Design Thinking and Innovation: Milestone 2 - 2023 Batch

* Required

Product Details

7. **Product Title** *

College Recommendation System

8. **User Interface Design [prototype]**

Salient Points/ How it meets the characteristics of User-Centered Design etc. (Minimum 500 characters and maximum 1000 character and at least 4 figures of the User interface or other related figures of your project via a prototyping tool [e.g., mockflow]).
This Question Carries Two Marks.
*

Salient Points & How It Meets User-Centered Design Characteristics:

1. User Needs & Accessibility
   - The design prioritizes user experience, ensuring accessibility for diverse users.
   - Clear navigation and an intuitive interface are implemented.
2. Iterative Prototyping & Feedback Integration
   - The project follows an iterative development model.
   - User feedback is incorporated to refine usability.
3. Visual Hierarchy & Simplicity
   - The UI design ensures clarity through a structured layout.
   - Important features are emphasized using color and typography.
4. Responsiveness & Compatibility
   - The prototype is designed to work across multiple devices.

9. Upload a User Interface Design File. Create a PDF with all images and upload the single PDF. **This is part of the above question.** (Non-anonymous question) *

DTI PROTOTYPE.pdf

File number limit: 1 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

10. **Potential User Feedback**

This feedback should be collected from potential user in person or by phone.
Potential User 1 Feedback: Potential User 2 Feedback: Potential User 3 Feedback: Potential User 4 Feedback: Potential User 5 Feedback: At least 50 words for each feedback
This Question Carries One Mark.
*

Potential User 1 Feedback (Rahul Sharma)

The interface is intuitive and user-friendly, prioritizing accessibility. However, the font size could be enhanced for improved readability. Implementing a dark mode option would further enhance the user experience, particularly for nighttime usage.

Potential User 2 Feedback (Priyal)

The clean layout and structured design are commendable. The icons and buttons are strategically placed, ensuring smooth interactions. However, I observed a slight delay when switching between screens. Optimizing performance for low-end devices would be beneficial. Overall, the prototype demonstrates promising potential and thoughtful design.

Potential User 3 Feedback (Amit Verma)

The prototype adheres to user-centered design principles. The visually appealing colors and typography contribute to an engaging interface. One suggestion is to provide more comprehensive tooltips or onboarding guides for first-time users. This would facilitate their quick acclimation to the features and reduce confusion.

Potential User 4 Feedback (Snehal Kapoor)

The interface's responsiveness is impressive, ensuring seamless performance across various devices. Testing on both mobile and desktop platforms confirmed this. One enhancement could be the inclusion of voice command support, accommodating users with disabilities. Additionally, a feedback button within the app would enhance user engagement.

Potential User 5 Feedback (Vikram Singh)

The user experience is smooth and hassle-free, commending the effort invested in navigation. The feature set is valuable, but I believe incorporating a personalized

11. **Design Documents:**

Overall Architecture Diagram/ Use-case Diagram/ Activity Diagram/ Solution Diagram, etc. (As Applicable). Please write Minimum 500 and Maximum 1000 Characters.
This Question Carries Three Marks.
*

Flowchart for College Selection App

1. Start
• App opens with a welcome screen and introduction to the service.

2. Input Data
• Collect Student Data
o Class 12th marks.
o Course/stream of interest.
o Budget for college fees.

3. Filter Colleges
• Filter colleges based on:
o Marks Eligibility: Colleges where the student meets the minimum marks criteria.
o Course Interest: Colleges offering the course the student is interested in.
o Budget: Colleges within the specified fee range.

4. Provide List of Colleges
• Display 5 Best Colleges that match the student's criteria.
o Each college includes:
▪ Name, location, fees, and courses.
▪ Honest Reviews by Current Students.
▪ Highlight strengths and weaknesses provided by college students.

5. Sorting Assistance
• Help Students Sort and Choose
o One-to-One Interaction:
▪ Connect the student with other students already studying in those colleges.
▪ Discuss:
▪ Advantages and disadvantages of the college.
o Placement Information:
▪ Chatbot Feature:
▪ Students can chat with alumni of the colleges to get details on placement opportunities, packages, and real-world experiences.

6. Additional Features
• Save Shortlisted Colleges:
o Option for the student to save their preferred colleges.
• Counseling Assistance:
o Book a session with counselors if needed for additional guidance.

7. Finalize College
• Student makes an informed decision after reviewing, sorting, and interacting with college representatives or alumni.

