TEAM 63
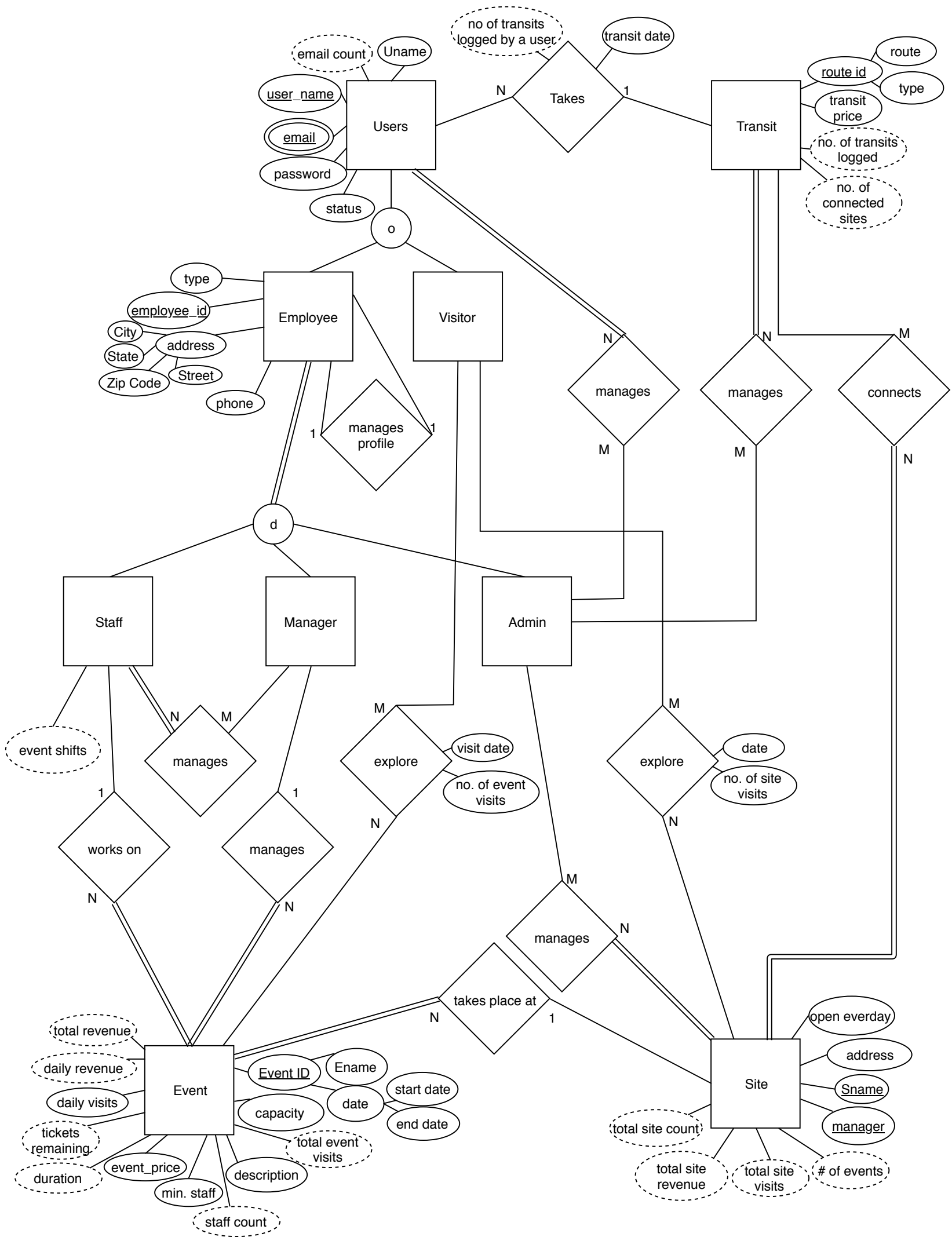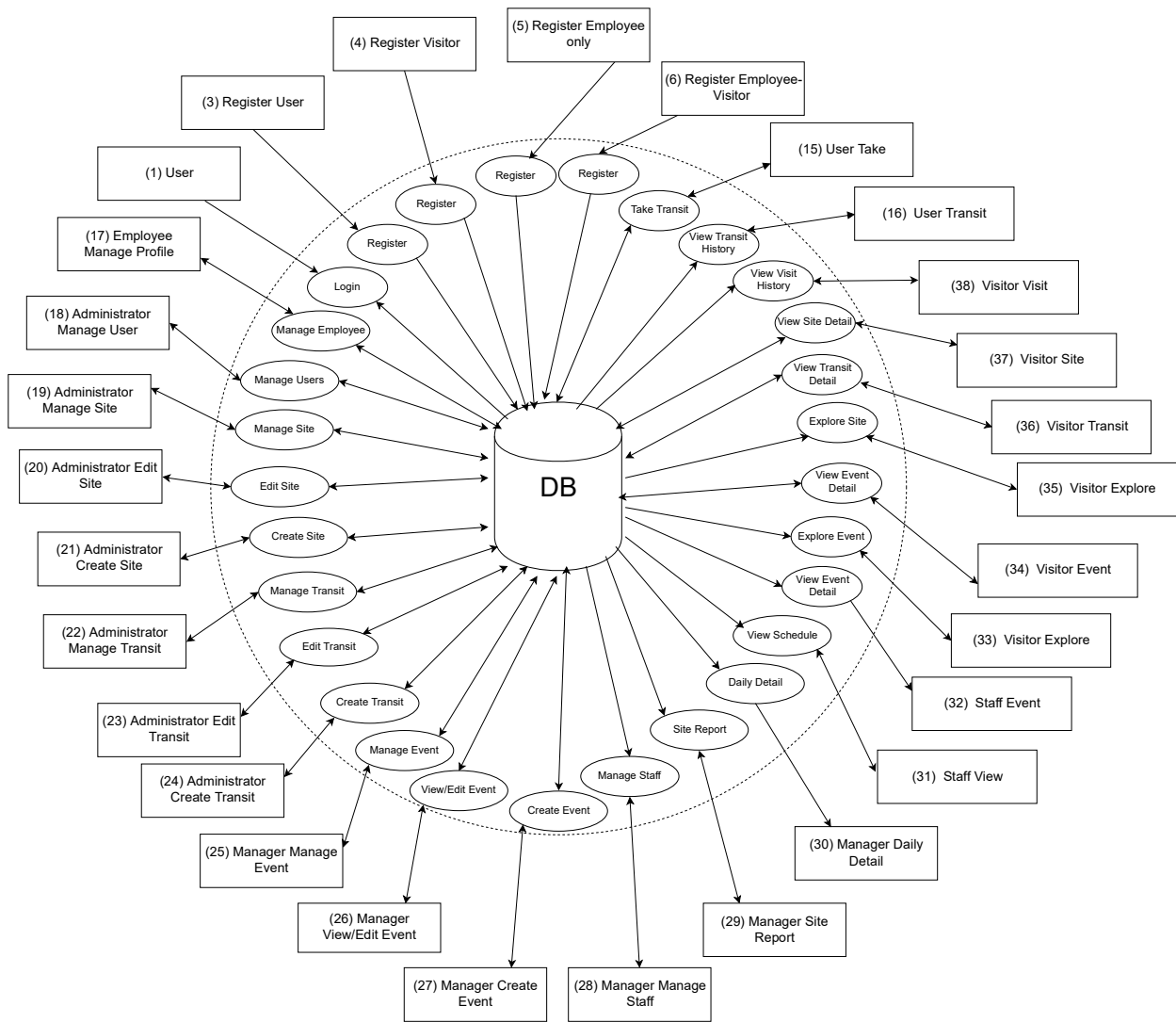## Phase [1]

