Project training and Project preparation Report

Project Training is an essential and compulsory component of the Bachelor of Computer Applications (BCA) curriculum, undertaken by students during their sixth semester. This training plays a pivotal role in bridging theoretical knowledge with practical implementation.

To remain aligned with evolving industry standards and technological advancements, the tools selected for this year's training were Python and Django—two prominent technologies in the domain of modern web development.

Outcomes:

- Students received hands-on experience in developing full-stack web applications.

- They explored backend functionalities with Python and learned how to integrate frontend components using Django's MVC architecture.

- The training emphasized real-world application development, fostering skills in coding, design, deployment, and debugging.

- It provided exposure to version control, database integration, and responsive web interfaces.

The successful implementation of Python and Django in this training module not only strengthened students' technical skills but also prepared them to meet industry expectations with confidence and competence.

Duration: 30 working days: 4 weeks (25 April 2025 – 31th May 2025)

Participants: 52 BCA students

About Technologies

Python: The Backbone of Modern Programming

- **General-Purpose Language:** Python is known for its flexibility—it powers applications in web development, data science, machine learning, AI, automation, scientific computing, and more.

- **Readable & Concise:** Its clean syntax and readability make it ideal for learners and professionals alike.

- **Rich Ecosystem:** With libraries like NumPy, Pandas, Matplotlib, and TensorFlow, Python supports everything from data analysis to neural networks.

- **Strong Community:** A vast global community contributes to Python's growth, ensuring constant support, updates, and innovation.

- **Cross-Platform Compatibility:** Python runs seamlessly on different operating systems, fostering easy deployment and integration.

Django: Fast, Secure Web Development with Python

- **Python-Based Framework:** Django builds on Python's simplicity, enabling developers to create robust and scalable web applications.

- **Rapid Development:** It offers ready-to-use components like authentication, admin interface, URL routing, and database handling.

- **Security-Focused:** Django proactively protects against threats like SQL injection, cross-site scripting, and CSRF attacks.

- **Scalable Architecture:** Major websites such as Instagram and Disqus use Django, showcasing its capability to handle high traffic and complexity.

- **"Batteries-Included" Philosophy:** It comes with everything you need to build a full-fledged application, reducing reliance on third-party tools.

After the training, students were grouped in teams of 5–6 and guided to create Full-Stack Web Applications using Django. These projects helped them understand how frontend and backend components work together. They made use of Django's built-in features and some external packages and Python to complete tasks and improve functionality.

Core Django Tools used for Full Stack Development

- Django Admin

- ORM (Object-Relational Mapping)
- URL Dispatcher
- Forms Framework
- Authentication System
- Template Engine

Frontend Integration Tools

- Tailwind CSS or Bootstrap
- HTMX or Alpine.js
- Django Templates + JavaScript

The list of students along with their respective project work is as follows:

Art Gallery

- Manisha Kumari
- Aditya Kumar Sharma
- Kritika Kumari
- Urvashi Kumari
- Honey Anand
- Khushnuma Khan

E Commerce

- Rohit Bouri
- Rohit Kumar Sharma
- Om Shivam Mahto
- Kanchi Kumari
- Aditi Choubey

Health Care

- Shivam Saw
- Anurag Kumar Singh
- Vikash Purty
- Shubham Kumar
- Sahil Kumar Rawani

Online Voting System

- Md Umar Juned
- Abhiraj Singh
- Samar Satyam
- Rohit Kumar
- Muzaffar Hussain

Online Food Ordering

- Ujjwal Kumar Chauhan
- Rohit Shukla
- Anmol Kumar Singh
- Gourinath Mahato
- Aman Kumar

Online Job Portal

- Salu Kumari
- Rahat Afroz
- Anshu Kumari Gupta
- Sanjana Kumari
- Abhishek Kumar

Online Video Streaming

- Piyush Gupta
- Bipin Kumar
- Rahul Kumar
- Md Sahil Khan
- Md Zishan Alam

Personal Finance Tracker

- Priti Kumari
- Riya Kumari
- Anshika Verma
- Sahil Kumar
- Kiran Kumari
- Anjali Kumari

Quiz Platform

- Hasnain Ansari
- Roshni Roshan
- Rupa Kumari
- Md Mozammil Hussain

Learning management system

- Vivek Kumar Mahato
- Chanda Kumari
- Md Altamas Alam
- Laxman Kumar Hembram
- Dipika Kumari