UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SECD2613 System Analysis and Design

Section 03

Campus Resource Management System (health canter and attendance system) Phase 1

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https://github.com/KhaledT5/cpp_project1_SAD_20232024.git

“Automated MC Submission For UTM”

-In today's tech-savvy world, there's a lot we can do to make our daily tasks easier and more efficient. One area that could really benefit from some innovation is the process of submitting medical certificates (MC) at Universiti Teknologi Malaysia (UTM). Right now, if a student needs to submit an MC, they have to take a photo of the slip, send it to their lecturer on Telegram, and then wait for approval. This can be quite a hassle and often leads to delays and mistakes.

-To make this process smoother, we're proposing a new system that directly connects the health facility that issues the MCs with the lecturers at UTM. With this automated system, as soon as a student gets an MC from the health facility, it would be instantly and securely sent to their lecturers. This way, there's no need for the student to manually submit the MC or wait for approval. Lecturers will have immediate access to the medical records and can easily verify and consider them when reviewing attendance and grades.

-This new approach aims to save time, reduce errors, and make life easier for both students and lecturers. By embracing digital solutions, we can create a more efficient and responsive academic environment that better supports everyone's needs.

-The Problem Statement:

- **Current Inefficiencies:**
  - The existing process for submitting medical certificates (MC) at Universiti Teknologi Malaysia (UTM) involves manual steps.
  - Students must take photos of their MC slips and send them via Telegram to their lecturers.
  - This method is time-consuming and can result in lost or mismanaged documents.
- **Delays and Errors:**
  - The manual submission and approval process causes delays in updating attendance records.
  - There is a high potential for errors in the manual handling of MC slips.
- **Need for Automation:**
  - There is a need to implement an automated system that links the health facility directly with UTM lecturers.
  - This system would ensure immediate, secure, and error-free submission and verification of MC slips.

Proposed Solution:

1. **System Integration:**
    1. Develop an integrated platform that connects the health facility's system with UTM’s academic system.
    2. Ensure secure and encrypted data transmission to protect student privacy and comply with data protection regulations.
2. **Automated Submission:**
    1. Upon issuance, the health facility will automatically send the MC slip to the relevant lecturer’s record.
    2. Students will no longer need to manually photograph and submit their MC slips.
3. **Real-Time Verification:**
    1. Lecturers will have instant access to the MC slips through the integrated system.
    2. The system will facilitate real-time verification, allowing lecturers to update attendance and grades promptly.

- **Benefits:**

1.Efficiency:

- Streamlines the submission process, saving time for both students and lecturers.
- Reduces administrative burdens by eliminating the need for manual handling and approval.

2.**Accuracy:**

- Minimizes errors associated with manual submissions.
- Ensures that all MC slips are securely and correctly recorded.

3.Convenience:

- Provides a hassle-free experience for students who need to submit MC slips.
- Lecturers can easily access and verify MC slips within the academic system.

General Awareness and Needs:

1. Have you ever had to submit a medical certificate (MC) to a lecturer at UTM?
2. If yes, what is your current process for submitting an MC? (e.g., taking a photo, emailing, etc.)
3. How satisfied are you with the current MC submission process? (Very satisfied, somewhat satisfied, Neutral, somewhat dissatisfied, very dissatisfied)
4. Have you ever faced any challenges or delays when submitting an MC? (If yes, please elaborate)

Perceptions of the Proposed System:

5. The proposed system would automatically send your MC information directly from authorized health facilities to your lecturers. How likely are you to use this system if implemented? (Very likely, somewhat likely, Neutral, somewhat unlikely, very unlikely)
6. What are your biggest concerns, if any, about using an automated system for MC submissions? (e.g., data security, privacy, technical difficulties)
7. What benefits do you see in having lecturers receive your MC information electronically? (Select all that apply)
    - Faster processing of MCs
    - Reduced risk of lost or misplaced MCs
    - Improved accuracy of MC information
    - Easier access for lecturers to verify MCs.

Additional Feedback:

8. Do you have any suggestions for improving the proposed system?
9. Would you be interested in receiving updates or notifications about the development and implementation of this system? (Yes/No)
10. Please share any other thoughts or feedback you have about the proposed "Automated MC Submission for UTM" system.

