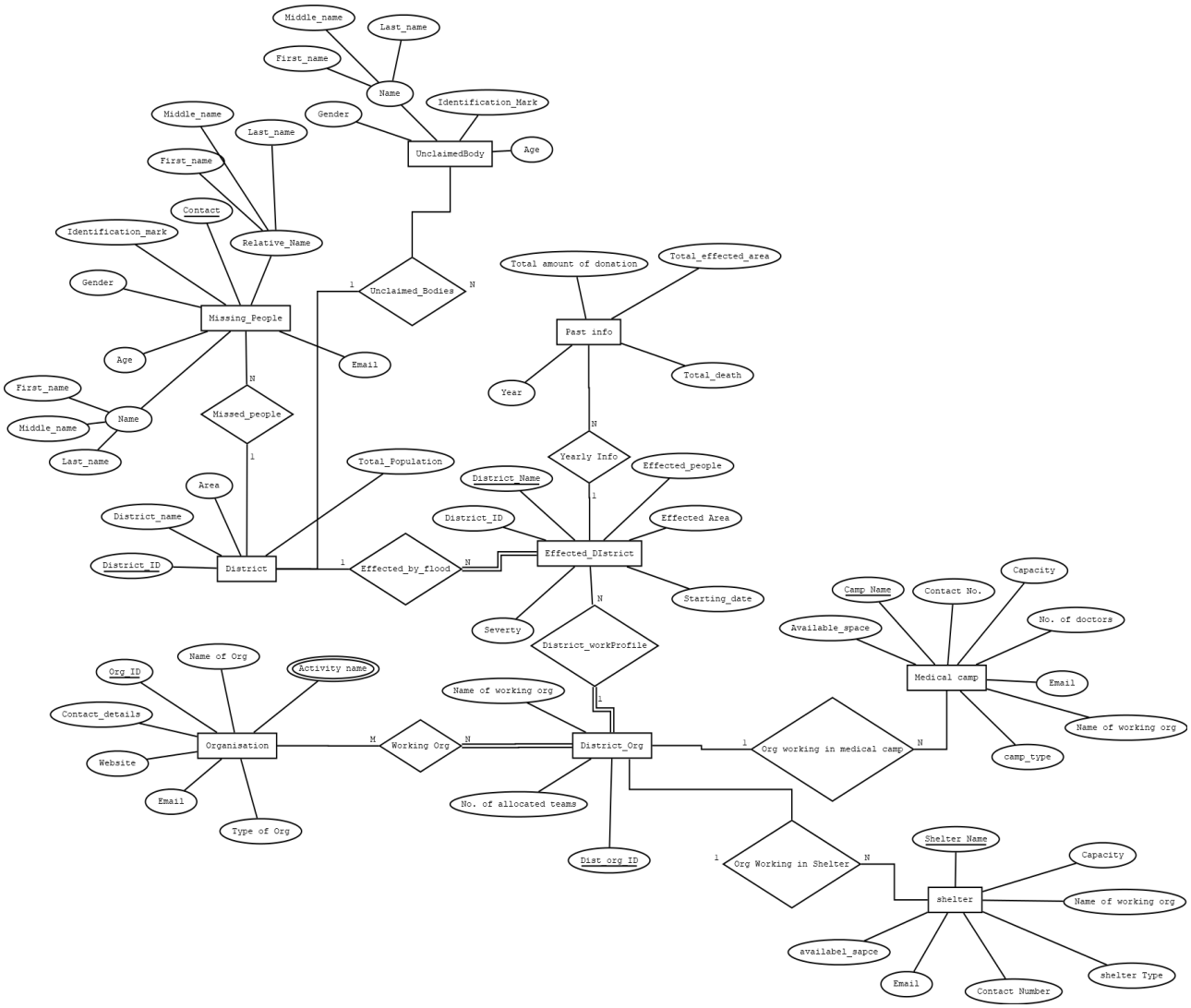
