HACETTEPE UNIVERSITY

BBM485

Software Architectures
Assignment 2

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216-----

1. **Identify at least 7 requirements for two products addition to former products.**

   a. **Mobile Email Application**
      - i. I want to login using my email address and password.
      - ii. I want to send emails.
      - iii. I want to get notifications when I receive emails.
      - iv. I want to attach files to my emails.
      - v. I want to set up a signature for my emails.
      - vi. I want to set up a profile picture.
      - vii. I want to create labels for organizing my email.

   b. **Mobile Conference Application**
      - i. I want to video chat with people.
      - ii. I want to login using my email address and password.
      - iii. I want to share my screen with people.
      - iv. I want to record the sessions.
      - v. I want to set up a virtual background.
      - vi. I want to write text messages during the conference.
      - vii. I want to mute/unmute myself or turn on/off my camera.

2. **Give a name for your domain. Identify your problems and model your problem domain.**

    a. **Domain Name:** Mobile Communication

    b. **Problems:**
        i.   What should be the robustness of the system?
        ii. Graphical UI problem.
        iii. What is currently available?

    c. **Problem Model:**

Problem ID	001
Name	What should be the robustness off the system?
Description	High traffic is expected, so the domain should be able to handle a growing amount of work by adding resources.
Initial State	Not robust.
Desired State	Robust enough.
Priority	1
Type of The Problem	Quality
Sub-Problems	How to limit costs? How to create assets? How to use assets? How to store assets?
Solution Domain	Business Economics Product Management Multimedia Asset Creation Multimedia Asset Usage Storage Acquirement

Problem ID	002
Name	Graphical UI Problem
Description	A nice and sleek graphical UI will allow users to quickly become familiar with the product to make good use of all of the product's features and capabilities.
Initial State	Bad and complex.
Desired State	Minimal and modern.
Priority	2
Type of The Problem	Computer Science Domain
Sub-Problems	How to test UI? How to pick colors?
Solution Domain	Testing User Interface

Problem ID	003
Name	What is currently available?
Description	There are already many mobile applications similar to these apps which serve the same purposes.
Initial State	Other apps are better.
Desired State	Our app is better.
Priority	3
Type of The Problem	Application Domain
Sub-Problems	How to differentiate our product? How to set prices? How to test user experience?
Solution Domain	Market Research User Experience Business Economics

3. **Define your problem mapping from your problems to domain solutions.**

Sub-Problem	Solution Domain	Priority
How to limit costs?		
	Business Economics	1
	Production Management	2
How to create assets?	Multimedia Asset Creation	2
How to use assets?	Multimedia Asset Usage	1
How to store assets?		
	Storage	1
	Acquirement	2
How to test UI?	Testing	1
How to pick colors?	User Interface	2
How to differentiate our products?	Market Research	2
How to set prices?		
	Business Economics	2
	Market Research	3
How to test user experience?	User Experience	3

4. **Model your domain solution patterns for each problem you identified.**

| Name	Robustness
Problem	What should be the robustness of the system?
Context	Present robustness is not enough and there is a room for growth.
Forces	Limit costs Asset creation Asset usage Asset storage
Solution	Increasing asset numbers, optimizing their usage while limiting costs.
Consequences	Increased storage and traffic handling, optimization. Increased cost and maintaining.
Rationale	High traffic is expected, so the domain should be able to handle a growing amount of work by adding resources to the domain.

Name	Graphical UI
Problem	Graphical UI Problem
Context	Current UI is bad and must be improved.
Forces	UI testing Color picking
Solution	Modernize and simplify UI, choose a relevant color palette and test the results.
Consequences	Increased cost and work time. Increased UX, customer satisfaction and better branding.
Rationale	A nice and sleek graphical UI will allow users to quickly become familiar with the product to make good use of all of the product features and capabilities.

| Name	Competition
Problem	What is currently available?
Context	There are already many mobile applications similar to these apps which serve the same purposes.
Forces	Product differentiation Price setting UX testing
Solution	Do a market research to assess the competitors and make your product more unique, affordable or less affordable according to your business strategy, and test your product.
Consequences	Increased cost and work hours. Increased client number, sales and branding quality.
Rationale	Market is huge and currently available products are already being used, so there must be reasons to attract customers from them.

