

Team Analysis Report

StudyPal

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Section 1 - Analysis

The "StudyPal" app is designed mainly for college or university students, especially those pursuing bachelor's or master's degrees. These students often face various challenges such as managing their academic workload, extracurricular activities, social life, and potentially part-time jobs. The app aims to optimise and enhance their overall student experience by offering guidance in everyday decision-making and assisting them in reaching their academic and personal goals.

The stakeholders for the following "StudyPal" app would majorly include:

Students: The main users of the Application are students, who rely on its features and functionalities to improve both their academic and personal experiences.

Parents or guardians: Tracking their child's academic progress, the courses they are enrolled in, and the career development services the app offers are often priorities for parents.

They are essential for developing a positive and rewarding experience for students.

Educational Institutions: Colleges and universities have a major role in promoting the academic success and general well-being of their students.

Universities often organize career fairs to connect students with potential employers, providing them with valuable networking and job opportunities.

By collaborating with various companies and organizations, universities facilitate job placements and internships for their students, enhancing their career prospects upon graduation.

Professors, Instructors and Teaching Assistants: Professors and Teaching Assistants who would be developing courses and reviewing the curriculum to help students advance on a certain subject

Recognise a student's potential interest and help them explore other courses that will benefit them.

Ensure the security and the integrity of the users are not breached.

Developers and Designers: The individuals responsible for making and keeping the application running.

Professionals in privacy and security: Individuals with the responsibility of making sure user data is kept private and secure within the app.

Potential Employers: Businesses looking to hire graduates with the necessary skills can be interested in instruments that promote student growth and achievement.

1.1 - A summary of the proposed application with an overview of the functionality/features and benefits to the stakeholders.

StudyPal, A cross-platform software application is designed and developed to improve the educational experience for students by providing a variety of academic features and general functionality. It has features for managing workload, planning schedules, accessing learning materials, interacting with teachers, monitoring development, and getting academic help. To maximise the entire student experience, the app also offers tools for managing extracurricular activities, social responsibilities, and part-time jobs. StudyPal also incorporates AI features to enhance its functionality across various areas.

Personalised Learning: Artificial Intelligence (AI) technology allows for hyper-personalization strategies that monitor student data in-depth and provide lesson plans, reminders, study aids, and revision schedules.

Chatbots: The application makes use of AI-driven chatbots to interpret user input and deliver replies that are resembling hence enhancing customer support and service.

The following are the primary features/functionalities of the application:

1. User-Friendly Registration Form :

- A user-friendly registration form for admin users must be completed to set up a profile. This form requests basic information such as **first name, email address, phone number, date of birth, college information**, and uploadable profile photo. The following details are provided: Age (DD/MM/YYYY), College Name, Year (Freshman, Junior, etc.), Degree (Bachelor, Master), Majors (Psychology, Applied Maths, Computer Science), Make your initial password (password@3#4\$, for example; special characters, numerals, and alphabets) · Users may access the application by logging in after registering and confirming the phone number and email. There will be a role-based access control to differentiate between admin users, student users, and guest users. Admin users have full access, while guest users have limited functionalities for monitoring student progress.
- An email and OTP would be sent as part of the verification procedure to ensure account security for all users, including the administrator.

2. **Dashboard View :**

- **Course cards:** Display enrolled courses and community access. Allow direct access to courses and community landing pages, arranged based on usage.
- **Navigation and Access:** Enable direct course access, course overview, and community landing page access. Include a search bar and course filtering options.
- **Display academic progress** for each enrolled course, together with completion percentages and grades, in a progress chart.
- **Important Alerts & Notifications:** Set aside an area for important updates, assignment deadlines, and notifications that must be made quickly.
- **Updates and News:** Include a dynamic feed with pertinent information about future events, academic advisories, and news on campus.
- **Provide links** to student support services, library catalogues, and academic calendars to provide easy access to resources.
- **Show recommendations** for courses and activities that are specific to each student based on their interests and profile.

3. **Sign-in/Sign-out view:**

- A user may examine all the information, features, and learning modules while they are logged in as an administrator or guest.
- Only restricted information is accessible to logged-out users like registered course details; Important alerts and notifications; enrollment requires signing in).