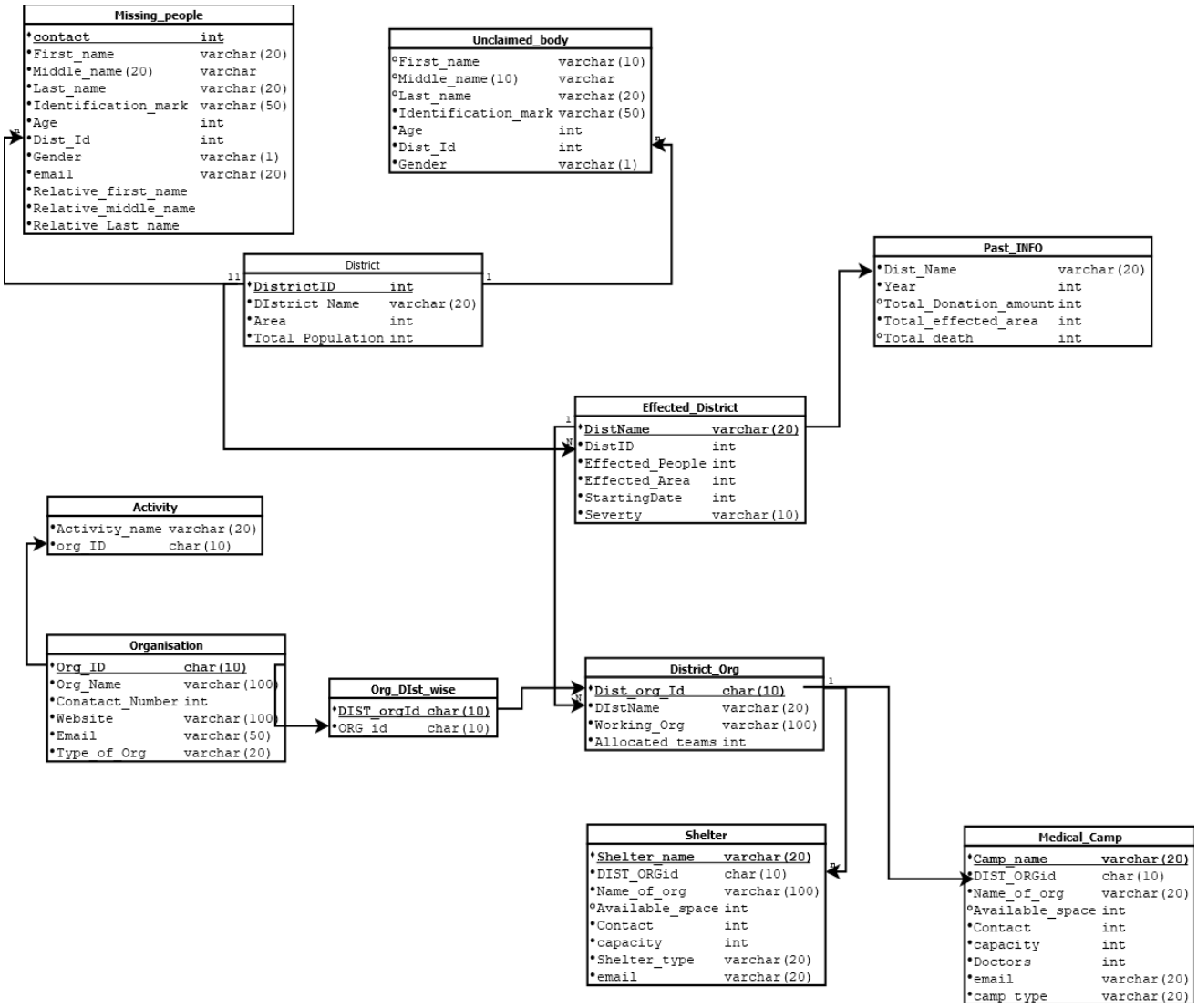
ER DIAGRAM