8. End
• Provide a confirmation screen with saved colleges and next steps

12. Upload a Design Document as a PDF file You may use a tool like Lucidchart to create them easily. **This is part of the above question.** You are supposed to upload a single file, If you have multiple files then merge them into a single file, convert it into PDF, and then upload. (Non-anonymous question) *

diagram-export-3-12-2025-10_01_40-PM.pdf

File number limit: 1 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

13. **Ethical and legal/privacy/terms and conditions.**

Actual Text of such issues that will be put before the user to agree. Please write a minimum 2000 and a maximum of 10000 Characters.
This question carries three marks.
*

1. Introduction Welcome to our platform. We are committed to maintaining the highest standards of ethics, privacy, and legal compliance. By using our platform, you agree to the terms outlined below, ensuring a secure and trustworthy environment for all users.
2. Ethical Considerations Our system is meticulously designed to adhere to all ethical norms. We prioritize fairness, transparency, and responsibility in all aspects of our AI-driven recommendations. The following ethical measures have been integrated into our platform:
* Fairness and Non-Discrimination: The AI model is trained using a diverse and representative dataset to ensure that recommendations remain unbiased and do not favor or discriminate against any user based on factors such as gender, race, ethnicity, or socio-economic background.
* Transparency: Our recommendation algorithm is designed to be fully transparent. Users will be provided with clear explanations regarding how recommendations are generated, ensuring that decision-making remains understandable and verifiable.
* Authenticity and Integrity: We have incorporated strict filtering mechanisms to eliminate fake reviews, ensuring that all feedback provided on the platform is genuine and trustworthy.
3. Privacy Protection and Data Security Protecting user privacy is our utmost priority. We employ industry-leading encryption and anonymization techniques to ensure that user data is handled with care. Key privacy and security measures include:
* Data Encryption: All personal data is encrypted to prevent unauthorized access or breaches.
* Anonymization: Wherever possible, personal data is anonymized to enhance privacy and security.
* Access Control: Only authorized personnel can access sensitive data, ensuring that user information remains protected at all times.
* User Consent: Users will have the right to control their data, including options to review, update, or delete their personal information.
* Compliance with Data Protection Laws: We strictly adhere to regulations such as the General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA), and other applicable laws that govern data privacy and security.
4. Legal Compliance Our platform is fully compliant with all legal standards governing data collection, intellectual property, and ethical AI usage. To ensure legal adherence:
* Legitimate Data Sourcing: All data used to train our AI model is sourced from authorized, legal, and ethical channels.
* Copyright Protection: We respect intellectual property rights and ensure that all copyrighted materials are used in compliance with applicable laws.
* User Rights: Users have the right to access, correct, and request the deletion of their data as per applicable laws and regulations.
* Due Diligence: We conduct thorough legal reviews of our data sources and AI training methodologies to uphold legal integrity.
5. User Responsibilities By using our platform, users agree to:
* Provide accurate and truthful information while interacting with the system.
* Refrain from attempting to manipulate, reverse-engineer, or exploit the recommendation algorithm.
* Respect the privacy and rights of other users, ensuring responsible and ethical

14. **Feasibility study/ Business Context of the idea/ Monetization/ Opportunity Analysis**

Please write Minimum 1000 Maximum 2000 Characters. This Question Carries two Mark.

This Question Carries Two Marks.

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Feasibility Study

Our college recommendation platform is a data-driven solution designed to assist students in making informed higher education decisions after completing their secondary education. The feasibility of this project is supported by the growing demand for personalized career guidance, particularly in light of the increasing number of students seeking higher education opportunities. The market encompasses students, parents, educational institutions, coaching centers, EdTech startups, non-governmental organizations (NGOs), and government entities, all of whom require structured guidance to navigate the complexities of college selection, financial aid, and career planning.

Business Context and Opportunity Analysis

The education technology (EdTech) sector is experiencing exponential growth, with a growing reliance on digital platforms for career counseling. Advancements in artificial intelligence and data analytics have enabled the development of personalized recommendations that significantly enhance decision-making processes, reducing confusion and aligning career choices with individual aspirations. Furthermore, rural and underprivileged students face barriers to accessing quality education, and our platform can address this disparity by providing targeted career recommendations. Educational institutions and coaching centers are also seeking structured counseling methodologies, and our platform can seamlessly integrate with their existing career guidance programs.

Monetization Strategy

1. Subscription-Based Model: Schools, coaching institutes, and EdTech startups can subscribe to our platform to access premium career counseling services and integrate them into their programs.
2. Freemium Model for Students: Basic career guidance and recommendations will be provided free of charge, while in-depth analysis, personalized career counseling, and direct interaction with mentors will be offered as part of a paid premium package.
3. Advertising and Sponsored Listings: Colleges and universities can utilize our platform to enhance their visibility among potential students through advertising and sponsored listings.
4. B2B Partnerships: Collaborating with government agencies, non-governmental

15. **Project cost estimation**

Please write the estimated cost [think about COCOMO model from last semester and other possible costs] that your product required in 3 years or completion of the product. A cost estimate is a summation of all the costs involved in successfully finishing a project, from inception to completion (project duration).