METHODS:

1. **Start with Student Pain Points:** We begin by asking if students have submitted MCs and how they do it now. This helps us understand their struggles.
2. **Gauge Satisfaction:** We ask a quick question to see how happy students are with the current system.

3. **Mix of Questions:** We use a mix of open-ended questions (like "tell us about any issues") and closed-ended questions (like "would you use the new system?") to gather both detailed feedback and easy-to-analyze data.
4. **Clear and Simple Language:** We avoid using jargon and keep the questions straightforward, so everyone understands.
5. **Focus on Actionable Feedback:** We ask questions that will help us improve the system, not just gauge awareness.
6. **Optional Demographics (Bonus):** We offer an optional section for students to share their year of study or department, giving us a more complete picture.

General Awareness and Needs:

1. **Have you ever had to submit a medical certificate (MC) to a lecturer at UTM? (Nominal scale)**
    - 68% of respondents have had to submit an MC to a lecturer at UTM.
2. **If yes, what is your current process for submitting an MC? (Nominal scale)**
    - Most respondents use physical submission (47%) or email (33%) to submit their MCs.
3. **How satisfied are you with the current MC submission process? (Interval scale)**
    - 61% of the responses are neutral or dissatisfied with the current MC submission process.
4. **Have you ever faced any challenges or delays when submitting an MC? (Nominal scale)**
    - 47% of respondents have faced challenges such as resending emails, online portal downtimes, and limited office hours.

Perceptions of the Proposed System:

5. **How likely are you to use the proposed system that sends your MC information directly from authorized health facilities to your lecturers? (Interval scale)**
    - 64% of respondents are neutral or unlikely to use the proposed system due to concerns about data security, privacy, and technical difficulties.
6. **What are your biggest concerns, if any, about using an automated system for MC submissions? (Nominal scale)**
    - 73% of respondents are concerned about data security, and 67% are concerned about privacy.
7. **What benefits do you see in having lecturers receive your MC information electronically? (Nominal scale)**
    - 40% see the benefit of faster processing of MCs, while 67% recognize the reduced risk of lost or misplaced MCs.

Additional Feedback:

8. **Do you have any suggestions for improving the proposed system? (Open-ended)**
    - Suggestions include providing a manual backup option, implementing robust data security measures, offering detailed instructions and tutorials, and ensuring 24/7 customer support.
9. **Would you be interested in receiving updates or notifications about the development and implementation of this system? (Nominal scale)**
    - 40% of respondents are interested in receiving updates or notifications about the development and implementation of the system.
10. **Please share any other thoughts or feedback you have about the proposed "Automated MC Submission for UTM" system. (Open-ended)**
    - Feedback includes concerns about the security and privacy of medical information and the need for compatibility with all devices and operating systems.

Would you be interested in receiving updates or notifications about the development and implementation of this system?

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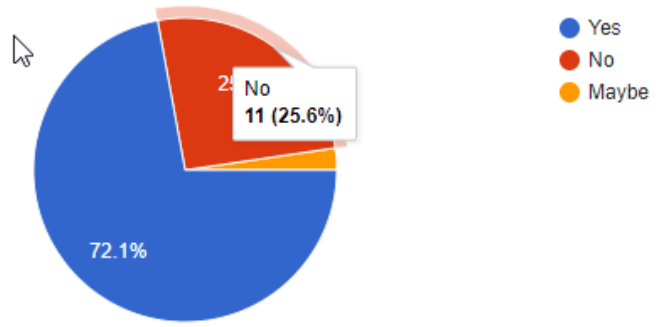
43 responses