4. **Dashboard Structure and Features:**

- **Header:** The app's logo, a search box for fast course searches, and the student's name and profile photo for customisation will all be shown in the header.
- **Progress Overview:** The student's overall academic performance will be prominently displayed in an impressive progress chart. For each enrolled course, this chart may include completion percentages, grades, or additional relevant information.
- **Course Cards:** Course titles, instructors, progress indicators, and community information will be presented on enrolled courses and community access cards.
- **Important Alerts & Notifications:** A particular section for announcements that must be made quickly, approaching due dates for assignments, and important information from teachers or the school.
- **News and Updates Feed:** Including a dynamic feed with relevant data from the university, such as upcoming events, news from the institution, or advisories for students.
- **Personalized Recommendations:** Present customised course suggestions and upcoming events according to the student's interests and profile, hence promoting student involvement and investigation of unique academic opportunities.
- **Quick Access to Resources:** Links to important resources: job development tools, library catalogues, academic calendars, and student support services.

- **Community Engagement Section:** Include a section with activities that encourage community involvement, including forums, study groups, or collaboration among peers.
- **Calendar and Event Reminders:** Integration of a calendar view with upcoming assignment deadlines, exam schedules, and campus events, along with the option to set personalized reminders.
- **Career Development Resources:** Access to career development resources, internship opportunities, and job placement support, aiming to enhance students' professional growth and preparation for the future.
- **Recommendations and Support Systems:** The addition of a section dedicated to student feedback submission and support service access guarantees an opportunity for student input and assistance when required.

Pro Features:

- **Academic Advisor Powered by AI:** Including an AI-powered academic adviser to offer students personalised course suggestions, study advice, and academic mentoring based on their academic performance and objectives.
- **Gamified Learning Challenges:** Introduction of gamified learning challenges and achievements to motivate student engagement, encourage healthy competition, and reward academic milestones.
- **Virtual Campus Tour:** Virtual tour feature to explore the campus facilities, locate academic buildings, and access virtual resources related to the campus environment.
- **Personalized Mental Health Resources:** Integrating personalized mental health resources, stress management tools, and mindfulness exercises to support students' well-being and mental health.

1.2 Proposed benefits of the StudyPal application for all stakeholders:

1. Student:

- Students can choose from a variety of learning formats that are customised to their learning styles and capacities. These formats include textual study, AR-based intuitive study, video lectures, and audio-only content.
- Career Readiness: Offering practice materials, promotions, and guidance on industrial-level certifications to help students become ready for professional certifications and career progression.
- Academic Support: Resources to help with grade/GPA computation, planning, and organisation that will help improve academic achievement and goal-setting.
- Community Engagement: Encouraging a positive and stimulating learning environment throughout the student body through individualised support, AI tutoring, and collaborative technologies.

2. Institutions, Professors, and Teaching Assistants:

- Effective Learning Environment: To enhance student performance and institutional efficiency, improved tools for academic planning and organisation, collaborative features, and a variety of learning materials are provided.

- **Effective Collaboration:** Resources for academic preparation, individualised student assistance, and effective communication that promote a collaborative learning environment in the classroom.
- 3. **Potential Employers:** Businesses looking to hire graduates with the necessary skills can be interested in instruments that promote student growth and achievement. Access to graduates who have been guided through industrial-level certifications, enhancing their preparedness for the workforce.
- 4. **Developers/Designers:** Contributing to the Inclusive Education platform an opportunity to contribute to a platform that fosters inclusive education, career development, and community engagement, making a meaningful impact on the education ecosystem.

