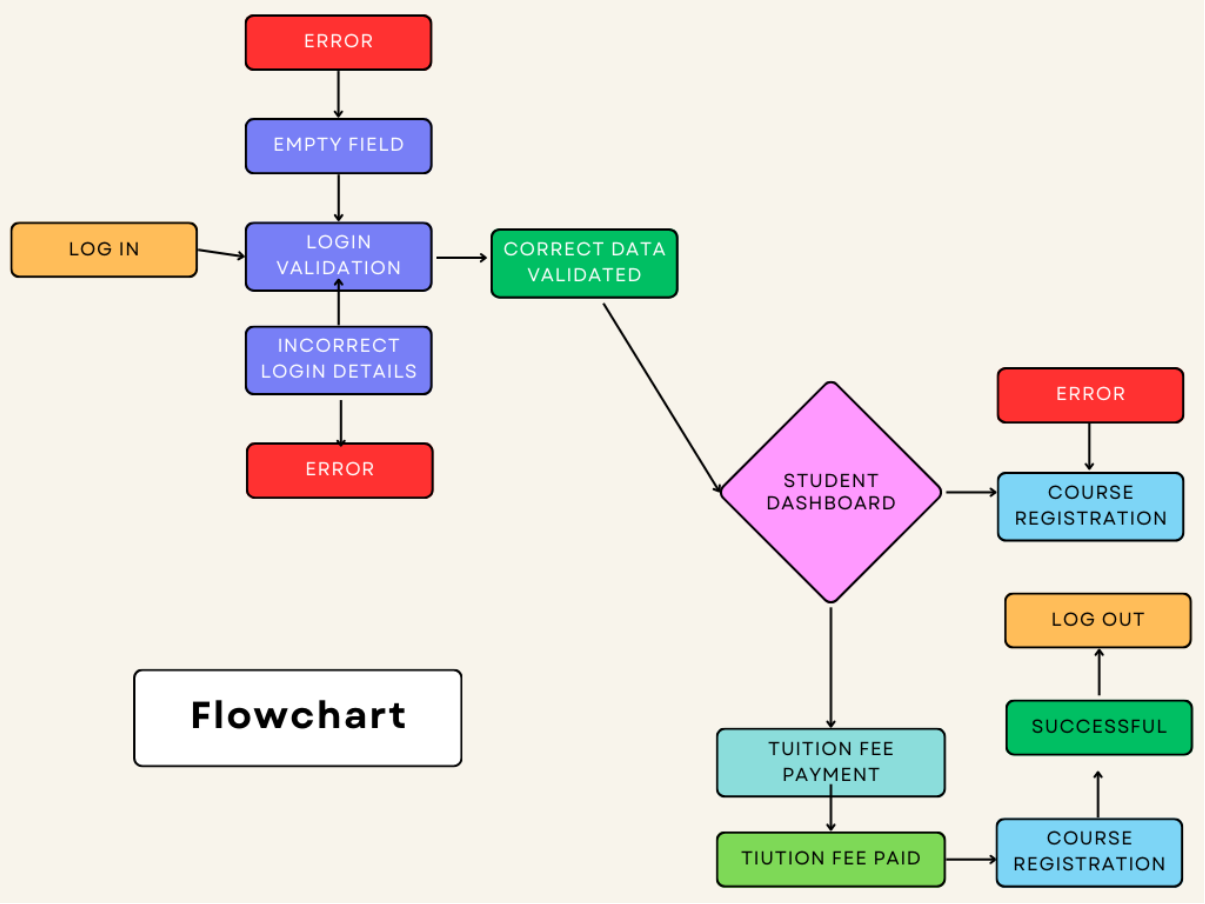
-Pays tuition Fees

-Do course registration

-Save course registration

-Course registration form is stored in the database

-Log out and terminate session



TECHNOLOGIES USED

This website was built on Visual Studio Code with the following technologies:

HTML: The general Buildup was don using hyper text markup Language

CSS: Cascading Style Sheet was used for the beautification of the website

Java Script: The major functionalities of the website like input validation and Selection of courses was implemented using Java Script.

MongoDB: You'll also need to install the necessary dependencies (express, body-parser, and mongodb) and running locally on the default port (27017).

