Group No. \_\_\_\_\_12\_\_\_\_\_\_\_\_\_\_ *(number of members per group can be either 2 or 3.)*

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CS2204/CSX3006 Database Systems

ITX3006 Database Management Systems

Worksheet 1

[Observation and discussion] Select one of the organization units in our university, e.g., Registrar Office, Student Affairs, VMS office, Wellness Center, and answer the following questions.

1. What is your selected organization unit?

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| Assumption University Dormitory |

1. Write 3 business operations of the selected organization unit (e.g., registration process). – **Write the answer in Table 1.**
2. Explain sequential processes that are needed to complete the business operations. – **Write the answer in Table 1.**
3. Who are involved in the business operations (specify their positions or roles, e.g., lecturers, students, janitor, secretary, dean, program director, staff, officer, etc.)? – **Write the answer in Table 1.**
4. Write the data that must be kept that relate to the business operations*.* – **Write the answer in Table 1.**

**Table 1.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Business Operation (Q2) | Sequential Process  (Q3) | Positions/Roles of Person (Q4) | Data (relating to each process)  (Q6) |
| 1 | Renting a room | 1. Validate if the person renting is a student  2. Choose a building based on the gender of the student  3. Validates if the hiring person is alone or with a roommate  4. Display available rooms  5. Display the rent and utility costs of the chosen room  6. Select a payment method for a deposit fee  7. Record the data of the student(s) renting the room  8. Confirm the payment and sign contract  9. Mark the room as “rent” or “half-occupied” depending on the number of tenants | Process 1 – 3: Student  Process 4 – 5: Staff  Process 6: Student  Process 7 – 9: Admin | Student Information: Student’s name, Student’s ID, Faculty, Student’s room  Room Information: Building ID, Room number, rent pricing, Tenants (The room is still available if it’s not occupied by two students) |
| 2 | Rent Payment | 1. Notify Rent Available to pay  2. Check Status available/paid or due  3. View the total rent cost  4. Select Payment Type  5. Confirm Payment Method  6. Notify Successful Payment to Check  7. Check Requested Payment (Paid or Not)  8. Confirm Payment  9. Receive Payment Slip  10. Give Status | Process 1: Admin  Process 2-6: Student  Process 7: Finance Team  Process 8: Admin  Process 9: Student  Process 10: Admin | Student Information: Student’s name, Student’s ID, Faculty, Student’s Room  Payment Data: Room Number, Rent Fee, Electric Fee, Water Fee |
| 3 | Booking study room | 1. Select the seat number  2. Select the meeting room  3. Select date and time  4. Check the seat or room is available or not  5. Check the user is student from the dormitory or not  6. Verify the new booking place  7. Send message to the staff teams  8. Clean the specific booking seats  9. Confirm seat cleaning | Process 1- 3: Students Process 4 - 7:  Admin  Process 8- 9:  Staff | Seat Information: Seat ID, Seat Number, Seat Type, Available Hours  Study Room Information: Room ID, Room Number, Room Type, Available Hours  Student Information: Student ID, Name, Faculty, Time Taken of the seat or room |

1. According to **Row No. 1 in Table 1**, draw one or more application’s screen(s) to complete the business operation.

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1. State three advantages of using a database system to manage data of your selected organization unit.

#1. Handling Data Redundancy: Using database system improve the data storing deleting for all

students who are currently living in the dormitory. For those who have moved from the school dormitory, their data can be easily erased and remove access to all three operations suggested.

#2. Scalability and Flexibility: By using databases, we can handle the increasing large number of students who are going to be living in the dormitory. Adding new features or adding new students typically requires fewer adjustments in the program.

#3. Improved Data Sharing: Using database can affect both the admin, users (students), finance team and staff. In our operations, there are some functions for students to perform and access

some of the database.