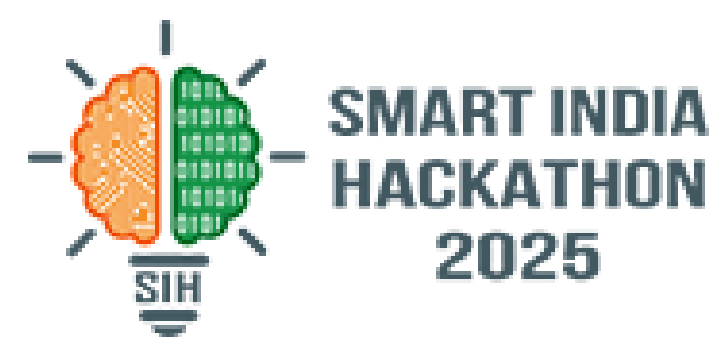


SMART INDIA HACKATHON 2025



- **Problem Statement ID – SIH25019**
- **Problem Statement Title- Digital Learning**
Platform for Rural School Students in Nabha
- **Theme- Smart Education**
- **PS Category- Software**
- **Team ID-**
- **Team Name - Xenovate**



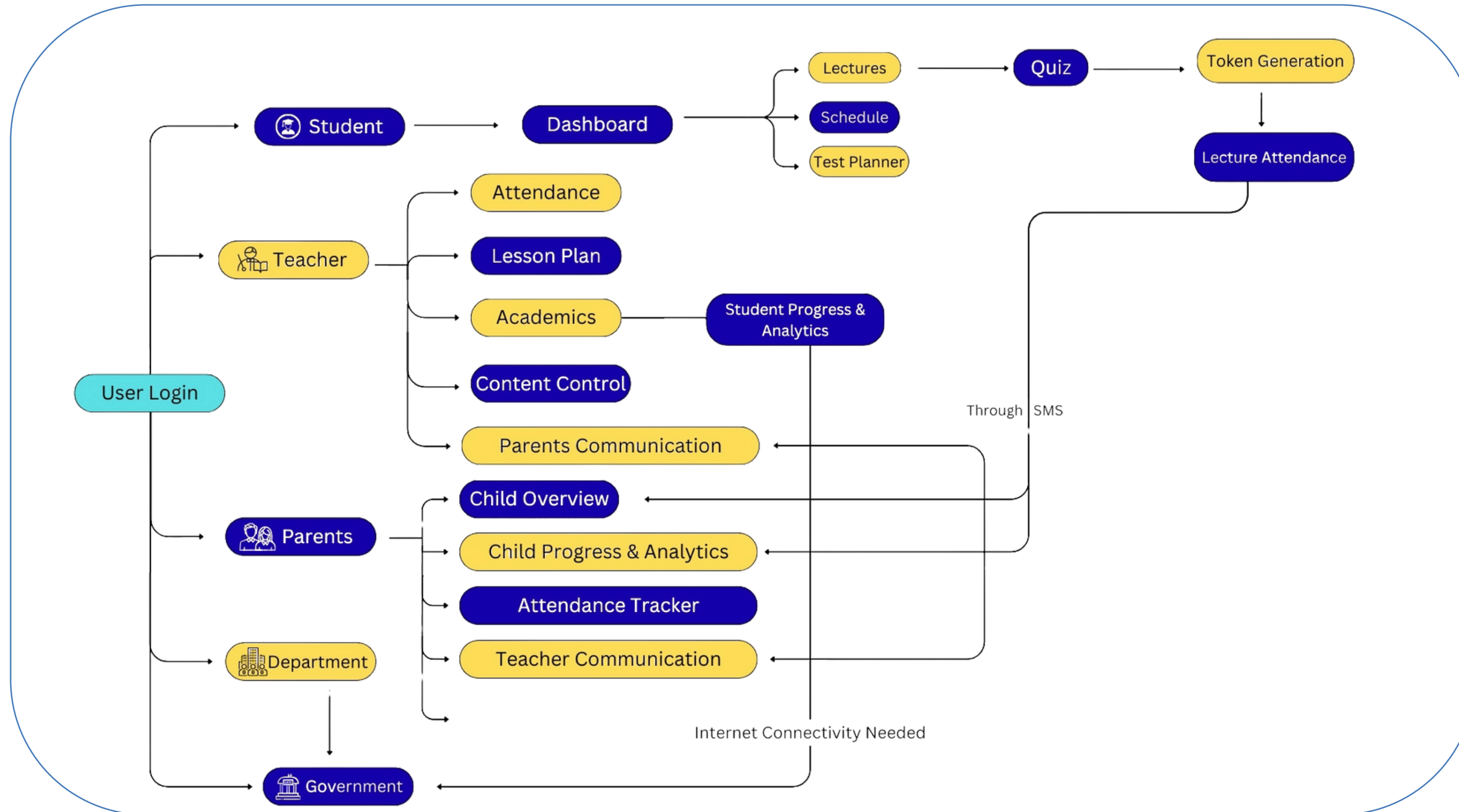
FACING PROBLEMS

- Rural schools in Nabha lack reliable internet and updated infrastructure
- Teachers struggle with outdated systems.
- Students cannot access modern digital learning.
- Parents have no digital visibility into student progress.
- Rural education is facing a growing digital divide.



