**IS 601 – FINAL PROJECT**

**Learning Outcomes:**

I gained a solid understanding of using FastAPI to design APIs, including how to handle requests, dependencies, and connect logic.Implementing RESTful endpoints that follow industry standards like BREAD and HATEOAS was another aspect of my work.I was able to manage asynchronous sessions, understand connection pooling, and design and implement normalised relational database schemas using SQLAlchemy ORM.I gained experience in using Pydantic models for API input validation and response serialization, as well as advanced SQLAlchemy querying techniques including joins, filters, and pagination.Creating QR codes using the qrcode package, adding custom parameters, and safely encoding user data with base64 all helped me expand my skill set. I also solved difficult technical issues with database transaction management, base64 encoding, and matching SQLAlchemy models with Pydantic schemas. Debugging complicated issues and testing API functioning in a variety of scenarios—including simulating practical uses and incorrect input handling—improved my analytical skills. I have worked on the searching and filtering as well to learn more about these functionality implementations.

**GIT REPOSITORY LINK:**

<https://github.com/vt325456/user_management>

**DOCKER HUB LINK:**

<https://hub.docker.com/repository/docker/vt325/user_management/>

**FEATURES I HAVE WORKED ON:**  
1. QR Code Generation User Invites with Minio

2. User Search and Filtering

**ISSUES I HAVE WORKED ON:**

1. [Bug - Mismatching Nickname](https://github.com/vt325456/user_management/issues/1)
2. [Bug - Profile picture validation not present](https://github.com/vt325456/user_management/issues/5)
3. [Bug - Email Verification without RoleBased approach](https://github.com/vt325456/user_management/issues/4)
4. [Bug - Dependency issues in Image Scanning with Vulnerabilities](https://github.com/vt325456/user_management/issues/3)
5. [Bug - Docker Build Failure](https://github.com/vt325456/user_management/issues/2) [bug](https://github.com/vt325456/user_management/issues?q=is%3Aissue+is%3Aopen+label%3Abug)

Along with all these I have updated the coverage by adding 10 Test cases to the code.