Bytexl's guided projects

Build job relevant skill sets by developing solutions to practical use cases

Bytexl's educators have created specialised guided projects so you can practice current technology languages / softwares such as Python.

Educators should create a Guided Project for students to execute on the Bytexl App. Students should be able to complete the project in a short duration of time: 20 hours and the use case chosen should enable them to attend interviews with confidence.

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Educators should create a project scenario which will enhance the job relevant skills as they guide the project through with a specially created hands-on experience available on Bytexl's app.

Note: Placeholders have been created for educators to appropriately fill in the relevant details

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Guided projects should be created with the following content:

Project based learning course overview:

In this guided project, students will develop a Pharmaceutical Website using Django, focusing on web development, data handling, UI/UX design, and project management. The project provides students with a hands-on approach to understanding backend and frontend fundamentals, showcasing how to build an interactive, informative website for a real-world use case in the pharmaceutical industry.

About the project:

The SVS Pharma Website project is designed to help students understand the end-to-end process of developing a database-driven website. Students will implement features such as user authentication, product and service catalog management, a contact form for customer inquiries, and essential UI/UX elements. This project introduces key concepts in web development, enabling students to create user-friendly and functional websites.

Prerequisites:

Students should have a basic understanding of:

- General programming concepts in Python
- Django fundamentals (models, views, templates)
- HTML and CSS for basic frontend integration
- Git for version control and project management

What Will You Learn?

Students will learn:

- How to develop a Django-based web application tailored for a specific business need.
- Techniques to structure and manage a website's backend and frontend.
- Best practices for handling user authentication, data entry, and management.
- Methods for creating a professional, accessible user interface.
- Techniques for performance optimization and basic SEO (Search Engine Optimization).

Skills you will practice:

- Python & Django Development: Gain practical experience in Django, focusing on backend development.
- Database Management: Learn to create, store, and manage data entries for product catalogs and user inquiries.
- Web Application Security: Implement user authentication for secure data handling.
- UI/UX Design: Design intuitive navigation, layouts, and form handling for user engagement.
- Data Validation: Build forms with validation to ensure accurate data entry and storage.
- SEO Basics: Apply techniques for search engine visibility through metadata and URL structure.

How to execute? Your learning platform:

- Practice new skills by completing job-related tasks
- No downloads or installation required. Use your Nimbus access to access all the tools.
- Practice on your desktop or laptop. This cannot be developed on your mobile phones.

Use Nimbus on Bytexl's platform:

Learn, practice and enhance job relevant skills in just <20 hours>

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- Receive detailed instructions from instructors
- Gain hands-on experience solving real-world case studies
- Enhance your confidence with solutions developed on Nimbus using the latest tools and technologies

Learn step-by-step:

In this guided project, you will find your educator giving you a walk-through to complete your project in 20 hours.

Structure for educators:

How to create the use cases for students to practice?
Instructions:

Welcome to <Pharmaceutical Web Application>. This is a guided project which will take about <20 hours> to complete.
Here are the course objectives and structure:

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Course Objectives:
In this project, we will focus on the following objectives:

Objective 1: Develop an interactive website to showcase SVS Pharma's products and services.
Objective 2: Implement a secure, user-friendly contact form and inquiry management system.
Objective 3: Optimize the website for quick load times and SEO best practices to increase visibility.

By the end of this project you will be able to create a functional Pharmaceutical Web application and understand how Web Development tools use time data to improve productivity and efficiency.

You will deploy the project on the Nimbus Platform using Nimbus Platform using Django and SQLite.

Course Structure:
This course is divided into 3 parts:

1. **Designing and Prototyping**
2. **UI/UX Design**
3. **Backend Development**

Course overview: This is the introductory reading material.

Project structure:

The hands on project on < Pharmaceutical Web Application> is divided into following tasks:

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The hands-on project on the **Pharmaceutical Website** is divided into the following tasks:

Task 1: Project Setup and Environment Configuration

- **Description**: Set up the Django project environment and configure dependencies (e.g., Django and PostgreSQL).
- **Relevance**: Lays the foundation for a robust development environment, ensuring compatibility with project requirements.

Task 2: Database Schema Design and Implementation

- **Description**: Design models for the product catalog, services, and user inquiries, then create and apply migrations.
- **Relevance**: Builds a structured data system, enabling efficient data management and retrieval.

Task 3: User Interface and Navigation Setup

- **Description**: Create the frontend layout, including the homepage, service pages, and product listings. Set up navigation paths.
- **Relevance**: Provides students with experience in UI design and navigation structure, focusing on user engagement and accessibility.

Task 4: Product and Service Page Development

- **Description**: Implement views and templates to display SVS Pharma's products and services, including individual product pages.
- **Relevance**: Teaches students how to retrieve and display database entries dynamically, reinforcing CRUD operations.

Task 5: Contact Form and Inquiry Management System

- **Description**: Develop a contact form for user inquiries, handle data submission securely, and create admin views to manage inquiries.
- **Relevance**: Introduces form handling, data validation, and secure data storage.

Task 6: Deployment and Performance Optimization

- **Description**: Prepare the project for deployment on the Nimbus platform, optimize for performance, and configure SEO settings.
- **Relevance**: Guides students through final deployment practices and prepares the website for real-world usage.

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Meet your educator:

Hi! I am Madhu Sharma, and I will be your instructor for this course. I have over 3 years of experience in Java Ful Stack Development and Salesforce Development. My background includes roles as Software Developer at Wipro. I hold a Bachelor’s degree in Information Technology from Acropolis Institute of Technology & Research. When I’m not teaching, I enjoy reading novels and singing.

Welcome to the Guided Project!

About the Nimbus Platform:

Go to the **Django** section on Nimbus, where you will find a project that bootstraps this application, making it easy to get started with our Pharma Web Application.

Earn a Certificate: After you have completed the **<Pharmaceutical Web Application >** hands-on project, you should complete the Quiz to assess your knowledge. You will earn a certificate if you score 80 % or more

References:
Educators can access the links given below or any other resource for sample use cases and a basic understanding of how to create the project scenarios

Sl. No.	Some References for educators
1	https://leetcode.com/problem-list/du693s/
2	https://www.geeksforgeeks.org/coding-projects-for-beginners/#8-quiz-game
3	https://neetcode.io/courses
4	https://www.designgurus.io