SOLUTION

- Developing a *web-based* application for teachers and students to collaborate without high-end networking.
- Teachers can share lectures, schedules, and planners.
- Runs on simple connectivity for maximum participation.
- Includes digital quizzes and games for learning.
- Provides administrative control to school authorities and Punjab government.



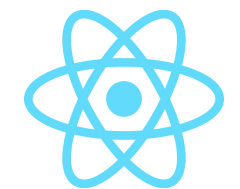
Programming Languages
Python / JavaScript



Database
Supabase / MySQL



Frontend
React.js / Tailwind




Backend
FastAPI




ANALYSIS OF FEASIBILITY OF DATA


Technical Feasibility

 The required technologies (**react.js** , **MySQL** , **FastAPI**) are readily available and well documented , making development feasible.


 Cloud platforms ensure **scalability and performance**.


Market Feasibility

 There is a growing interest in digital learning , especially in rural sectors.

 The solution aligns with the growing trend of **digital education** and **virtual experiences**.

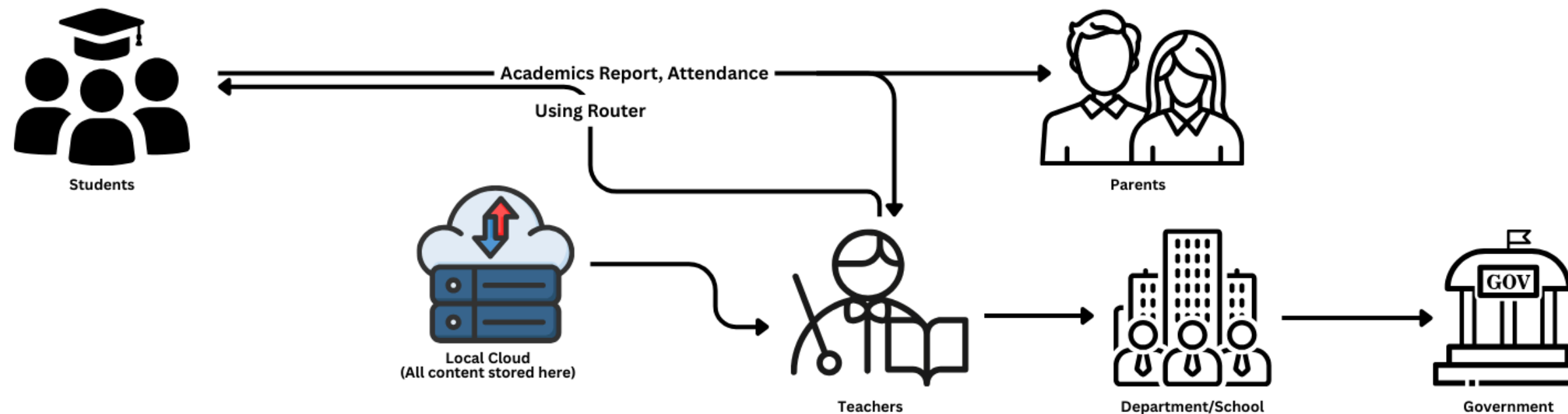
CHALLENGES & RISKS

 **Data Handling:** Managing and **storing large lecture** files for daily sharing is a major challenge.

 **Data Accuracy:** Ensuring **correct content, reports, and sensitive information** reach teachers, parents, and authorities is crucial.

 **User Adoption:** Engaging users on a virtual platform is difficult, especially for **non-technical audiences**.

- **Improved Accessibility** – Rural students can access lectures anytime, reducing the digital divide.
- **Enhanced Engagement** – Interactive quizzes and planners make learning enjoyable.
- **Transparency** – Teachers, parents, and authorities receive accurate academic updates.
- **Skill Development** – Students and teachers adapt to digital platforms, building technical confidence.
- **Technical Feasibility** – Use of lightweight frameworks ensures smooth performance on low resources.
- **Data Handling Insights** – Efficient storage strategies help manage large lecture files.
- **Adoption Strategies** – Simple UI/UX encourages non-technical users to participate.
- **Best Practices** – Referenced models from existing e-learning solutions guided design improvements.



- The Nabha Foundation — Education Programs, Nabha (free, equitable, quality education, Navi Disha Schools) - <https://thenabhafoundation.org/education/>
- Annual Status of Education Report 2024 — Punjab Rural Data (enrollment, learning levels, school resources) - <https://asercentre.org/wp-content/uploads/2022/12/Punjab-1.pdf>
- “ASER 2024: In rural Punjab, only 34% class-III kids can read basic text but arithmetic skills improve significantly” — Indian Express article Nabha Power - <https://indianexpress.com/article/cities/chandigarh/aser-punjab-class-3-students-can-read-basic-text-arithmetic-skills-9803822/>
- CSR: To Promote Inclusive Education, Distribution of School Kits to Rural Students - https://csrbox.org/Impact/description/India_CSR_news_To-Promote-Inclusive-Education,-Nabha-Power-Distributes-School-Kits-to-Rural-Students_2155