FIT2001 - A1 Requirements Gathering

Team Members:

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1.1 Interview Agenda

Setting

Objective of Interview

Determine the functional requirements for system design of Dr Lee's clinic, specialising in pregnancy diabetes.

Date, time and location

Monash University, Woodside Building, 106.

User participants (names, titles, positions)

Dr Lee, Doctor of Medicine.

Project Team Leader

- Ali Unia

Project team members/ participants

- Akhil Boda
- Arop Achier
- Bryan Soegiarto

1.2 Interview Record

(interview questions & discussion)

- **Functional Requirements**:
    a. **Record Patient Details**: The system is required to store and manage patient information, including contact details, expected delivery dates, and medical history.
    b. **Online Data Entry**: Patients must be able to enter and update their health data online (e.g., blood glucose levels), which doctors can review.
    c. **Instant Feedback**: The system must provide immediate feedback to patients based on their data entries, reducing the need for clinic visits.
    d. **Remote Monitoring**: Doctors are required to monitor patient data remotely, with the system highlighting urgent issues for prompt response.

- **Non-Functional Requirements**:

e. **Data Confidentiality**: The system must make sure to give secure access to patient data, maintaining tight confidentiality.
f. **System Reliability**: The system should reduce data entry issues and ensure consistent performance, particularly in managing patient records and scheduling.
g. **Resource Management**: The system should efficiently provide patients with access to quality resources, reducing administrative workload.
h. **Certification Tracking**: The system must track the accreditation and certification of doctors, providing reminders before expiry.

Patient Requirements

4. **"Dr. Lee, you mentioned about keeping a record of patient details. What is some basic information that the clinic collects about a patient?"**

    - **Requirement**: The system should be capable of recording essential patient details such as contact information, expected delivery dates, and other relevant medical information. Currently, this data is being recorded manually using Excel, which can lead to errors. The new system needs to provide a reliable and error-free way to manage these records.

    "Continuing the topic of patient data, another feature you wanted was for patients to enter a range of data online for review by their doctor. What are some examples of data patients can enter for review by their doctor?"

    - **Requirement**: The system should allow patients to enter various health metrics online, such as their blood glucose levels, weight, and other relevant data. This data will be reviewed by their doctor, and the system should be capable of storing and organizing this data efficiently for easy access and analysis by the healthcare providers.

    "And lastly, you wanted to give patients instant feedback and support based on their data entries, reducing unnecessary clinic visits. Can patients respond to the feedback from their doctor to obtain further clarifications?"

    - **Requirement**: The system should provide immediate feedback to patients based on the data they enter, such as alerts when their blood glucose levels are outside the normal range. This feature is designed to reduce unnecessary clinic visits by providing actionable advice directly to

patients. Patients should also be able to respond to this feedback and contact their doctors if further clarification or action is needed.

Doctor Requirements

"Dr. Lee, you mentioned that you wanted to provide patient data to the doctors in a way that allows them to better monitor their patients remotely. What type of data is important to a doctor that is managing a patient with gestational diabetes? Can you give some examples of variables/parameters they may be interested in?"

- **Requirement**: The system must present patient data in a manner that allows doctors to monitor patients effectively, particularly for chronic conditions like gestational diabetes. Key data points include blood glucose levels, weight, and other vital signs that help doctors track the patient's health status over time.

"Following on from my last question, you also asked for doctors to be able to view data trends for their patients so that urgent issues are highlighted, and they can take the appropriate action; I was curious in terms of what would be some indicators for urgent attention by the doctor?"

- **Requirement**: The system should include a feature that allows doctors to track data trends over time, with alerts for urgent issues such as consistently high or low blood glucose levels. The system should be capable of highlighting these trends and flagging them for immediate action by the doctor, ensuring timely interventions.

"How can the feedback from doctors be edited and supported in the future? If, for example, test results came back, and if so, will the patients be made aware of changes being made to their feedback?"

- **Requirement**: Doctors should have the ability to edit feedback provided to patients based on new information, such as updated test results. The system should notify patients when changes to their feedback are made, ensuring they are kept informed about their health status and any required actions.

Admin Requirements

- "Dr.Lee, you've hinted at a few points about record keeping and collection of data. We've got a few questions for you to follow up on that, especially regarding the

current system, in order to make the transition as effective as possible. Now I'll be discussing a few things, like errors. For do you handle errors in the storage of this data? For example, say the addresses have been mixed up with another client."

Currently Dr. Lee is facing a number of issues with manual entry due to its errors, Dr. Lee is looking to merge the storage and entry of this data to a platform which can be corrected much more easily and stored in a more accessible manner. This ideal system would include an ability to modify the details with ease and ensure the details are relevant.

- "What are some examples of errors to expect?"

  Following up on the above requirement, examples of errors mentioned by Dr. Lee are widely related to the fact that everything is manually entered and prone to human error. For example, errors in first and last name, an off-space character and occurrences where a patient cannot be found. These typos are leading to a backlog at times as well

- "Will the client be able to modify this themselves or be or will they be required to contact the clinic?"

  Dr. Lee described a system where the patients would be able to modify their own details at will. Currently, the patients are required to call up the clinic or get in touch with the admins to change details, however the mechanism required by Dr. Lee includes such a feature. Important details such as address, phone number and email which may be detrimental if incorrect and lead to a backlog of work should be able to be changed by the patients at will and modified.