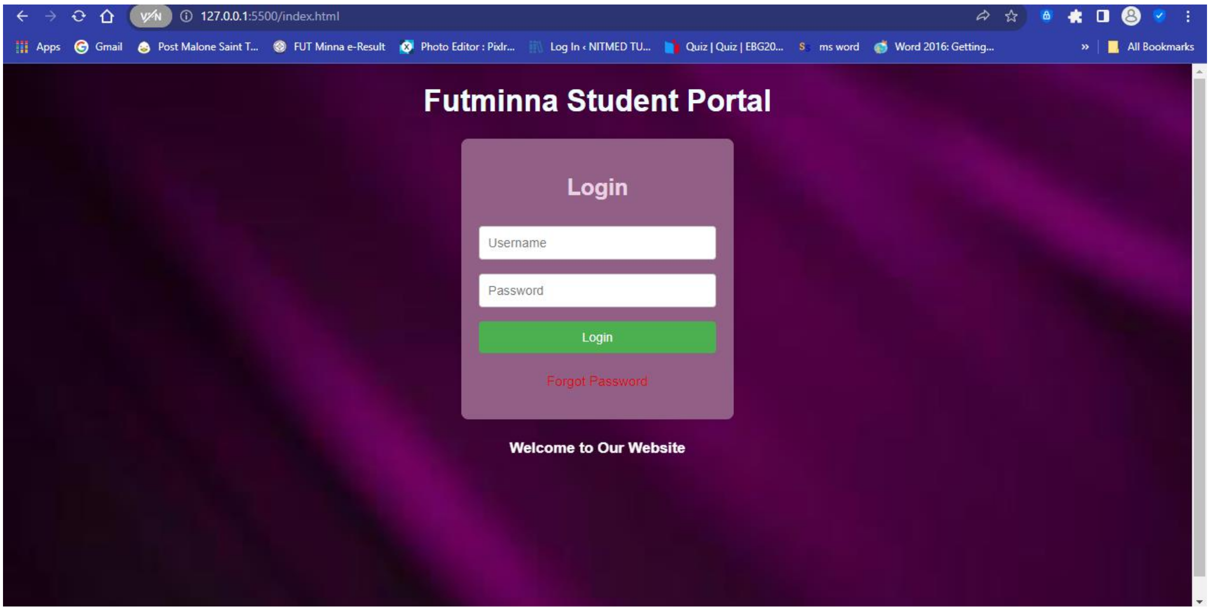
using npm or yarn.

Security Features:

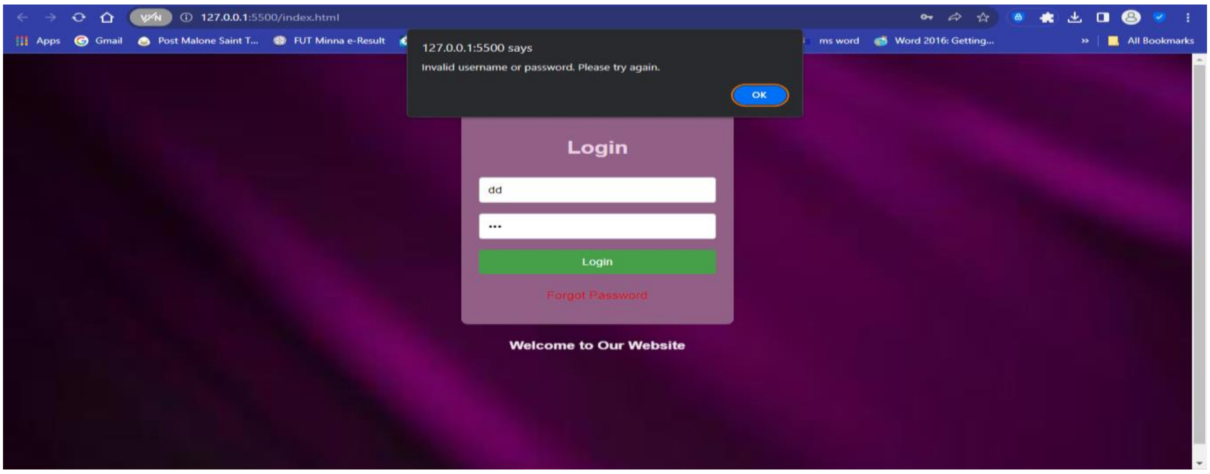
Input Validation: Robust input validation mechanisms have been meticulously integrated throughout the system to fortify its resilience against common security vulnerabilities. For instance, the login page is fortified with input validation routines ensuring that any attempt to submit the form with empty fields is effectively thwarted, thereby mitigating the risk of potential injection attacks. Similarly, within the confines of the payment gateway, a comprehensive suite of input validation protocols has been enshrined, meticulously scrutinizing various input fields to thwart any nefarious attempts aimed at exploiting vulnerabilities.