Tittle –flood rescue



Relational Schema



Proof of Normalisation

1. District

District (districtid, district_name, area, total_population)

FDS :

districtid → district_name

district_name → area

area → total_population

total_population → districtid

districtid $^{+}$ = (districtid, district_name, area, total_population)

Primary Key = districtid

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

2.Effected District

Effected District(district_name, districtid, effected_people, starting_date , severty,effected_area)

FDS :

district_name → districtid

districtid→ effected_people

district_name → starting_date

district_name → severty

effected_people → effected_area

effected_area → district_name

district_name$^+$ = (district_name, districtid, effected_people, starting_date , severty,effected_area)

Primary Key = district_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

3.Medical Camp

Medical Camp (dist_org_id, name_of_org, camp_name,contact,capacity,available_space,camp_tpye,doctors, email)

FDS :

camp_name → name_of_org

camp_name → dist_org_id

camp_name → contact

camp_name → capacity

camp_name → available_space

camp_name → camp_tpye

camp_name → doctors

camp_name → email

camp_name$^+$ = (dist_org_id, name_of_org, camp_name,contact,capacity,available_space,camp_tpye,doctors, email)

Primary Key = camp_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

4. Shelter

Shelter (dist_org_id, name_of_org, shelter_name, contact, capacity, available_space, shelter_tpye , email)

FDS :

shelter_name → name_of_org

shelter_name → dist_org_id

shelter_name → contact

shelter_name → capacity

shelter_name → available_space

shelter_name → shelter_tpye

shelter_name → email

shelter_name$^+$ = (dist_org_id, name_of_org, shelter_name,contact,capacity,available_space,shelter_tpye , email)

Primary Key = shelter_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

5. Past Information

Past Information(district_name, year ,total_amount_donation ,total_effected_area, total_death,)

FDS :

(district_name, year) → total_amount_donation

(district_name, year) → total_effected_area

(district_name, year) → total_death

(district_name, year) $^+$ = (district_name, year ,total_amount_donation ,total_effected_area, total_death,)

Primary Key = (district_name, year)

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

6.Organisation

Organisation
(org_id,org_name,conatact_number,website,email,type_of_org)

FDS :

org_id → org_name

org_id → conatact_number

conatact_number → website

website → email

email → org_id

org_id → type_of_org

org_id $^{+}$ =
(org_id,org_name,conatact_number,website,email,type_of_org)

Primary Key = org_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

7.Organisation Ids district wise

organisation_ids _dist (org_id,dist_org_id)

FDS :

dist_org_id → org_id

dist_org_id $^{+}$ = (org_id,dist_org_id)

Primary Key = dist_org_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

8. Activity

activity(org_id,activity_name)

In this table there is no FDs and primary key.

This table is in 1NF.

9.District Organisation

district_org(dist_org_id,district_name,working_org,allocated_teams)

FDS :

dist_org_id → district_name

dist_org_id → working_org

dist_org_id → allocated_teams

dist_org_id $^{+}$ = (dist_org_id,district_name,working_org,allocated_teams)

Primary Key = dist_org_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

10. Missing People

Missing_people(contact_number ,name_of_relative_first, name_of_relative_middle, name_of_relative_last, email,name_of_missing_person_first, name_of_missing_person_middle, name_of_missing_person_last,age,gender,identification_mark,distrc it_id)

FDS :

contact_number → email

contact_number → name_of_relative_first

contact_number → name_of_relative_middle

contact_number → name_of_relative_last

contact_number → name_of_missing_person_first

contact_number → name_of_missing_person_middle

contact_number → name_of_missing_person_last

contact_number → age

contact_number → gender

contact_number → identification_mark

contact_number → district_id

contact_number $^{+}$ = (contact_number ,name_of_relative_first, name_of_relative_middle, name_of_relative_last, email,name_of_missing_person_first, name_of_missing_person_middle, name_of_missing_person_last,age,gender,identification_mark,distrc it_id)

Primary Key = contact_number

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

11.Unclaimed Body

unclaimed_body (name_of_missing_person_first, name_of_missing_person_middle, name_of_missing_person_last,age,gender,identification_mark,distrc it_id)

In this table there is no FDs and primary key.

This table is in 1NF.