General/Non-Medico Related Requirements

- *'So Dr Lee, you mentioned earlier in your brief that you would like patients to have access to quality resources and information that helps them to be better informed and further educated about their condition, can you please elaborate upon what you mean by 'good' resources, and how do patients currently access them?'*

  Currently, when patients have queries about their conditions, Dr Lee and their staff are needing to compile a list of sources that first need to be deliberated as relevant and then distributed to the patient mostly by email on a case-by-case basis. They would like the new system to contain a library of resources that an

administrator, such as a receptionist, can easily select from based upon a doctor's request, thereby being more convenient and an efficient method of distributing quality resources to patients.

- *"The data that is collected from patients includes their personal details, about their condition and specifications for type of consultation. How does confidentiality differ between these types of information?"*

  Dr Lee would like to maintain full confidentiality extending to patient details, consultation type and other data that is stored in and by the system.

- *"How is collecting data for the appointment type useful? Can consultations or service differ between phone and in-person appointments?"*

  Collecting appointment type data informs doctors how they are interacting with the patient and adjust their service accordingly. Currently, this data is being manually entered into a spreadsheet that often result in errors or misreads that can lead to appointment scheduling issues. Thus, causing confusion to doctors, appointment delays and patient dissatisfaction.

- *"Regarding accreditation and certification of the doctors at the clinic, what is currently in place to keep track of this information like their validity status and future expiry. What are the implications of being out of date?"*

  Currently, like many of the other data entry methods, doctor accreditation status is maintained through manual input on a spreadsheet which often encounters errors as expiries are often incorrect. Additionally, there is no mechanism currently to notify administration of an upcoming expiry which can be consequential for doctors as regulations disallow them to practice without current and active registration. Dr Lee explained this oversight often occurs during busy periods at the clinic or perhaps when they are short staffed with administration personnel that cause further issues for the clinic later on such as suspending the doctor until the registration renews and the status is valid which can take time.

1.3 Interview Summary

The interview with Dr. Lee, a key clinic stakeholder, focused on determining the functional and non-functional requirements of a new system for managing gestational diabetes patients. Key points that were discussed:

Patient Data Management: Dr. Lee emphasized the importance of accurately recording patient information such as contact information, estimated delivery dates, and medical history. These records are currently managed via Excel, which leads to several inaccuracies. The new system must allow patients to enter information online, such as blood glucose levels, which doctors can subsequently evaluate. Instant feedback based on patient data submissions is crucial for reducing unnecessary clinic visits.

Doctor Requirements: Doctors require access to patient data that allows for remote monitoring. Blood glucose levels and other health markers are among the most important data. To ensure prompt response, the system should flag urgent issues via color-coded indicators.

Administrative Functions: Administrative workers are currently facing issues due to their dependency on Excel for data entry, which leads to errors. The system should reduce errors and handle the archiving of inactive patient records.

Confidentiality and Security: Dr. Lee emphasized the importance of secure access to patient records and rigorous confidentiality safeguards in the new system. This is to ensure that the practice is abiding by the regulations and ethical policies set in place.

Resource Management: The system should speed the process of giving patients access to high-quality educational resources, minimizing the amount of time staff spend manually compiling materials.

Doctor Certification and Accreditation: The system must track doctors' accreditation and certification status, sending timely notifications before credentials expire.

2. Stakeholder Analysis

Stakeholders:

- Dr Lee (product owner)
- Product Manager (Ali)
- Project team members (us)
- Users
    - Patients
    - Doctors
    - Administrators

Stakeholder	Influence	Interest
Product Manager (ALI)	High	High
Project Team Members	Low	High
Patients (User)	Low	Low

Doctors (User)	Low	High
Administrators (User)	High	Low
Dr Lee	High	High

2.1 Stakeholder Power Matrix

HIGH INFLUENCE **LOW INTEREST** **ADMINISTRATORS**	**HIGH INFLUENCE** **HIGH INTEREST** **PRODUCT MANAGER(ALI)**
LOW INFLUENCE **LOW INTEREST** **PATIENTS**	**LOW INFLUENCE** **HIGH INTEREST** **PROJECT TEAM MEMBERS** **DOCTORS**

2.2 Stakeholder Placement Discussion

Product Manager: Listed in the "High Influence, High Interest" quadrant. The Product Manager oversees the system's development and execution. This function includes working with multiple stakeholders, managing project timeframes, and ensuring that the technology satisfies user expectations. The Product Manager wields substantial power and influence because of their involvement in decision-making and project management, and they are deeply involved in the system's ability to meet the clinic's demands and operational goals.

Project Team Members: Placed in the "Low Influence, High Interest" sector. The team members are actively involved in the system's development and are deeply invested in its success because it represents their efforts. However, their influence over final decisions is restricted because they follow higher-level directions from stakeholders

such as the Product Manager and Dr. Lee. As a result, they wield little influence but possess great interest.

Patients: Placed in the "Low Influence, Low Interest" section. Patients have little interest in the system itself, as their primary worry is the healthcare they receive rather than the specific tools or systems used to deliver that care. They also have little influence over the design and implementation of the system, making their role more passive and minimal impact in this context. While it is noted they may have 'low interest' in the outcome of the system, Dr Lee noted they would benefit from improvements in appointment scheduling delays.

Doctors: Placed in the "Low Influence, High Interest" quadrant. Doctors have a large interest in the system's functionality as it directly impacts their ability to monitor and care for patients. However, they have limited influence over the system's design and implementation, as those decisions are unrelated.

Administrators: placed in the "High Influence, Low Interest" quadrant. Administrators oversee the system's day-to-day operations but may be less invested in patient or doctor outcomes. However, their function in maintaining the system lends them significant power.

3. Assumptions

- **Assumption 1**: All users (doctors, administrators, patients) will receive training to ensure they can effectively use the new system.

- **Assumption 2**: The system will be accessible on multiple devices (e.g., desktops, tablets) to accommodate different users.