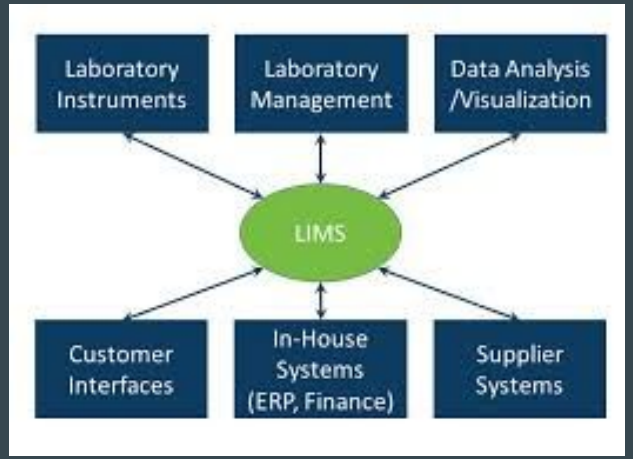
Reverse Engineering Laboratory Information Management Systems (LIMS)

Progress Report and Next Steps

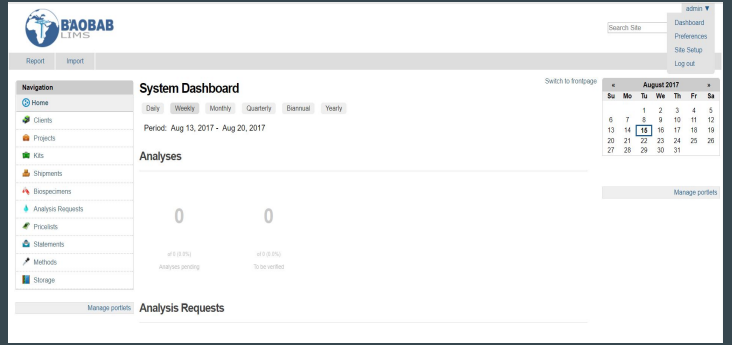
Key Deliverables:

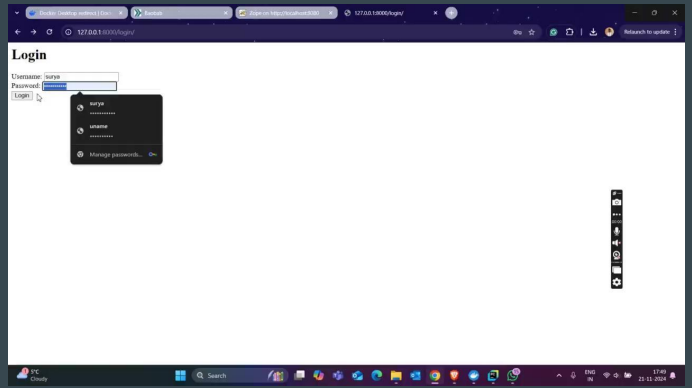
- Secure User Management: *Role-based access with MFA and strong password policies.*
- Data Security: *Encrypted storage and communication of sensitive data.*
- Interactive Usability: *CLI interface for system interactions.*
- Visual and Data Analytics: *Graphical insights into system usage and trends.*



Project Progress

- Initial Attempt
  - Used an existing GitHub repository (Baobab LIMS) as a base.
  - The pas.plugins.tfa plugin (for MFA) was incompatible due to Python 2.7 dependency.
  - Abandoned this approach due to technical limitations and deprecated software.
- Prototype Development
  - Built a basic login and logout flow for a new prototype.
  - Users can create, delete, save, and edit data.
- Current Focus
  - Planning to add MFA for login security.
  - Encrypting data during storage using cryptography.Fernet.





Further Work

- Security Features:
  - MFA Integration: Enhance login security to prevent unauthorized access.
  - Data Encryption: Encrypt sensitive data during storage and secure report exports.
  - Audit Logs: Track every action performed for transparency.
- User-Friendly Design:
  - CLI Menu: Intuitive main and submenus for task management.
  - RBAC (Role-Based Access Control): Define user actions based on roles (e.g., Admins vs. Technicians).
- Data-Driven Insights:
  - Visualization Reports: Implement graphical summaries for system usage and trends.

Timeline

Day	Task
Day 1-2	Implement data encryption during storage and report exports.
Day 3-4	Add role-based access control (RBAC) for user actions.
Day 5-6	Develop CLI interface with a menu and submenus for data insights.
Day 7-8	Create data visualization reports and integrate with the CLI.
Day 9-10	Testing and debugging
Final	Preparing final deliverables.