Arizona State University
Project Charter: CERT Software

Purpose / Project Justification

The purpose of this project is to help local CERT teams collect information about households in their neighborhood. This information will be invaluable in the event of an emergency such as an earthquake, flood, or other natural disaster to enable CERT personnel to identify at risk individuals (ie. elderly or disabled) or properties with critical safety risks (ie. propane tanks). This ensures resources can be directed quickly and efficiently, increasing the chances for survival for all involved.

Objectives and Success Criteria

The objective of this project is to deliver a Python project capable of storing, retrieving, and editing data about households within a given neighborhood. For the purposes of the first prototype, this will be sufficient. Future iterations will continue to develop this into a service available on the web, but due to the chance of a lack of internet during a disaster, CERT is asking for a local solution first. In discussion for the better solution, Phase 1, CERT would like a more secure web-based solution so that users can access the data from any device as well as be able to rely on best practices in IT, including server, database, security, and backup processes. You have agreed to store the data in a SQLite database to make it as easy as possible to make the web-based solution later. No additional implementation requirements given as CERT has limited knowledge and would like our company to provide a cost-effective solution.

High Level Requirements

The app should be runnable on the command line and open with no GUI and should open to a main menu with options to view records, add new record, import records, export records, and quit. Quitting will close the app immediately.

Choosing to export records will create a csv file in a directory called output a csv file called "Exported Records + (the current time and date).csv". Choosing to import records will allow the user to provide a path to a csv file. If the file exists at that location, and is properly formatted, then all records are added to the database. Both of these should show a success or failure message afterwards and return the user to the main menu.

Choosing to view the records should show a numbered list of all records in the database. If the user provides a blank input, then the app returns to the main menu. If the user provides a number from the list, then they should be able to edit that record. This is done by going through the add record process (see below), but with the values currently in the record displayed for quick reference as the default input (ie. when the part to enter an address is shown, then the address in the record is shown for the user to edit or quickly confirm with a blank input if there are no changes to make).

Choosing to add a new record provides a list of questions for the user to fill out. These questions fall into three categories: required, follow up, and optional. Required questions require a properly formatted response and cannot be left blank. Follow up questions are required questions that are only asked if there was a certain response to a previous required question. Optional questions can be left blank, but are still checked for proper formatting if a value is provided.

The required questions are as follows: the number of adults in the household, the number of children, are there any pets, if so ask the follow up if there are any dogs, does anyone in the house have critical medications, if so ask the follow up if those medications need refrigeration, does anyone have special needs that would require extra assistance in an evacuation, does the house have a large (bigger than for a grill) propane tank, does the house have a natural gas connection, and the address of the house.

The optional questions are as follows: household contact phone number, household contact email address, does anyone in the house have any medical training, do they know their neighbors, do they have a neighbor's house key, do they want the CERT newsletter, can CERT use their contact info for anything that is not directly related to a disaster.

Once all of these questions have been answered or skipped, a new record is created and stored in the database. Unanswered optional questions, and unneeded follow up questions, should be left blank.

Assumptions / Constraints
For the initial prototype • **Must be Python based** • **Must store data in a local SQLite database** • **Must allow for the editing of existing household records** • **Must allow records to be imported from a CSV file** • **Must allow records to be exported to a CSV file** • **Inputs will be validated to be the correct format (ie. The address is in the format 7001 E Williams Field Rd, Mesa, AZ 85212)** • **Inputs will not be verified for actual data accuracy (ie. the address actually exists, so and so actually lives here)** **No other assumptions are known at this time.**
Preliminary Risk Statement
There are no major risks that have been identified, and any smaller ones discovered have been deemed acceptable for now.
Summary Milestones / Schedule
Phase 0 – The planning phase and documentation (PM route) **Phase 1 – The execution phase and initial prototype (Developer route)**
Summary Estimated Budget
The project manager will be the sole resource working on Phase 0 solution. The PM will work internally with his management for a schedule, cost and resources needed to deliverable phase 1.
Project Manager Responsibilities
If you chose to be the PM, then the project manager is you. Otherwise, the instructor is the PM.