**CIS 340 Project**

**Group Name**

**Name1: Naga Nano  
Name2: Emmanuella Shokare  
Name3: Edward Kiawoin**

**Name4: SirawDink Wolde**

**1. Identify entity types with brief description**

* **Ward: Rooms for both short and long-term patients.**
* **Staff: Employees with different roles and responsibilities- Doctor, nurses etc.**
* **Patient: Information about new and existing patients.**
* **Medication: Details of a doctor's prescription for a patient.**
* **Patient’s Next Of kin: Details for patients' relatives or visitors who visit the patient in the hospital.**
* **Patient Appointment: Time patient needs to be at hospital**
* **Ward Requisition: A form used to obtain supplies for the Ward from the hospital's central supply stock.**
* **Pharmaceutical Supplies: Details of pharmaceutical supplies.**
* **Surgical and Nonsurgical Supplies: Details of surgical and nonsurgical supplies.**
* **Supplier: Company that supplies medical equipment.**
* **Local Doctor: Information about the local doctor who referred the patient to the hospital.**

**2. Identify relationship types with brief description.**

**1.Staff (1,M) Responsible(1,M) Patient**

* **One staff can be responsible for many patients.**
* **One patient can have many staff.**

**2. Patient (1,1) have (1,M) Appointment**

* **One patient can have many appointments.**
* **One appointment can include only one patient.**

**3.Medication (0,M) have (0,M) Patients**

* **One patient can have many medications.**
* **One medication can have many patients.**

**4.** **Supplier (1,M) Supply (1,M) Pharmaceutical Supplies**

* **One supplier can supply many** **pharmaceutical Supplies.**
* **One pharmaceutical Supplies can be supplied by many suppliers.**

**5****. Supplier (1,M) Supply (1,M) Surgical and non-surgical supplies**

* **One supplier can supply many surgical and non-surgical supplies**
* **One surgical and non-surgical supplies can be supplied by many suppliers.**

**6.Staff (0,M) makes (1,1) Ward Requisitions**

* **One staff can make many Requisitions**
* **One requisition can be made only by one staff**

**7.Localdoctor (0,M) refers1(1,1) Patient**

* **One doctor can refer many patients to the hospital.**
* **One patient can only be referred to hospital by one doctor.**

**8.Ward(0,M) allocated to (1,1) patient**

* **One ward can have many patients.**
* **One patient can only be allocated to one ward.**

**9.Patient’s next kin (1,M) related (0,M) Patient**

* **patient can have many patients’ next kin.**
* **One patient’s next kin can relate to many patients.**

**10.** **Ward(1, 1) receives (1,M)Ward requisition**

* **A ward can have many requisitions**
* **One requisition to one ward**

3. Describe each entity type in detail

* Wards
* WardNumber : Unique
* WardName : Unique
* WardLocation : Not Null
* NumberOfBeds : Not Null
* PhoneExtension : Not Null
* Primary Key: WardNumber
* Alternate Key: WardName

* Staff
* Staff Number : Autoincremented
* FirstName : Not Null
* LastName : Not Null
* FullAddress : Optional
* PhoneNumber : Not Null, Unique
* Sex : Optional
* NIN     : Not Null,Unique
* Position : Not Null (Ex. Medical Doctor, Personal Officer)
* SalaryScale : Not Null
* DateOfQualification : Optional (Could have no qualifications)
* TypeOfQualification : Optional
* NameOfInstitution : Optional
* OrganisationName : Optional
* OrganisationPosition : Optional
* StartDate          : Optional
* FinishDate            : Optional
* HoursPerWeek : Not Null
* TypeOfSalary : Not Null

        Primary Key: Staff Number

                      Alternative Keys: Phone Number, NIN

* Patient
* PatientFirstName : Not Null
* PatientLastName : Not Null
* PatientAddress : Optional
* PhoneNumber : Optional, Unique
* DateOfBirth : Not Null
* Sex : Not Null
* MaritalStatus : Optional
* DateRegistered : Not Null
* WaitListDate : Not Null, Unique
* WardNumber : Not Null
* WaitListDate : Not Null
* ExpectedStay : Not Null, Unique
* DatePlaced : Not Null, Unique
* ExpectedLeave : Not Null, Unique
* ActualLeave              : Not Null, Unique
* BedNumber      : Not Null
* StaffNumber : Optional

       Primary Key: PatientNumber

       Foreign Key: StaffNumber from LocalDoctor table

         Foreign Key-WardNumber from WARD table

* PatientNextOfKin
* PatientNextOfKinName : Not Null
* RelationshipToPatient : Not Null
* PatientNextKinAddress : Optional
* PatientNextKinPhone             : Not Null
* PatientNumber : Not Null Unique

        Primary Key: PatientNextKinPhone

        Foreign Key: PatientNumber from Patient Table

* Local Doctors
* DoctorName : Not Null
* ClinicNumber                         : Not Null
* ClinicAddress : Not Null
* ClinicPhoneNumber : Not Null Unique
* PatientNumber : Not Null

        Primary Key: ClinicNumber

Foreign Key-patientnumber from patient table

* PatientAppointment
* AppointmentNumber : Autogenerated Unique
* PatientFirstName : Not Null
* PatientLastName : Not Null
* StaffNumber : Not Null
* AppointmentDate        : Not Null
* AppointmentTime             : Not Null
* RoomNumber  : Optional
* PatientNumber                        : Not Null
* Results : Optional
* Primary Key: Appointment Number
* Foreign Key: StaffNumber from the Staff Table

  Foreign Key-patientnumber from patient table

* PatientMedication
* PatientNumber
* MedicationNumber     : Not Null
* UnitsPerDay : Not Null
* Methods : Not Null
* StartDate : Not Null
* EndDate : Not Null
* Foreign Key: PatientNumber from Patient table
* Primary Key -Medication Number

* SurgicalAndNonsurgicalSupply
* ItemNumber               : Not Null
* ItemName : Not Null
* ItemDescription : Not Null
* QuantityInStock : Not Null
* ReorderLevel : Not Null
* CostPerUnit : Not Null
* SupplierNumber : Not Null

        Primary Key: ItemNumber

        Foreign Key: Supplier Number from the Supplier table

* PharmaceuticalSupply
* DrugNumber
* DrugName : Not Null
* DrugDescription : Not Null
* Dosage : Optional
* Method                        : Optional
* QuantityInStock :Not Null
* ReorderLevel : Not Null
* CostPerUnit : Not Null
* SupplierNumber : Not Null

        Primary Key: DrugNumber

        Foreign Key: Supplier Number from the Supplier table

* WardRequisition
* RequisitionNumber
* StaffName       : May be null
* StaffNumber : Not Null
* WardNumber : Not Null
* DrugNumber : May be null (If only ordering Items)
* ItemNumber : May be null (If only ordering Drugs)
* QuantityOfDrug : May be null
* DateOrdered : Optional

Primary key: RequisitionNumber

Foreign Key: StaffNumber from Staff table

Foreign Key: WardNumber from Ward table

Foreign Key: DrugNumber from PharmaceuticalSupplies

Foreign Key: ItemNumber from SurgicalAndNonsurgicalSupplies

* Supplier
* SupplierNumber
* SupplierName : Not Null
* SupplierPhoneNumber : Not Null Unique
* SupplierAddress : Not Null Unique
* SupplierFaxNumber : Not Null Unique

        Primary Key: SupplierNumber