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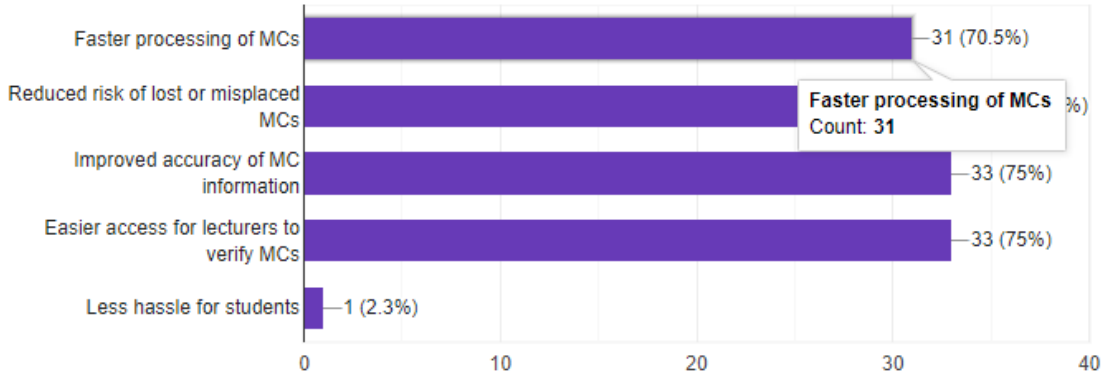
What benefits do you see in having lecturers receive your MC information electronically? *(Select all that apply)*

44 responses



What are your biggest concerns, if any, about using an automated system for MC submissions? *(Select all that apply)*

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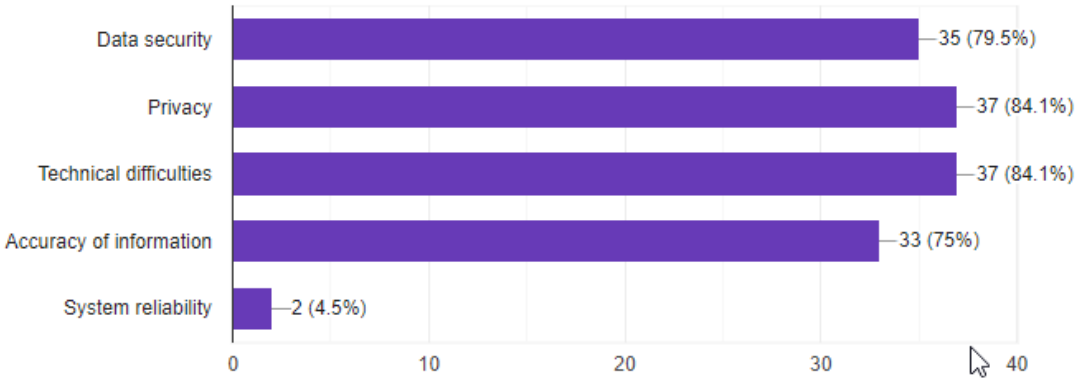
44 responses



The proposed system would automatically send your MC information directly from authorized health facilities to your lecturers. How likely are you to use this system if implemented?

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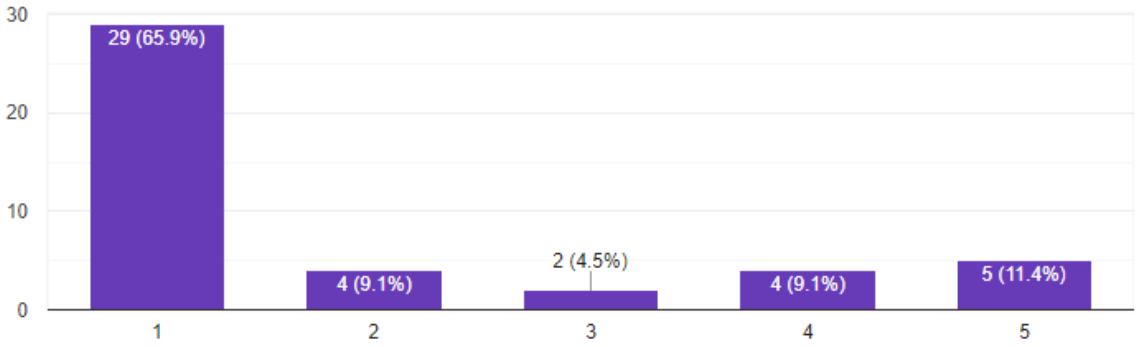
44 responses



Have you ever faced any challenges or delays when submitting an MC? *(If yes, please elaborate)*

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42 responses

How satisfied are you with the current MC submission process?

