**KLG campus is a part of a non-profitable real-estate organization, that provides housing for a majority of international students and some local students, which they all study in UTM.**

**It consists of four blocks named after the alphabet, Block A, Block B, Block C, and Block D, each block contains multiple housing floors and each floor level contain 23 apartments which holds students of different educational level, like bachelor, master and PhD.**

**The campus has several systems related to students’ management including the booking and reservation management, events management,** Student Management, Faculty and Staff Management, Communication and Notification systems.

**Problem statement:**

The system suffers from frequent input errors and delaying of processes and the system output is usually similar or close to its input due to lack of critical processes. The system also lacks some essential technical hardware equipment, while depending mainly on human workforce without much computerized intervention.

Not to mention that the system is difficult to use for new users.

**Issues:**

1. A lot of manual processes.
2. Many inputs error.
3. Many human interventions.
4. Incorrect output.
5. Redundant storage.

**Objective:**

1. Automate all the manual processes.
2. Minimize and detect input errors.
3. Minimize human intervention.
4. Reduce output errors.
5. Reduce redundant storage.

**Proposed solution:**

To develop more advanced subsystems that can function together to maximize the output of the program, reduce the input errors, speed up the processes and can ease the management processes.

**What will be included:**

Developing the reservation and booking management by installing a new software hardware system.

Enhancing the event management by increasing user interference.

Modify the student management department, to speed up and automate the processes.

Construct a communications system between the management, the stakeholders and the students.

**What will not be included:**

A new staff management to reduce the cost.

The benefits of the new system will include:

Automating the routine processes by using computerized systems.

enhancing the user experience, by taking user’s feedback and recommendations into consideration.

Reducing the overall cost of operating and maintaining the system.

The output of the system will be less redundant, with less input errors.

Ease the interface of the system for the new users.

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| Technical feasibility:   * **the technical hardware and software resources in the old system are not sufficient, new hardware equipment should be purchased.** * **This time the university will rely on their last year students and post graduates to develop the software rather than purchasing a new software package** |
| Operational resources:   * **The required human resources of software engineering, I.T. specialists and system analysts will be available to operate once the system is installed and the user's feedback will be obtained.** * **The users are happy with the change since it will decrease the effort when doing their work, so they will use the new system.** |
| Economical resources:  **Estimated development costs:**  **Cost of hardware = 10000$**  **Cost of software development = 0 (Students chose to volunteer as some sort of gratitude towards the university).**  **Installation cost = 10000$.**  **Training cost = 10000$.**  **Data conversion cost = 20000$.**  **Estimated production costs:**  **Cost of upgrades = 500$ PER/YEAR.**  **Cost of system maintenance = 2000$ PER/YEAR.**  **Salaries of I.T. specialists and software engineers = 20000$**  **Estimated benefits:**  **Increase productivity = 50000$**  **Improved service = 25000$**  **(For PV analysis, the discount rate is 20%)** |

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| 1.identify the Problem: | Duration in weeks | processes |
| 1.1 gathering information. | 2 | none |
| 1.2 analyze the information | 3 | 1.1 |
| 1.3 determine the problems and objectives | 1 | 1.2 |
| 2. identify the resources: |  | 1 |
| 2.1 identify and gather the required resources. | 4 | 1.3 |
| 2.2 gather and assess human resources. | 4 | 1.3 |
| 3. hardware deployment: |  | 2 |
| 3.1 identify the required hardware. | 2 | 2.1 and 2.2 |
| 3.2 purchase the required hardware | 2 | 3.1 |
| 4. software development: |  | 2 |
| 4.1 analyze the required software | 3 | 2.1 and 2.2 |
| 4.2 develop the required software | 7 | 4.1 |
| 5. software testing |  | 4 |
| 5.1 Install the new software | 2 | 4.2 and 3.2 |
| 5.2 test the new software | 1 | 5.1 |
| 6. system installation: |  | 5 |
| 6.1 install the new system | 4 | 5.2 |
| 6.2 evaluate the new system | 4 | 6.1 |
| 6.3 get the user evaluation  6.4 Data conversion to the new system  6.5 System integration | 4 | 6.2 |