NORMALISATION

MONASH HOSPITAL (MH)

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Documents A:

UNF:

PROCEDURE CHARGE (patient_id, patient_name, admission_ datetime, supvdoctor_id, supvdoctor_name (procedure_code, procedure_name, precsdoctor_id, presdoctor_name, doctorcarried_id, doctorcarried_name, carried_out_on, totalproc_charge (item_code, item_description, item_quantity, totalitem_price), totalextra_charge))

Total_item_charge = item_cost

Documents B:

UNF:
NURSE ASSIGNMENT (nurse_id, nurse_fname, nurse_lname, nurse_phone, cert_for_childern(ward_code, ward_name, date_assigned, date_completed))

1NF

S1 : unique identifier for repeating group,
PK OF REPEATING GROUP:

SUPER KEYS
= ward_code + ward_name + date_assigned
= ward_code + ward_name + date_completed
= ward_code + date_completed
= ward_code + date_assigned
= date_assigned

CANDIDATE KEYS
= date_assigned
= ward_code + date_copleted

PRIMARY KEY
= date_assigned

(ward_code, ward_name, date_assigned, date_completed)

S2 : remove any repeating group along with pk of the main relation,

PK OF MAIN RELATION:

SUPER KEYS
= nurse_id + nurse_phone + nurse_f/lname + cert_for_children
= nurse_id + nurse_phone + nurse_f/lname
= nurse_id + nurse_phone
= nurse_id
CANDIDATE KEYS
= nurse_id

PRIMARY KEY
= nurse_id

WARD ASSIGNMENT(nurse_id, date_assigned, ward_code, ward_name, , date_completed)

S3: check again pk's, new relation normally have cpk(main relation pk and unique identifier of repeating group) but this must be checked.

WARD ASSIGNMENT(*nurse_id*, date_assigned, ward_code, ward_name, date_completed)

FINAL 1NF

NURSE (nurse_id, nurse_fname, nurse_lname, nurse_phone, cert_for_childern)
WARD ASSIGNMENT (nurse_id, date_assigned, ward_code, ward_name, date_completed)

nurse_id → nurse_fname, nurse_lname, nurse_phone, cert_for_childern FULL DEPENDENCY
Nurse_id, date_assigned → ward_code, date_completed FULL DEPENDENCY
ward_code → ward_name TRANSITIVE DEPENDENCY

2NF

S1. No partial dependency

FINAL 2NF:

NURSE (nurse_id, nurse_fname, nurse_lname, nurse_phone, cert_for_childern)
WARD ASSIGNMENT (*nurse_id*, date_assigned, ward_code, ward_name, date_completed)

3NF:

NURSE (nurse_id, nurse_fname, nurse_lname, nurse_phone, cert_for_childern)
WARD ASSIGNMENT (*nurse_id*, date_assigned, *ward_code,* date_completed)
WARD (ward_code, ward_name)

Business Case:

PATIENT (patient_id, patient_fname, patient_lname, patient_address, patient_dob, patient_emcontact,
(admission_datetime, discharge_datetime, assigned_bed*, assigned_ward*, supervising_doctor,
(procedure_name, procedure_prescribed_by, procedure_carried_out_by
(item_code, item_description, current_stock, price, (cost_centre, centre_code, centre_title, manager_name)), Quantity_item, procedure_bill, extra_item_bill, procedure_datetime)
)

)

WARD (ward_code, number_of_beds, number_available_beds, (bed_no, bedside_tphone, bed_type,))

DOCTOR(doctor_id, doctor_fname, doctor_lname, doctor_phone, (specialization name))

PROCEDURE (procedure_code, procedure_name, procedure_description, time_req, stnd_cost)

NURSE ASSIGNMENT ((nurse_id, nurse_fname, nurse_lname), assigned_ward_date, finished_ward_date)