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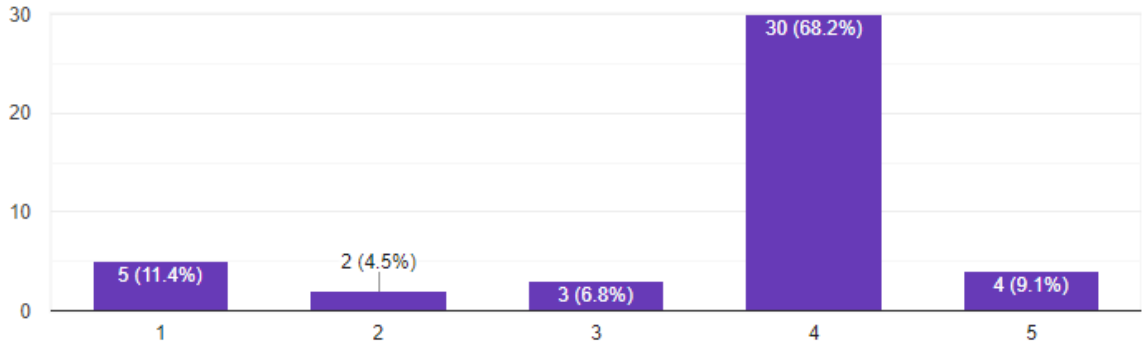
44 responses



If yes, what is your current process for submitting an MC?

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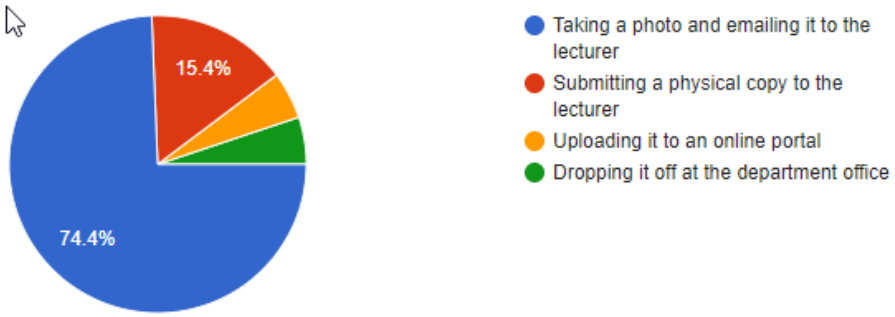
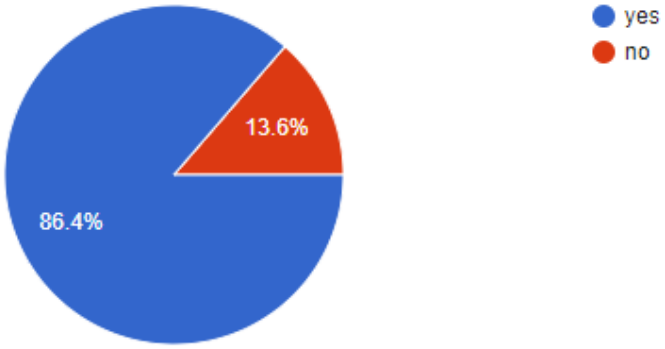
39 responses



Have you ever had to submit a medical certificate (MC) to a lecturer at UTM?

44 responses



5.0 Requirement Analysis

5.1 Current business process

As mentioned before the process of how the current system runs are as follows:

1. The student goes to the doctor at the health center.
2. Gets checked, then diagnosed.
3. Based on that the doctor chooses to give the student a medical certificate if necessary.
4. The student then takes a photo of it and sends it to the lecturer.
5. The lecturer then excuses the student if he validates the MC.

