16/9/25

Q) SRS document for mini project

* Problem statement:

Smart education, a concept that describes learning in the digital age. It enables learners to learn more effectively, efficiently, flexibly, & comfortably

* purpose of the document:

The document specifies the requirements for the smart education system designed to enable effective, efficient, flexible and comfortable digital learning

* Scope of the document:

The system provides online and hardware integrated learning resources, interactive sessions, assesments & personalized learning paths. It benefits students, teachers and institutions by offering flexibility, scalability & smart classroom features

* Overview:

Smart Education enchances traditional learning with digital tools, real-time interaction, adaptive content delivery, & hardware assisted educational support for classrooms and remote learning environments

* General Description:

→ Students to access course materials anytime, attend virtual/physical smart classes take quizzes & track progress

→ Teachers to create & manage digital content, evaluate student performance, & conduct virtual classrooms

→ Institutions to enable hardware-integrated smart education environments with dashboards, analytics, and collaboration tools

→ Community features include discussion forums, project collaboration and peer to peer learning

* Functional requirements

→ User registration and authentication
→ Access to digital learning materials
→ Virtual classrooms
→ Personalized learning recommendations based on student performance
→ Progress tracking and performance reports with real time analytics
→ Teacher dashboards for course creation, assessments and feedback
→ Hardware integration for smart boards, tablets and IOT based classroom tools

* Interface requirements

→ User interfaces: web & mobile applications
→ Hardware interfaces: Smart boards, tablets, Iot classroom devices
→ Software interfaces: Integration with video conferencing API's learning analytics tools
→ Database: cloud based storage for user and course data
→ communication: Messaging, notification and alert services

* Performance requirements

→ The system should support at least 10000 concurrent users
→ Reponse time must be less than 3 seconds
→ Uptime should be 99.9% to ensure reliability for academic use
→ Hardware devices should sync in real time with cloud services

* Design Constraints
  - → must run on common web browsers
  - → cloud based deployment for scalability
  - → Compliance with data privacy regulations
  - → Hardware compatability with low power smart devices

* Non functional requirements
  - → Security: Encrypted login, secure data transfer, role based access
  - → Reliability: Automatic backup, disaster recovery & offline access support
  - → Scalability: Handle growing users, content and devices
  - → Usability: Intuitive UI suitable for students, teachers & administrators
  - → Portability: Cross platform access across devices

* Preliminary schedule and Budget
  - → Requirement analysis - 2 weeks
  - → System & Hardware design - 3 weeks
  - → Development - 6 weeks
  - → Testing - 3 weeks
  - → Deployment - 2 weeks
  - → Budget estimation - 6 - 8 lakhs

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