**5 Business Rules**

1. Staff are subdivided into three groups: nurse student, physician assistant, and custodian. Only nurse students have the attribute Institution.
2. Each physician mentors one to four physician assistants and each physician assistant is mentored by one and only one physician.
3. Nurses have one or more skills.
4. Custodians have zero or more skills.
5. Each personnel may have multiple phone numbers such as: a cell phone number, a home phone number, or a work phone number.

**English Descriptions & Associations**

**Descriptions**:

Personnel -

A Personnel is anyone who has a relationship of one another to Dave’s GetWell Hospital.

Volunteer -

A Volunteer is any person who freely offers to take part in helping around at Dave’s GetWell Hospital.

Employee -

An Employee is any person who is employed at Dave’s GetWell Hospital for wages or salary especially at nonexecutive level.

Physician -

A Physician is any person who is qualified to be a medical doctor at Dave’s GetWell Hospital.

Patient -

A Patient is any person who is receiving medical treatment at Dave’s GetWell Hospital.

Visit -

A Visit is the act of a physician going or coming to see a patient.

Technician -

A Technician is any person at Dave’s GetWell Hospital who is employed to look after technical equipment or work in a laboratory.

Nurse -

A Nurse is any person trained to care for the sick at Dave’s GetWell Hospital.

Staff -

A Staff is an any person employed at Dave’s GetWell Hospital.

Outpatient -

An Outpatient is any patient who receives medical treatment without being admitted to Dave’s GetWell Hospital.

Resident -

A Resident is any patient who is being admitted to Dave’s GetWell Hospital and receives medical treatment.

Assignment -

An Assignment is a task or piece of work assigned to a Technician at Dave’s GetWell Hospital.

Registered Nurse -

A Registered Nurse is any nurse who is responsible for controlling or administering a group of nurses at Dave’s GetWell Hospital.

Custodian -

A Custodian is any person who is employed to clean or maintain Dave’s GetWell Hospital.

Nurse Student -

A Nurse Student is any person who is studying at a school or college to be a Nurse and is doing clinicals at Dave’s GetWell Hospital.

Physician Assistant -

A Physician Assistant is any person who is certified as a medical professional and works under the supervision of a Physician.

Laboratory -

A Laboratory is any room in Dave’s GetWell Hospital equipped for scientific experiments and research.

Care Center -

A Care Center is a nursery for the supervision of patients.

Room -

A Room is a boxed in area that can contain humans and relatively human sized items.

Bed -

A Bed is a piece of furniture for sleep or rest.

**Associations**:

Personnel to Volunteer - A Personnel can be a Volunteer

Volunteer to Personnel - A Volunteer is a Personnel

Personnel to Employee - A Personnel can be an Employee

Employee to Personnel - An Employee is a Personnel

Personnel to Physician - A Personnel can be a Physician

Physician to Personnel - A Physician is a Personnel

Personnel to Patient - A Personnel can be a Patient

Patient to Personnel - A Patient is a Personnel

Employee to Technician - An Employee can be a Technician

Technician to Employee - A Technician is an Employee

Employee to Nurse - An Employee can be a Nurse

Nurse to Employee - A Nurse is an Employee

Employee to Staff - An Employee can be a Staff

Staff to Employee - A Staff is an Employee

Physician to Patient - Each Physician examines zero or more Patients

Patient to Physician - A Patient is examined by one and only one Physician

Physician to Visit - A Physician schedules zero or Visits

Visit to Physician - A Visit is scheduled by one and only one Physician

Physician to Physician Assistant - A Physician mentors one to four Physician Assistants

Physician Assistant to Physician -

One to four Physician Assistants are mentored by one and only one Physician

Visit to Outpatient - Zero or more Visits are attended by one and only one Outpatient

Outpatient to Visit - Each Outpatient attends zero or more Visits

Patient to Outpatient - A Patient can be an Outpatient

Outpatient to Patient - An Outpatient is a Patient

Patient to Resident - A Patient can be a Resident

Resident to Patient - A Resident is a Patient

Resident to Bed - Zero or one Resident is held by one and only one Bed

Bed to Resident - Each Bed holds zero or one Resident

Staff to Custodian - A Staff can be a Custodian

Custodian to Staff - A Custodian is a Staff

Staff to Nurse Student - A Staff can be a Nurse Student

Nurse Student to Staff - A Nurse Student is a Staff

Staff to Physician Assistant - A Staff can be a Physician Assistant

Physician Assistant to Staff - A Physician Assistant is a Staff

Nurse to Registered Nurse - A Nurse can be a Registered Nurse

Registered Nurse to Nurse - A Registered Nurse is a Nurse

Nurse to Care Center - One or More Nurses are employed by one and only one Care Center

Care Center to Nurse - Each Care Center employs one or more Nurses

Registered Nurse to Care Center - A Registered Nurse manages zero or more Care Centers

Care Center to Registered Nurse -

Zero or more Care Centers are managed by one and only one Manager Nurse

Care Center to Room - Each Care Center has one or more Rooms.

Room to Care Center - One or more Rooms is in one and only one Care Center.

Room to Bed - Each Room contains zero or more Beds

Bed to Room - Zero or more Beds are contained by one and only one Room.

Technician to Laboratory - One or more Technicians use one or more Laboratories

Laboratory to Technician - One or more Laboratories are used by one or more Technicians

**Denormalization Paragraph**

We are denormalizing the volunteer class from third normal form to no normal form by making the skills attribute into a multi-valued attribute. The reason we are doing this is because a volunteer doesn’t need a specific set of skills to help out at a hospital. We are also doing this to test out the effects of what this will do to our database. The benefit of doing this is also when filling out the skills information it can be treated like a description rather than a list.