Password Privacy Implementation: Recognizing the paramount importance of safeguarding user credentials, a stringent password privacy implementation has been instituted within the system. Specifically, the password input field has been diligently fortified to obfuscate the actual characters being entered, thereby ensuring that sensitive password information remains clandestine and impervious to prying eyes. This proactive measure not only enhances user confidence but also acts as a formidable deterrent against potential eavesdropping and unauthorized access attempts.

User Validation Mechanisms: Upholding the sanctity of user authentication processes, stringent user validation mechanisms have been meticulously woven into the fabric of the system. Leveraging a sophisticated validation framework, the login page meticulously verifies user credentials against the authoritative data repository, thereby ensuring that only authenticated users with valid credentials are granted access to the system's privileged functionalities. This robust authentication mechanism acts as an impregnable barrier, thwarting any unauthorized access attempts and fortifying the system's defenses against potential security breaches.



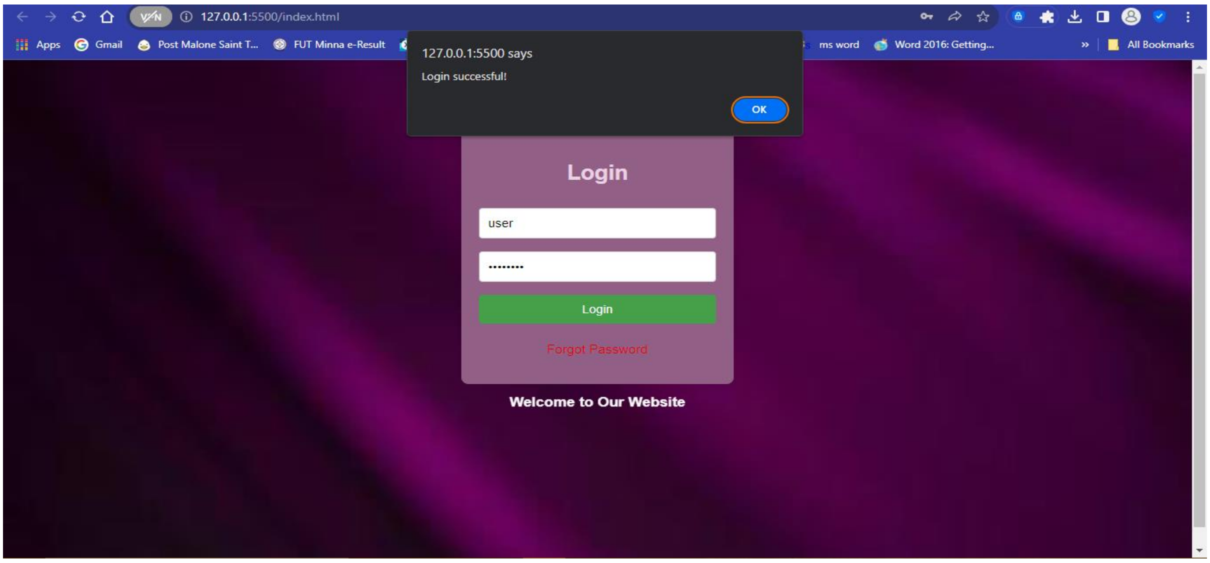
SNAPSHOT OF THE LOGIN PORTAL



127.0.0.1:5500 says

Invalid username or password. Please try again.