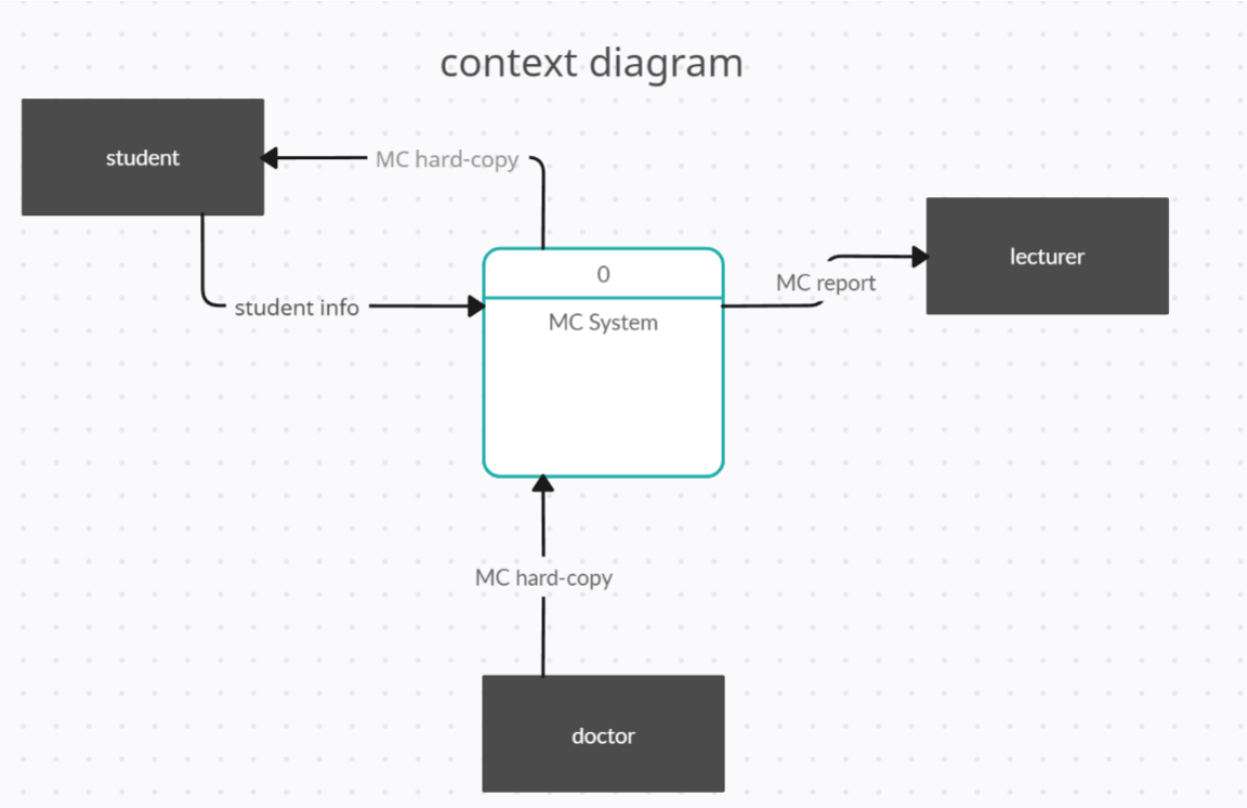
5.2 Functional Requirement

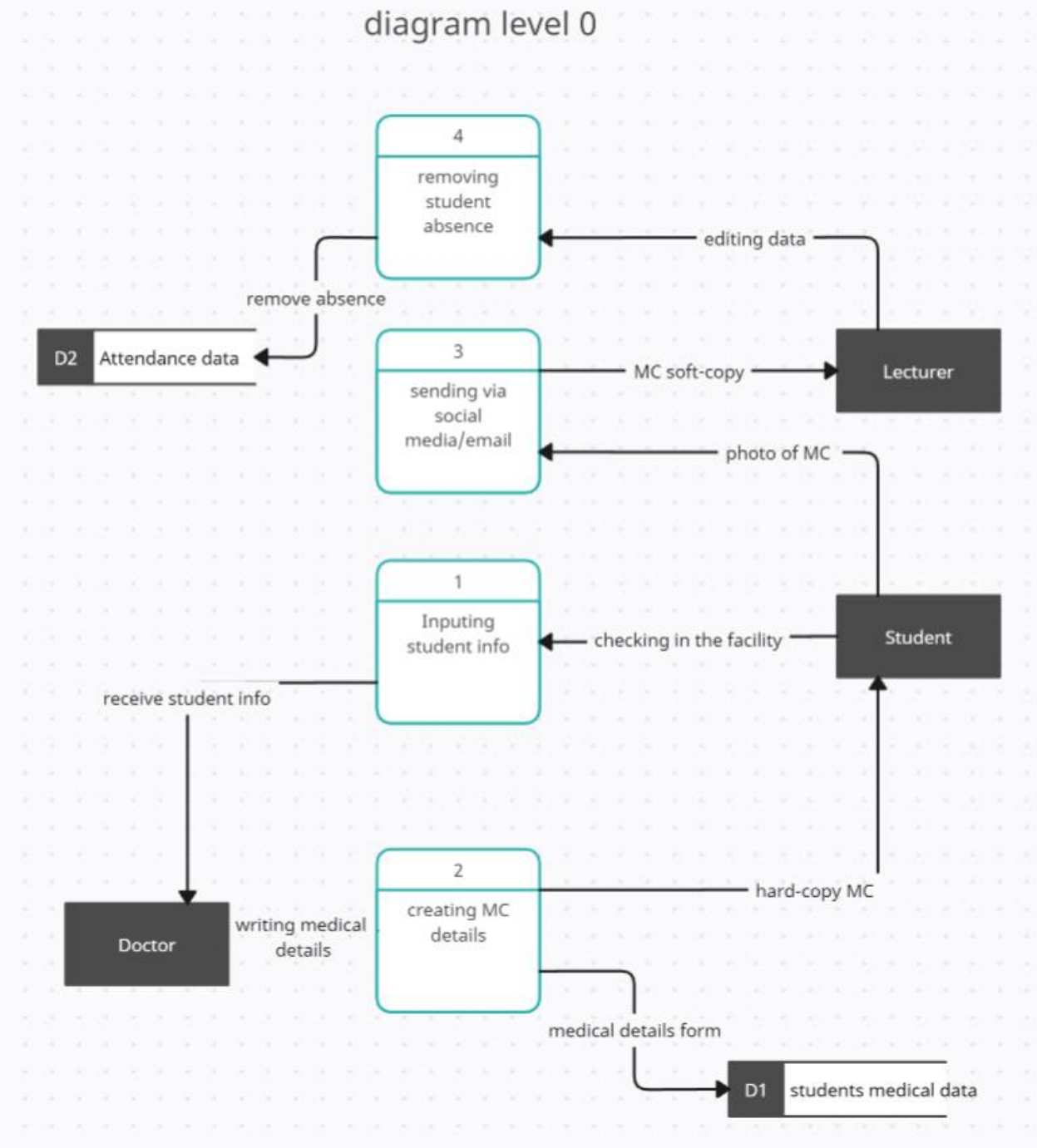
Currently the system gets the student information manually in the health center as input then the process is the diagnostic procedures performed by the doctor. Lastly the doctor handwrites the MC and gives it to the student to manually send a picture of it to his/her lecturer, this would be considered as output.

5.3 Non-functional Requirement

Now let's dive into the non-functional part of this system. In terms of performance, it depends on the user and how they would utilize this system. In terms of security and reliability, it's not that good for many reasons, some of which are: The certificate paper can be lost or damaged unintentionally, and the lecturer has to keep up with all of his or her students messages to make sure that they didn't miss any messages involving this case. Moreover, the lecturer can forget to put that excuse in the system, therefore the students losing their marks unjustly.

5.4 Logical DFD AS-IS system





6.0 Summery

The current system process for handling students' medical certificates involves the student visiting the health center, getting checked up and diagnosed by the doctor, then writing a MC if necessary and receiving it as a hard copy for the student to send manually to his or her lecturer, then getting approval from the lecturer. Functional requirements include handwritten certificates that are manually sent to the lecturer. Non-functional requirements highlight the downsides of this system, such as user-based performance, possible concerns about potential damage or loss to the certificate, or the possibility of oversight by the lecturers, which requires some attention.