

Experiment – 2

Aim: Functional and non-Functional components of Event Management System.

1) Functional Components

- a) **User Authentication & Authorization**
 - i) Secure login and signup (JWT-based authentication)
 - ii) Role-based access control (admin, user)
- b) **Event Management**
 - i) Add, edit, delete, and categorize events
 - ii) View event history
- c) **Multi-User Support**
 - i) Different users can manage their own expenses
 - ii) Admin can oversee organization-wide expenses
- d) **Backup & Data Recovery**
 - i) Cloud-based and external storage backups

2) Non-Functional Components

- a) **Performance**
 - i) Fast response times using RESTful API
 - ii) Optimized database queries with MongoDB indexing
- b) **Scalability**
 - i) Supports increasing number of users and expenses
 - ii) Cloud-based deployment ensures scalability
- c) **Security**
 - i) Encrypted data storage for sensitive information
 - ii) Secure API calls with authentication tokens (JWT)
- d) **Usability**
 - i) Intuitive UI/UX with React.js
 - ii) Responsive design for mobile, tablet, and desktop

e) Availability & Reliability

- i) High uptime with reliable hosting
- ii) Regular automated backups to prevent data loss

f) Maintainability

- i) Modular codebase using the MERN stack
- ii) Version control with Git for smooth updates

Conclusion

The functional components ensure that users can efficiently manage and track their expenses, while the non-functional components guarantee system security, performance, and scalability. Together, these components contribute to a robust and user-friendly Expense Management System.