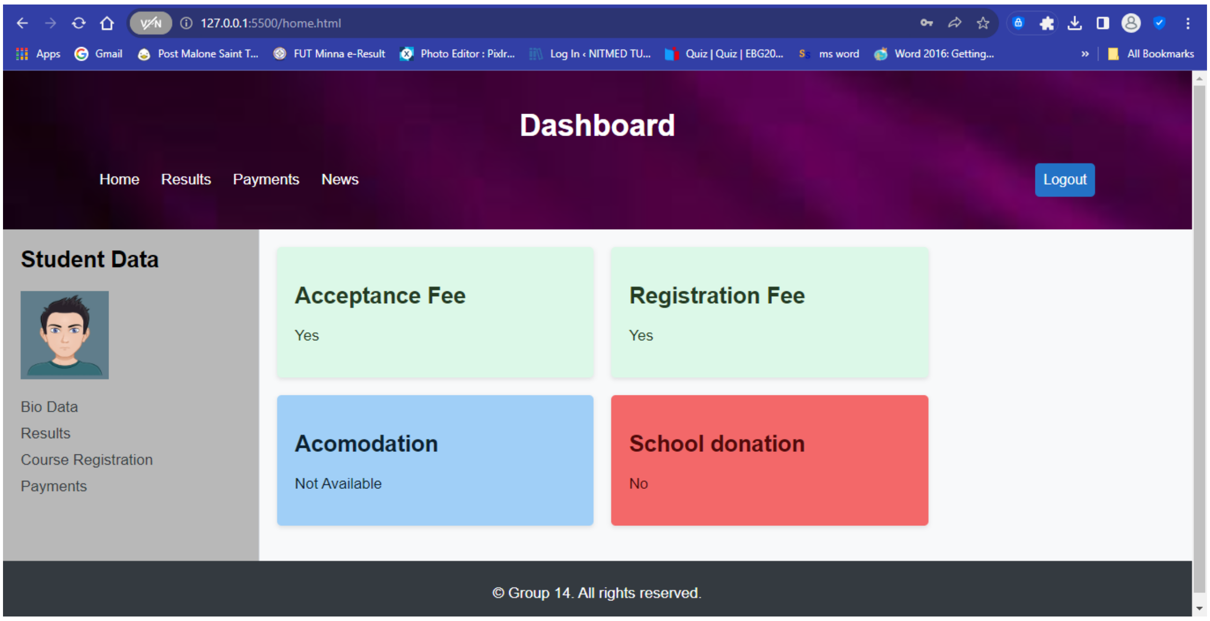
SNAPSHOT DISPLAYING INPUT VALIDATION



127.0.0.1:5500 says

Login successful!

SNAPSHOT DISPLAYING SUCCESSFUL LOG IN



Dashboard

Home Results Payments News

Logout

Student Data

Bio Data
Results
Course Registration
Payments

Acceptance Fee Yes	Registration Fee Yes
Acomodation Not Available	School donation No

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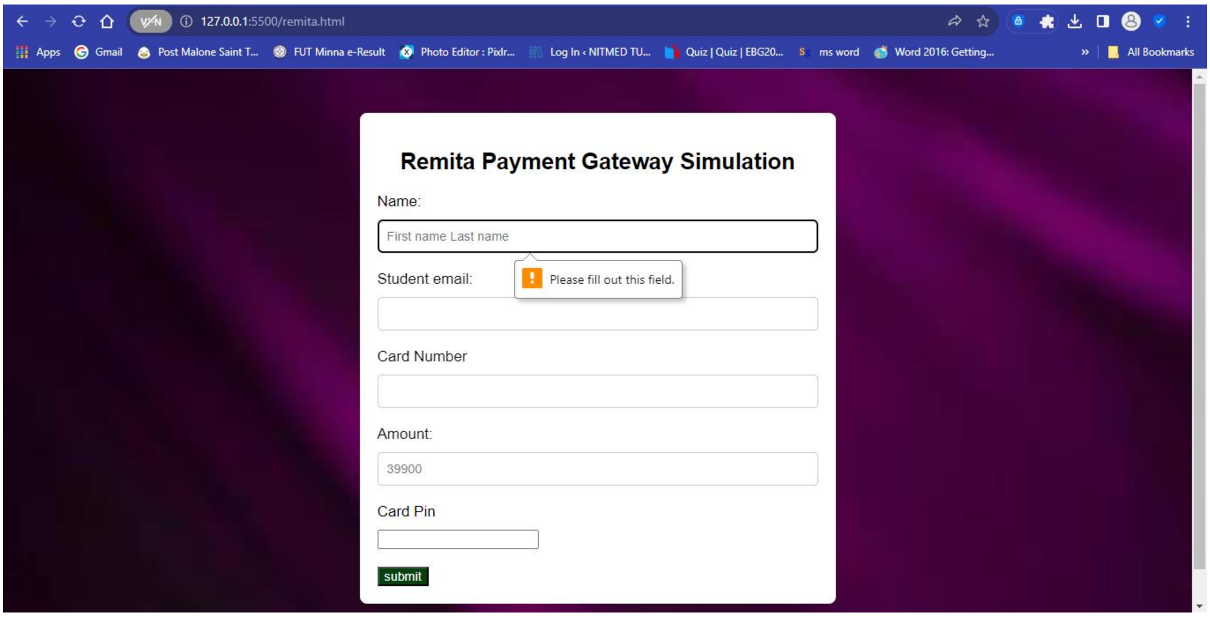
SNAPSHOT DISPLAYING STUDENT DASHBOARD



