

PRANVEER SINGH INSTITUTE OF TECHNOLOGY

Major Project Proposal

Team Id: 25_CS_4B_05

Team Details:

S	Full Name	Roll No	Branch&Section	Mob No
1	Akshat Nigam (Team Leader)	2101640100028	CS 4B	7905830529
2	Adit Srivastava	2101640100014	CS 4B	6393456091
3	Akhil Tiwari	2101640100026	CS 4B	6394741682
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Project Title:

CampusCode Nexus

Domain: (Select all relevant Options)

1. <u>Software-Web Application</u>	5. Software-Mobile Application
2. Artificial Intelligence/Machine Learning/Deep	6. Computer Vision/Image Processing
3. Block chain	7. Internet of Things
4. Natural Language Processing	8. Big Data / Cloud Computing

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Problem Statement:

In today's fast-paced educational environment, students and educators face numerous challenges in learning and teaching programming languages. Traditional methods of compiling and running code often require installing and configuring various development environments, which can be time-consuming and complex. Additionally, students frequently encounter difficulties when transitioning between different programming languages, as converting code manually is prone to errors and inefficiencies.

Proposed Solution:

Our project aims to address these challenges by developing a web-based application that integrates an online compiler for various programming languages, including C/C++ and Python, and features automated code conversion capabilities. This platform will enhance the learning experience by providing a user-friendly environment that supports students in writing and testing their code without the need for complex setup procedures, and in understanding and transitioning between different programming languages more effectively.

Unique/Distinctive feature of the solution:

- 1). Real-Time Collaborative Coding Environment:** Allows multiple users to edit and run code together simultaneously, enhancing collaborative learning and teamwork, irrespective of their location.
- 2) Intelligent Code Conversion with Contextual Insights:** Translates code between languages while providing contextual explanations, helping users understand language differences and learn more effectively.

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Tools/Technology Uses:

Hardware Requirements:

- **Processor:** Intel Core i3 or higher
- **Hard Disk:** 10 GB available space
- **Memory:** 4 GB RAM
- **OS:** Windows 10 or higher / macOS / Linux

Software Requirements:

- **Frontend:**
 - HTML5
 - CSS3
 - JavaScript
 - React.js
- **Backend:**
 - Node.js
 - Express.js
- **Database:**
 - MongoDB or PostgreSQL
- **Compiler Integration:**
 - API services like JDoodle or Compiler Explorer
- **Code Conversion:**
 - Abstract Syntax Tree (AST) manipulation libraries
 - Custom parsers
- **Development Tools:**
 - Visual Studio Code (or any code editor)
 - Git and GitHub (for version control)
 - Postman (for API testing)

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(To be Filled by Faculty/Evaluator)

Proposal Evaluation:

1. Right Identification of the Problem (Appropriate selection of the problem)?
a) Excellent b) Good c) Needs Improvement d) Unacceptable
1. Relevance of the Solution (Adequately addressing the problem/need)?
a) Excellent b) Good c) Needs Improvement d) Unacceptable
1. Innovativeness in the Solution (Distinctive innovative components/features of the solution)?
a) Excellent b) Good c) Needs Improvement d) Unacceptable
1. Uniqueness of the Solution (Intellectual Property Component)?
a) Excellent b) Good c) Needs Improvement d) Unacceptable

Improvements/ Suggestions by the Evaluator:

1.	
2.	
3.	
4.	

Name of Faculty: Mr. Kumar Saurabh

Designation: Assistant Professor

Signature with Date:

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Instructions:

One Proposal per team will be submitted by the team leader only.

A Team can have maximum 5 Members.

Upload the document in .doc or .pdf format with font size 12, single spacing, Times New Roman font only.