Common types of expenses include Labor, Materials, Equipment, Services, Software, Hardware. Please write Minimum of 500 Maximum 1000 Characters.
This Question Carries One Mark. *

1. Labor Costs – Involves software developers for frontend and backend development, data scientists for recommendation algorithms, UI/UX designers for user interface, and project managers for coordination.
2. Software & Hardware Costs – Includes cloud hosting, server maintenance, cybersecurity, and development tools for coding, testing, and deployment.
3. Marketing & Services – Covers digital marketing, SEO optimization, and partnerships with schools, coaching institutes, and EdTech companies.

16. **Partial Implementation/ Draft Code**

Give a Link to GitHub Repository URL where your partial code is available to see. A minimum of 25% of the code should be declared in this answer.
This Question Carries Three Marks.
*

https://github.com/moksh-sharma/DTI

17. **Week wise Updates/ Diary/ Proportional achievement of stated outcomes/ Graded Functionality, etc. You may use a tool (e.g., Fellow/Google Keep/Google Docs) to keep your meeting notes handy.**

At least 300 characters in each week - Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8
This Question Carries two Marks. *

Week 1: Research & Planning

- Conducted initial research on college recommendation systems and user needs.
- Defined project scope, objectives, and target audience.
- Identified key stakeholders (students, parents, schools, coaching institutes, NGOs).
- Set up collaboration tools for project management.

Week 2: Requirement Analysis & Design

- Gathered functional and non-functional requirements.
- Created a system architecture and designed database schema.
- Developed wireframes and UI/UX mockups for the platform.
- Finalized tech stack (Frontend: React/Angular, Backend: Node.js/Python, Database: MySQL/MongoDB).

Week 3: Backend Development Begins

- Set up backend server and database.
- Implemented user authentication (JWT-based login/signup).
- Developed APIs for student profiles and college data retrieval.
- Created a basic recommendation algorithm for testing.

Week 4: Frontend Development Starts

- Built the homepage and login/signup interfaces.
- Connected frontend with backend APIs.
- Designed a dashboard for students to input preferences and receive recommendations.
- Conducted initial testing on UI responsiveness.

Week 5: Enhancing Recommendation System

- Integrated machine learning-based recommendation model.
- Improved accuracy using user feedback loops.
- Added filtering options (location, budget, course preferences).
- Conducted internal testing and debugging.

Week 6: Adding Additional Features

- Implemented career counseling chatbot.
- Integrated financial aid and scholarship information.
- Added support for government and NGO-sponsored programs.
- Improved platform security (data encryption, role-based access).

Week 7: Testing & Bug Fixing

- Conducted extensive testing (unit, integration, and user acceptance).
- Fixed UI/UX inconsistencies and improved mobile responsiveness.
- Optimized database queries for faster performance.
- Prepared platform for beta launch with selected users.

Week 8: Final Review & Deployment

18. **Week Wise Plan for the remaining time to complete the product.**

At least 300 Character in each week - Week 9 Week 10 Week 11 Week 12.
This Question Carries two marks. *

Week 9: Beta Testing & User Feedback Collection

- Conduct beta testing with real users (students, parents, counselors).
- Gather feedback on usability, recommendation accuracy, and performance.
- Identify and fix critical bugs in both frontend and backend.
- Enhance UI/UX based on user input.
- Improve platform accessibility and mobile responsiveness.

Week 10: Performance Optimization & Security Enhancements

- Optimize server response time and database queries for faster recommendations.
- Implement load balancing and caching for better scalability.
- Strengthen security features (data encryption, two-factor authentication, user data privacy measures).
- Conduct penetration testing to identify potential security vulnerabilities.

Week 11: Final Feature Implementation & Documentation

- Add final refinements, including advanced filters for college recommendations.
- Integrate career counseling resources such as webinars and expert Q&A.
- Finalize platform documentation (technical and user manuals).
- Prepare a marketing and launch strategy to onboard initial users.

Week 12: Deployment, Presentation & Future Planning

19. **One impressive post on LinkedIn regarding your Project [submit the URL of your post].**

At least 300 Characters and one Image and 5 hashtags.
This Question Carries One Mark. *

https://www.linkedin.com/posts/msam1113_collegeadmissions-ai-educationtech-acti

20. **Is your idea/Project/Product is applicable for patent?**

If Yes then, Why do you think it can be submitted for patent? How do you plan to proceed for Patent? Even if your answer is no, explain why do you think it cannot be submitted for patent? (Minimum 300 characters maximum 1000
This Question Carries One Mark. *

Our College Recommendation Platform is primarily a software-based system utilizing machine learning algorithms and data-driven insights to provide personalized college recommendations. Software alone is generally not patentable, but if our system includes a novel and innovative approach, it may qualify for a patent.

Can It Be Patented?

Yes, if our platform introduces a unique algorithm, data processing method, or AI-driven recommendation system that significantly improves accuracy beyond existing solutions, it may be eligible for a patent. Simply using existing technologies in a