Remita Payment Gateway Simulation

Name:

First name Last name

Please fill out this field.

Student email:

Card Number

Amount:

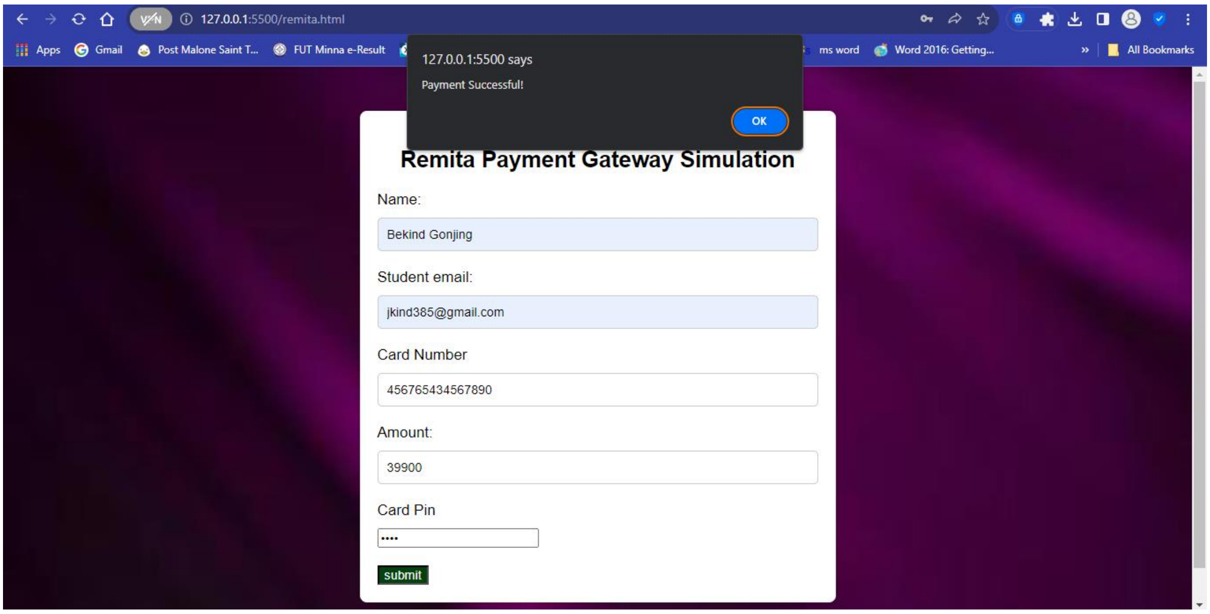
39900

Card Pin

submit

SNAPSHOT DISPLAYING PAYMENT GATEWAY

It also displays input validation on the payment portal



127.0.0.1:5500 says

Payment Successful!

