**Project Proposal**

1) Business description (20 pts): Describe the business based on the answers to the following questions. What industry does this organization reside? What products or services does it provide? What are its general business functions? Answering these questions will help you think further of what data need to be stored in the database and what data questions the users commonly ask.

I will be developing a database for an online housing organization which resides in Syracuse. The organization plays a role of mediator between: a) The Landlords who are looking to lease their owned property in Syracuse and b) The Tenants who are looking to rent property in Syracuse. The organization belongs to the Housing industry.

The general business functions of this organization will be to maintain databases about the Landlords (Renter), the Tenants, the Houses, Location of the houses, Incidents reported within the vicinity and Tenant Feedback.

The organization will first validate the Tenants, Landlords and Home information by doing a background check on each manually. The organization will use the passport number of tenants and landlords for this verification process. The Home will then be mapped to the informed location. A safety index will be assigned to the home based on the crimes recorded in its vicinity. The safety index will help the tenants to take a rental house in a safe location in Syracuse. The safety index will be scaled from 1 to 10 with 10 considered as the safest. The organization will then take feedback from tenants that reside in a house.

2) Problem statement (30 pts): Describe the data management problem based on the answers to the following questions. What data management problem are you trying to solve? What is the current solution? Why is the current solution not adequate? Justify the need for new data and databases in support of the business.

Most individuals consider safety as priority over cost of rent and amenities provided. Presently, there is no database in the housing industry where safety of a home is measured. Therefore, when a person rents a home, he is not sure how safe the area is. In Syracuse, the online housing websites provide only information such as price, amenities provided, number of bedrooms available and the location.

The current solution for a user to understand about a location’s safety is through the feedback of previous tenants or by searching about the location on internet. This solution is not adequate as the user has to search the comments section in order to find a previous tenants feedback. The comments also contain several other feedbacks and there is no method to filter the comments to find the safety related feedbacks. Moreover, there is no means to verify whether the comment is authentic. Furthermore, there can be a scenario where there is no feedback available. The second solution of determining the safety of the location by searching on net is time consuming. Therefore, the current solutions are inadequate to provide quick and accurate information about the safety of the house vicinity to the tenants.

The crime report information is necessary in order to determine the safety of the vicinity. Therefore, a new database will be required to store incident/crime records.

3) Proposed solution (30 pts): Describe a potential solution to the data management problem. Describe the project scope by answering the following questions. What business functions will be considered in the proposed system? What functions are considered but not included? Why? Describe the primary business objectives of the proposed system.

The problem faced in current databases is that there is no safety measuring unit. As a solution, I am proposing to create a database system that stores crime information such as number of thefts, number of weapon calls, number of sex offenders, number of assaults and number of traffic violations based on each locations. This information is then used to calculate the crime rate for each location. The Safety Index of a house is derived based on the crime rate for that particular vicinity (street location). A feedback from the tenants is then used by the organization to check the accuracy of the Safety Index.

The main functions of proposed system are as follows:

1) Acquire and store the information about landlords who are looking to lease their house.

2) Acquire and store the information about tenants who are looking to find a rental house.

3) Acquire and store the information of houses leased by a landlord.

4) Acquire and store the information of all the locations within Syracuse.

5) Acquire and store the information of all the crime incidents for the locations in Syracuse.

6) A database that records which house is leased by which landlord, determines the Safety Index of a house based on the crime rate of its location, and that records the feedback provided by the tenants, about the house they have stayed in.

Entities and their attributes:

1. Landlord: LandlordRegistrationID, FirstName, LastName, ContactNumber, EmailAddress, passportNumber, Lverified(Will be True if the Landlord is verified else flase).

2. Tenant: TenantRegistrationID, FirstName, LastName, PersonalContactNumber, EmailAddress,

passportNumber, Tverified(Will be True if the Tenant is verified else flase).

3. Home: HousingID, HouseNumber, SafetyIndex(Derived Attribute), LandlordRegistrationID, TenantRegistrationID, Hverified(Will be True if the House is verified else flase)., Cost, Available, LocationID, NumberOfBedrooms, HouseType.

4. Location: LocationID, StreetNumber, StreetName, CityName, CountryName, PostalCode,

CrimeRate(Derived Attribute), IncidentID.

5. Crime: IncidentID, TheftNumber, WeaponCallNumber, SexOffenderNumber,

AssaultNumber, TrafficViolationNumber.

6. TenantFeedback: FeedbackID, HouseRating, Comments, HousingID, TenantRegistrationID

4) Users (20 pts): Who are the users of your database system? Do all of them have equal access to the data? What data questions do they need to answer by querying the database?

This database will be used by my organization, landlords and tenants.

1) My organization has access to the records of every landlord, tenant, home, location, crime and tenant feedbacks. The organization needs to know which landlord and potential tenant has registered to the site. It also needs to know which all houses have been registered. It also requires access to location and crime to know the crime information about a location and tenant feedback in order to evaluate it. The Organization can ask questions such as does the safety index of a house match with the feedback received from the tenant residing in it.

2) Landlords: They have access to the records of every Tenant whom he/she has leased his/her house. The view of the record accessible by the Landlord does not contain the Tenants passport number information. The Landlord needs to know to whom all he/she has given his/her house for rent and how to contact him/her. The Landlord also has access to the records of every House he/she owns. The Landlord can ask questions like how many houses he/she has given for lease.

3) Tenants: They have access to every landlords’ information except for Passport Number. They also have access to the cost and Safety Index of every home available. They can also view their own Tenant Feedback. The Tenant can ask questions such as which is the least safest house to rent.