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Entity-Relationship Diagram

Users entity attributes: email count, Uname, user_name, email (key), password, status

Takes relationship (N — 1) between Users and Transit: no of transits logged by a user, transit date

Transit entity attributes: route, route id (key), type, transit price, no. of transits logged, no. of connected sites

Employee entity attributes: type, employee_id (key), City, address, State, Street, Zip Code, phone

Visitor entity

manages profile relationship (1 — 1) between Employee and Visitor

Specialization circle "o" from Users to Employee / Visitor

manages relationship (N — M)

manages relationship (N — M)

connects relationship (M — N)

Specialization circle "d" — Staff, Manager, Admin

Staff entity: event shifts

Manager entity

Admin entity

manages relationship (N — M) between Staff and Manager

works on relationship (1 — N)

manages relationship (1 — N)

explore relationship (M — N): visit date, no. of event visits

explore relationship (M — N): date, no. of site visits

manages relationship (M — N)

takes place at relationship (N — 1) between Event and Site

Event entity attributes: total revenue, daily revenue, daily visits, tickets remaining, duration, Event ID (key), Ename, date, capacity, start date, end date, total event visits, event_price, description, min. staff, staff count

Site entity attributes: open everday, address, Sname (key), manager, total site count, total site revenue, total site visits, # of events

(3) Register User

(4) Register Visitor

(5) Register Employee only

(6) Register Employee-Visitor

(1) User

(15) User Take

(17) Employee Manage Profile

(16) User Transit

(18) Administrator Manage User

(38) Visitor Visit

(19) Administrator Manage Site

(37) Visitor Site

(20) Administrator Edit Site

(36) Visitor Transit

(21) Administrator Create Site

(35) Visitor Explore

(22) Administrator Manage Transit

(34) Visitor Event

(23) Administrator Edit Transit

(33) Visitor Explore

(24) Administrator Create Transit

(32) Staff Event

(25) Manager Manage Event

(31) Staff View

(26) Manager View/Edit Event

(30) Manager Daily Detail

(27) Manager Create Event

(29) Manager Site Report

(28) Manager Manage Staff

Register

Register

Register

Take Transit

View Transit History

Register

View Visit History

Login

View Site Detail

Manage Employee

View Transit Detail

Manage Users

Explore Site

Manage Site

View Event Detail

Edit Site

Explore Event

Create Site

View Event Detail

Manage Transit

View Schedule

Edit Transit

Daily Detail

Create Transit

Site Report

Manage Event

Manage Staff

View/Edit Event

Create Event

DB

<u>Logical constraints</u>

1. Administrator cannot decline an approved account.
2. The number of Staff Assigned must not be fewer than the Minimum Staff Required.
3. Start Date must come before End Date
4. Staffs who are already assigned to an event cannot be assigned to a different event.

<u>Assumptions</u>
1. A manager can manage all the events of the assigned site.
2. There may be more than one administrator who handle site management, user approval and transit management, who may or may not handle all three. The same applies for manager and staff members.
3. A staff member can be managed by multiple managers.
4. A relationship between manager and the site is not represented as it forms a redundancy and it can be represented as a unique attribute since each site is assigned a distinctive manager.
5. user_name is a unique identifier created by a User while registration, and should not be confused by Uname, which is the user's full name.
6. Transit history can be derived from the relationship "takes" between users and transit.
7. Visitor History for both sites and events can be derived from the corresponding "explore" relationship between the "visitor" and "site" and "event respectively.
8. Site Report and Daily Detail can be deduced from entity types "events" and "sites".
9. Site needs to be connected via transit route whereas the vice-versa may or may not be applicable.