OK

Remita Payment Gateway Simulation

Name: Bekind Gonjing

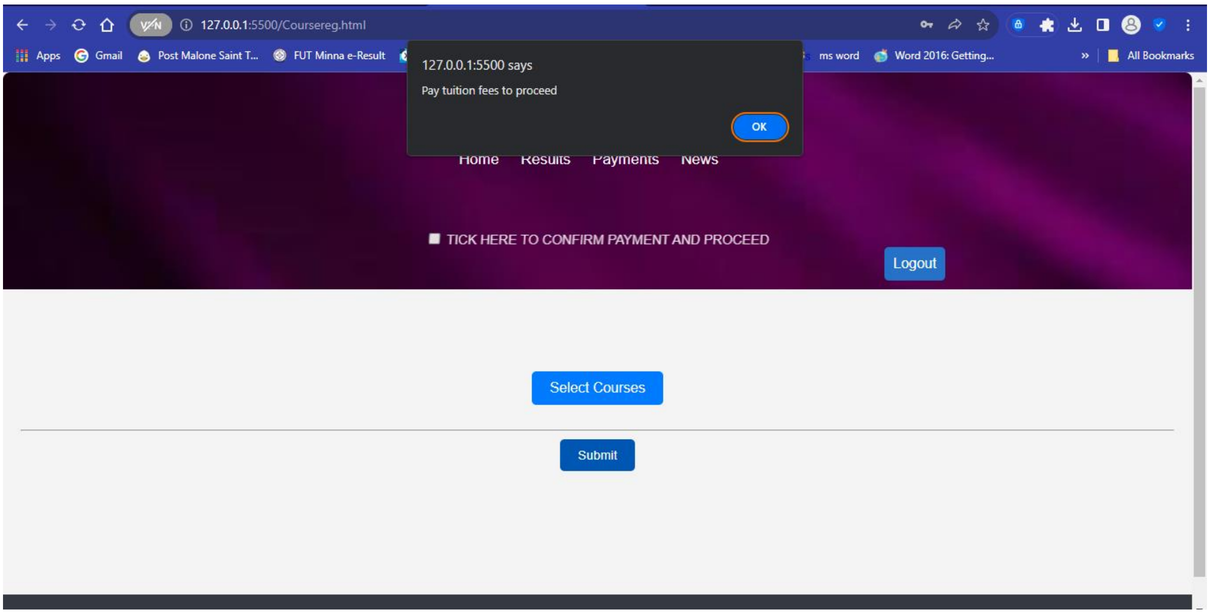
Student email: jkind385@gmail.com

Card Number 456765434567890

Amount: 39900

Card Pin ••••

A SUCCESSFUL PAYMENT REDIRECTS THE STUDENT TO THE COURSE REGISTRATION PORTAL



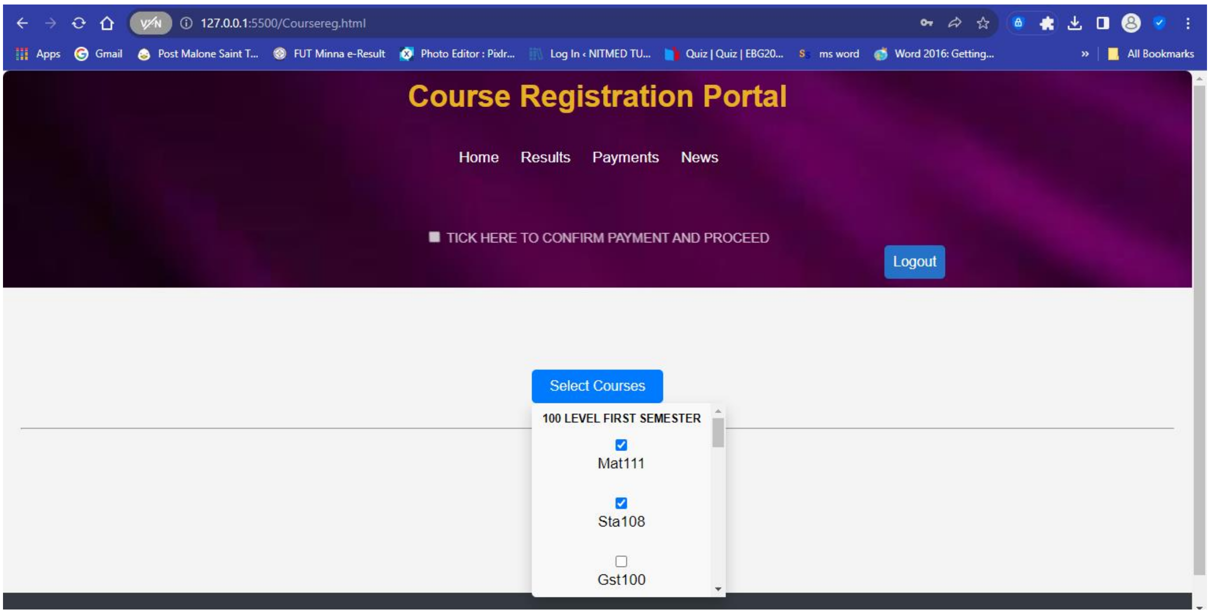
127.0.0.1:5500 says

Pay tuition fees to proceed

OK

□ TICK HERE TO CONFIRM PAYMENT AND PROCEED

THE PAYMENT CHECKBOX MUST BE CHECKED BEFORE COURSE REGISTRATION CAN BE DONE



