Business Case

Executive Summary

The Army currently has a database system which stores and keeps information of all the Personnel as well for different facilities namely Housing, Medical, Learning & Research and Storage which has three sub facilities namely Weapons, Vehicles and Supplies. All departments work co-operatively.

The current database system is outdated, and some facilities rely on paper documented archives rather than a database system.

Background

The Personnel Department works with records of all members and their duties in the army.

Housing facility manages the personnel assigned to every housing quarter. As well as the cleaning and task schedule for each housing quarter. These are mapped on paper.

The Learning & research Facility allows army personnel to train in particular fields for battle as well as take part in research tasks required for the development of biochemical weapons. Personnel are given the opportunity to broaden their skills both physically and mentally.

The medical facility keeps track of the health records of all personnel.

The storage facility stores all weaponry, vehicles as well as supplies in the army.

The weapons table contains all information of the different types of weapons that are used by the army. Control of weapons is also necessary to ensure weaponry is accounted for.

The Vehicles table keeps track of all vehicles that belong to the army, such as the different types i.e. Air, And Land. Vehicle registration is used to individually keep track of every vehicle.

The supplies table keeps track of food and basic survival supplies that are necessary for all personnel. These records are all stored by means of a paper based system.

The army has decided to host a new facility that will keep prisoners of very high threat to society so that they stand no chance of escape under any circumstances.

Problems

- Having physical paper documented archives can be risky in the case of fire or disaster. This may also be a risk in the event of loss to hard information. And recovery of such information would be difficult, or in some circumstances impossible.

- Updating records can be tiresome, due to most facilities being associated with another, an update is not performed across all facilities.
- The details of the prisoners are not recorded as of yet and the only information available is on paper documents.
- Paper Based Systems are difficult to manage, track and update.
- Processes are currently time consuming due to the current system and hinder productivity.
- There is no proper way of finding records.

Project Objectives and Scope

Our project will produce a database that will enable the user to access information. It will also enable the user to store, organize, retrieve and modify data.

- All facilities that are currently paper based require a database table to improve the system functionality.
- Creation of an offense facility table to manage information of prisoners.
- Improve overall data access.
- Improve speed to recover and retrieve records.

Project Product Description

A database that contains tables of all facilities in the army system, allowing each facility to Add, Update, Search, Delete, Archive and View records. Tables are secure and may only be viewed by those who are allowed access to the information of the table.

Benefits

- The system will overall improve the functioning of the army system.
- All facilities will be able to access data at ease.
- Management of records will be timeous.
- The army will be able to keep a track of offenses.
- Reduce duplication of data thus increasing productivity.
- Migration from paper-based records to database based.

Entity Relationship Diagram

A main table exists called Facilities which shares a relationship with the 5 facility types of the army. The Facilities class shares a one-to-one relationship with Medical Facility and Offence Facility. This indicates that there is only one Medical and Offence facility respectively belonging to the army.

Next the Facilities table has a one-to-many relationship with the Learning and Research, Storage, and Housing facilities respectively. This relationship implies that there are a number of each of these facilities on the army ground. These can easily be identified by a Block Id.

The Storage facility is broken down into three sub facilities namely, Weapons, Vehicles, and Supplies. These three facilities belong to the Storage Facility indicating a zero-to-many relationship. E.g. one Storage facility can have 0-to-many Vehicles (of any category) indicating a zero-to-many relationship between Storage Facility and Vehicle. This relationship applies to all three sub facilities. Storage Facility can have 0-to-many Weapons (of any category), and Storage Facility can have 0-to-many Supplies (of any category). These can easily be identified by a Section Id.

The Personnel Table shares 3 different relationships:

1. The Personnel table shares a one-to-many relationship with the Training and Research Facility. A Personnel may belong to only one department in the Training and Research Facility at a time but the said Facility may contain one-to-many personnel.
2. Personnel shares a one-to-many relationship with Medical Facility. There is only one medical facility, and this facility may accommodate one-to-many injured personnel as well as keep their medical record.
3. The Personnel table shares a one-to-many relationship with Housing Facility. A single personnel may belong to only one section in the housing facility depending on their rank but a housing facility can accommodate one-or-many personnel.