**INFO 5100 Application Engineering and Development Final Project Statement**

**Smart mailing system for secure organization**

E-mail is a method of exchanging digital messages from an author to one or more recipients. Email operates across the Internet or other computer networks hence considered to be more vulnerable. E-mail is considered more valuable than phone for business communication. The three main principles of Information Security involve maintaining the confidentiality, integrity, and availability of information resources. These three principles can be directly applied to the area of email security as well. Confidentiality of email involves making sure it is protected from unauthorized access. Integrity of email involves a guarantee that it has not be modified or destroyed by an unauthorized individual. Availability of email involves ensuring that mail servers remain online and able to service the user community. A weakness in any one of these three key areas will undermine the security posture of an email system and open the door to exploitation.

Objective of the project is to establish the secure email network across the organization. Each organization has specific email domain. This project involves two organization health care and finance dealing with patient’s PHI data and billing details. Information are shared across the network through emails, work request which needs to be protected. System of security together with admin department takes care of mail communication between and outside the organization. This project facilitate Patient to view their PHI data, vital history data and billing information online and raise request in case any updates are required in any information. This request than goes through a process of resolution from multiple department of the organization.

Actors involved and respective use cases

1. Network Admin
2. Log in the application
3. Manage Organization
4. Health care
5. finance
6. Manage organization admin
7. Broadcast mail (general information)
8. Network SOC (Security Operation center)
   1. Log in authentication
   2. Manage inter organization mail communication
   3. Track mail activities
   4. View report of organization with maximum internetwork mail
9. Organization admin
10. Log in authentication
11. Manage user account inside organization
12. Broadcast mail within organization
13. Broadcast mail to other organization
14. BI reports of various roles
15. Nurse
16. Log in authentication
17. Attend Patient (can register also if not registered)
18. Take Vital sign of Patient
19. View vital history
20. Create work request to doctor
21. Doctor
    1. Log in authentication
    2. Serve nurse request
    3. Diagnose patient and prescribe medication
    4. Create work request to lab if any test required
22. Lab assistant
23. Log in authentication
24. Serve doctor request
25. View patient vital history
26. Employee
27. Log in authentication
28. Manage request from patient
29. Browse patient finance detail
30. Email patient via SOC approval
31. Organizational SOC
32. Log in authentication
33. Authenticate inter organization mail communication
34. Forward mail to patient CC employee regarding changes
35. BI reports of employee sending mail
36. Patient
37. Log in authentication
38. Register himself in hospital network
39. View PHI data
40. Request SOC for any changes in personal details
41. Request mail for medication receipt information