Course Registration Portal

□ TICK HERE TO CONFIRM PAYMENT AND PROCEED

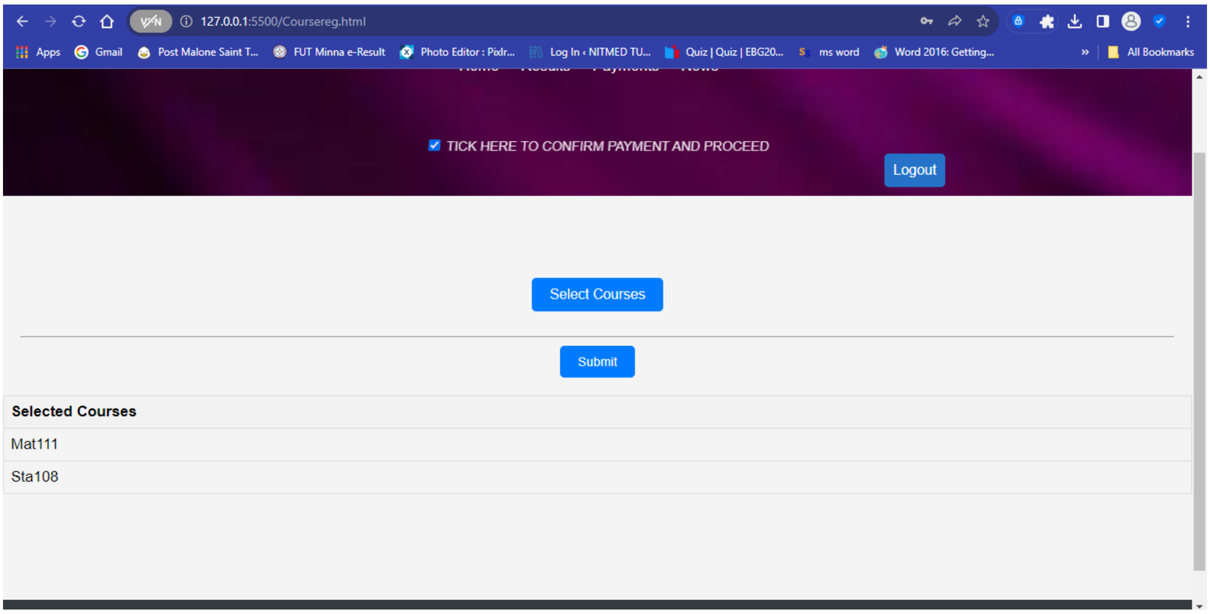
100 LEVEL FIRST SEMESTER

☑ Mat111

☑ Sta108

□ Gst100

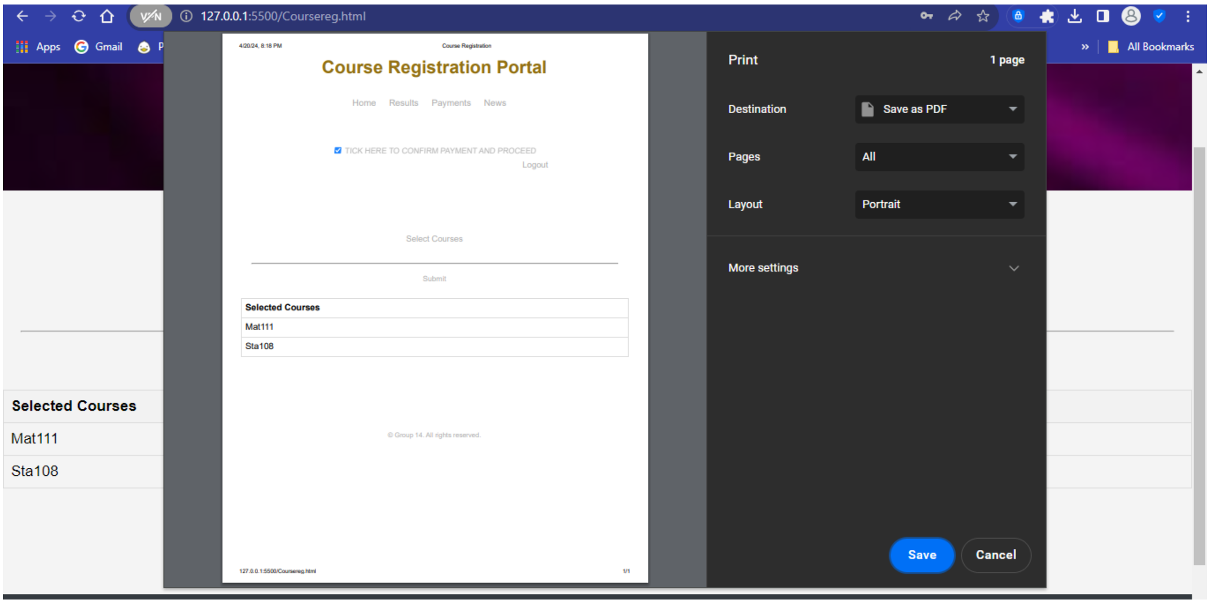
SNAPSHOT DISPLAYING COURSES SELECTION



☑ TICK HERE TO CONFIRM PAYMENT AND PROCEED

Selected Courses
Mat111
Sta108

DISPLAY OF SUBMITTED COURSES



4/20/24, 8:18 PM Course Registration

Course Registration Portal

