

Submission 1: ER Data Model

Team No.: 105

Team Members:

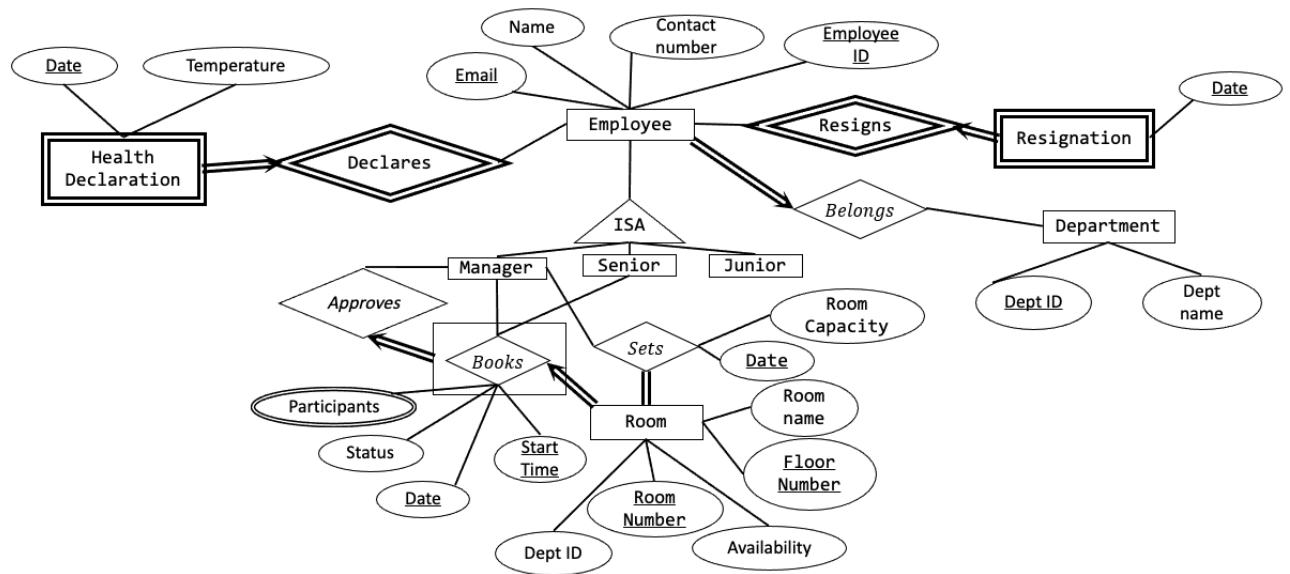
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1. ER Data Model



2. Justification for any non-trivial design decisions

1. Included the status of booking because statuses of bookings can be approved, not approved, and pending (waiting to be approved).
2. We aggregate the Books relationship because a manager should be able to interact with a booking by choosing to approve it.
3. Resignation is a weak entity set because resignations cannot exist without employees
4. Health declaration is a weak entity set because health declarations cannot exist without employees
5. We used ISA because Manager/Senior/Junior must be an employee and each employee can only have a single role at any time
6. Participants in a booking is a multivalued attribute as there can be any number of participants including the person making the booking
7. Participants are added during booking by the person making the booking
8. There is a participation constraint such that each Employee can only Belong in exactly one Department
9. There is a participation constraint where each Room must have its room capacity Set at least once
10. There is a participation constraint such that each booking is approved by exactly 1 manager
11. There is a participation constraint such that each Books instance can only include a single room
12. Included date and start time as the identifying attributes in a booking, since having only the room number and floor number is insufficient to identify a specific booking (i.e., the same room can be booked by different department in a different time period)
13. Included date as the identifying attribute in "Sets", since the room capacity can be set more than once (which implies that having only the room number and floor number is insufficient to identify an instance of "Sets")

3. Constraints that are not captured by the proposed ER data model

1. Cannot capture how booking must be approved by a manager from the same department
2. Cannot capture when a meeting room has its capacity changed, any room booking after the change date with more participants will be removed
3. Cannot capture how a booking that is not approved should be immediately deleted to allow for others to book the room
4. Unable to capture how resigned employees are unable to book/approve meetings and future records
5. Cannot capture how sick employee and close contacts are removed from future meeting as well as cancellation of booking (if the booking is done by the sick employee)