5. Model your feature model.
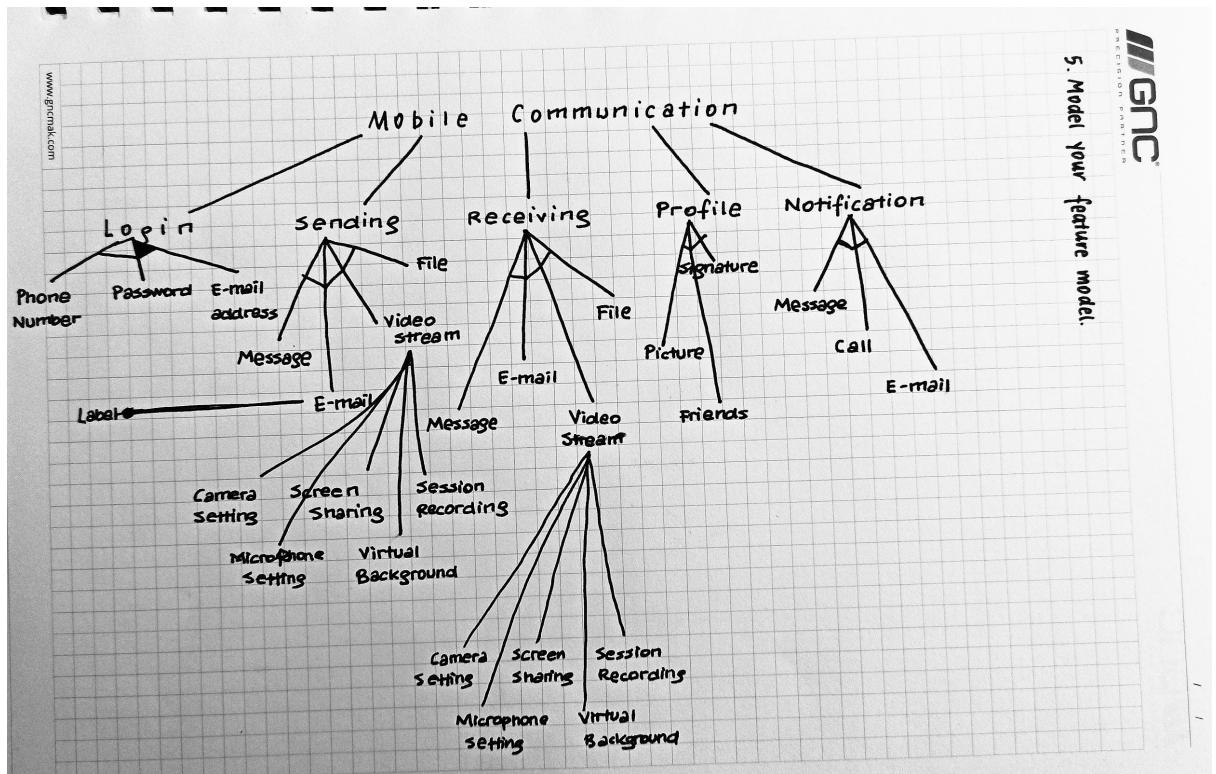
6. Create your reference architecture including your patterns.
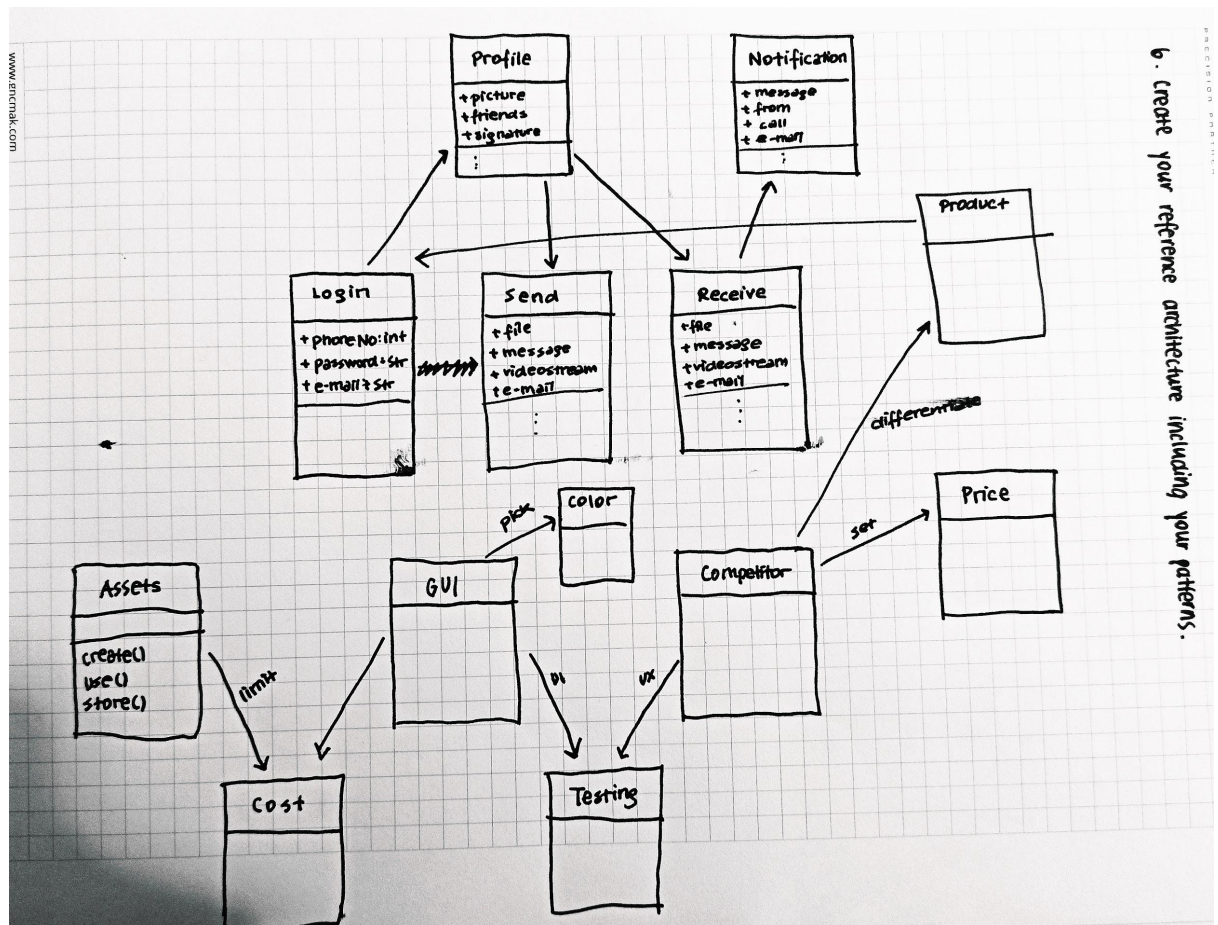