Section-2 User Categories

When building a StudyPal application, the programme will cater to a wide range of consumers that will be categorised, and each user will have certain preferences about the application:

1. **Student is the user category:** Because StudyPal cross-platform software application focused on student usage, it will be accessible to a vast number of students; yet, each student will have unique use cases and opinions about how to use the software. StudyPal will provide Student or User 1 with a dedicated calendar that may be integrated with Google Calendar if they choose to utilise the application to schedule their academic deadlines. Depending on the student's area of interest, the programme has a special feature that searches a list of the most viewed courses or materials, enabling the student to go to the appropriate material with ease. Additionally, StudyPal will be able to help students connect with alumni and mentors for certain courses by providing them with resumes and cover letters that have been reviewed by an automated technology system. It has features for managing workload, planning schedules, accessing learning materials, interacting with teachers, monitoring development, and getting academic help. To maximise the entire student experience, the app also offers tools for managing extracurricular activities, social responsibilities, and part-time jobs. StudyPal also incorporates AI features to enhance its functionality across various areas

2. **Instructors and Faculty User Category:** Require a more effective means of communicating with students, other instructors, and staff members. One could want features for scheduling online meetings or office hours. ClickUp, Calendly, Google meet etc are collaboration tools included in the programme that help professors and faculty plan and prepare for group assignments and

research. The AI-powered search engine may be used by instructors to choose courses and evaluate their students' progress.

4. **Potential Employers:** Businesses looking to hire graduates with the necessary skills can be interested in instruments that promote student growth and achievement.

3. **User Category: Alumni:** The application presents a significant opportunity for alumni interested in mentoring students currently enrolled. The simulated certification exam and career development programmes might help them acquire their desired positions and expand their peer network.

Section-3 Requirements

Functional Requirements:

- **Progress Tracker:** Real-time progress can be measured using graphs and interactive media to track students' progress in courses and assignments.
- **Expansive Database:** The app stores large amounts of data and information so that students can access it anytime and anywhere with dynamic details.
- **Intelligent Reminders:** The app should support features to remind students about study time based on student activity, availability and schedule.
- **Career Development:** The app should support features to include career pathways whenever a student unlocks a new academic milestone to look for potential projects, career insights and internships.
- **Community Support:** The app should include features to collaborate with peers, mentors and instructors to foster learning and gain knowledge through mutual engagement.
- **Customizable Preferences:** The app should support advanced Machine Learning Algorithms to customize learning pathways based on student's preferences, level of understanding and mode of learning.
- **Accessibility:** The app should support features to cater to wide audiences based on their accessibility needs and include features such as On-screen dictation, visually enhanced images and screen captions so that learning is made universal.
- **AI-powered Instructor:** The app should support features to intelligently learn personalized learning and recommend suggestions. In addition to it, the app should offer academic advice and suggest a study schedule to enhance learning.
- **Data Analytics:** The app should support features to analyse data and send feedback based on the report to enhance learning and show areas of expertise and concerns to mark correction.

Non-Functional Requirements:

- **Privacy:** The app should support features to keep the user's data confidential such as email, phone number and address and should include measures to keep the progress of the user private.
- **Robustness:** The app should be robust to handle a large number of users and provide features and animations without witnessing any delay or lag in services.
- **Scalability:** The app should be developed to provide high scalability to accommodate various features without compromising on current needs.
- **Legal and Ethical:** The app should provide information and data that is legal and ethical and free from any sort of plagiarism. Any source or diagram provided should be cited appropriately.
- **Loading Time:** The app should maintain an average load time of under 3 seconds to enhance user experience and reduce bounce rates.

Challenges

User privacy and data protection: The app should ensure features to strengthen the privacy of the user by implementing robust encryption and secure authentication methods.

AI Implementation: The app should incorporate advanced NLP and sophisticated Artificial Intelligence models to enhance personalized learning.

User Engagement: The app should include features to create a rich user experience with smooth and seamless onboarding and screen operations.

Scalability of the App: The App must handle the new user effectively and should ensure very smooth performance over time.

Cross-platform compatibility: The app should be able to work seamlessly across various devices and platforms to enhance student learning.

Sync of the content: The app must sync with every device the student is working with so that the student doesn't need to search again and can resume from the left part.

Quality of the Content: The AI giving the solution should be of great quality for the user to understand. This can be overcome by implementing a good model.

Integrating with existing Education system: The app should be able to integrate with the existing academics of the institutes which can help in creating content for the user based on their requirement.