☑ TICK HERE TO CONFIRM PAYMENT AND PROCEED

Selected Courses
Mat111
Sta108

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127.0.0.1:5500/Coursereg.html 1/1

Print 1 page

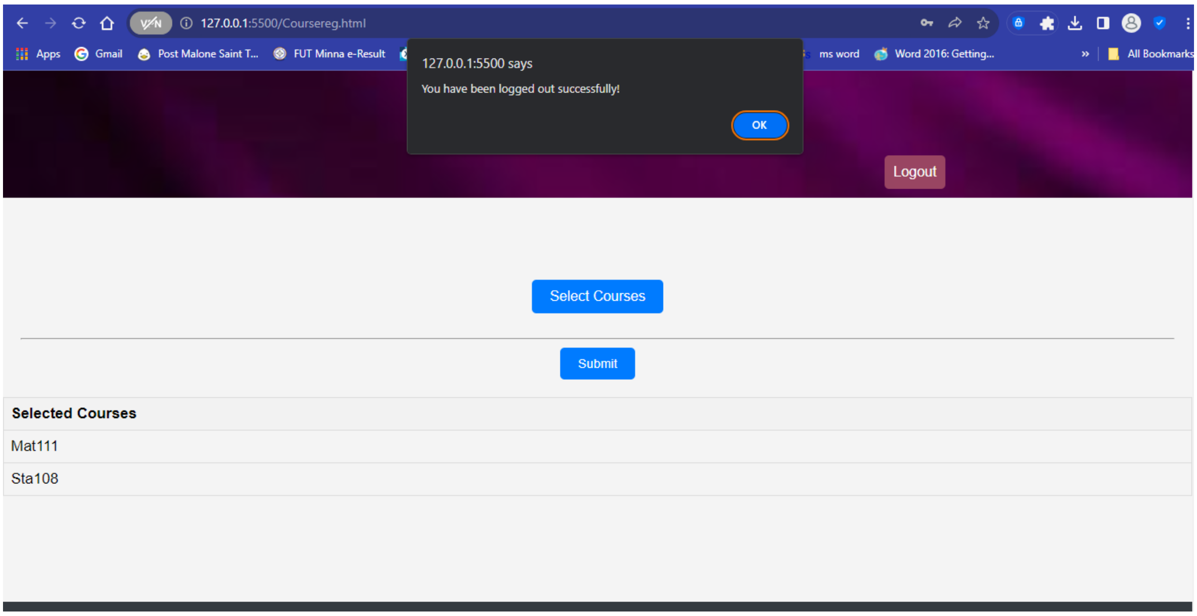
Destination: Save as PDF

Pages: All

Layout: Portrait

More settings

PRINTING OF THE COURSE REGISTRATION FORM



127.0.0.1:5500 says

You have been logged out successfully!

Selected Courses
Mat111
Sta108

SNAPSHOT DISPLAYING LOGGIN OUT AND TERMINATION OF SESSION