7. Create your SP03 –3 Software Product feature model.
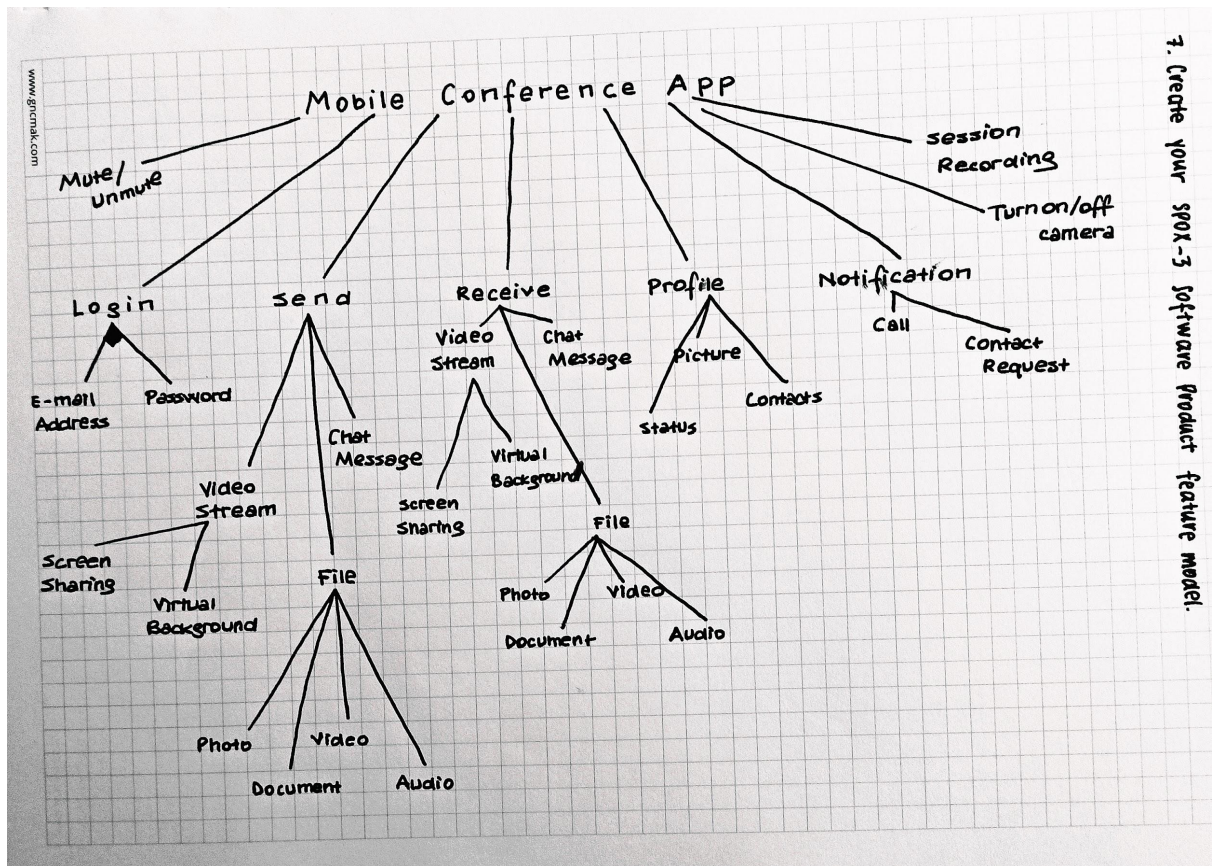
8. **Create your SP03 –3 Software Product architecture model.**