Case Study 1: Translation Agency

Translation Agency aims at translating documents from its original language to target language(s) that customer specifies. Basically, the agency has a pool of diverse translators dedicated to different languages and establish a bridge between customer and translator(s).

Concerning the translation request initiation, the customer sends a translation inquiry by specifying the original (Turkish) and target language(s) (such as German and/or French), due date and attaching the document. Whenever the agency receives an inquiry, the agency staff calculates the cost of translation and prospective delivery date and sends an offer to the customer. If the customer accepts the offer, the agency staff sends the document to the translator(s). When the translator(s) finishes the translation, the translation is sent back to the agency. The agency should also guarantee that the translation is appropriate by requesting proof-reading from another translator before it is sent to the customer. After proof-reading, finalized translation is delivered to the customer and the payment is received simultaneously. Concerning payment, cash and credit card payments are acceptable at the customer's choice.

Customer can also add more translations to his/her current request. For instance, let s/he requests the translation of passport from Turkish to Italian. While the translation is in progress, s/he can request additional translations, such as translation of diploma or her/his identification card. Therefore, the agency keep track of documents belongs to the specific user and should deliver them in time.

Besides, if the customer requests amendments in the document, the agency sends the amendment request to the translator(s) that has previously translated the document. After corrections are completed, the finalized version of the translation is sent back to the customer.

The agency can list, search and update existing inquiries from customers and ongoing translations. Moreover, the agency staff can get detailed information about specific customers. The staff can update existing inquiries from customers and ongoing translations such as delivery time and the payable amount.

Customer and agency staff can create and edit their own accounts however only the the one from agency holding administrator role can delete users. All operations are logged in order to be analyzed further with timestamp.

Case Study 2: Disaster Management System

Disaster Management System (DMS) is responsible for taking actions during natural disasters and security issues. The importance of disaster management system becomes visible when dealing with all

humanitarian aspects of emergencies by organizing and managing of resources and responsibilities to lessen the impact of disasters.

The focus of the DMS project is to manage resources, such as medical aid, food and to coordinate various groups: fire departments, police, soldiers, search and rescue teams, and medical personnel to plan emergency actions. Rescue gathers hardware, software, and network entities. Figure 1 illustrates the disaster management system environment.

DMS has the following abilities:

-Data is continuously collected and fused (combined) from satellite feeds, surveillance cameras and available sensors around the disaster area and reveals significant information that is delivered to the Disaster Management Center (DMC).

-Depending on the incident and the scene, DMC can deploy drones or UAVs to gather more detailed information to be utilized.

-Various groups; fire departments, police, swat teams, search and rescue teams, and medical personnel are informed about the current situation.

-DMC creates an action plan and puts in operation by assigning tasks and dispatching relevant groups into specific locations.

-Search and rescue teams collect and inform DMC about necessary information to locate people; the ones survived and the ones trapped under the wreckage.

-Firefighter teams are sent to specific locations to extinguish fires and to create detailed reports accordingly.

-Medical teams are sent to locations where they prioritize emergencies and help people who need medical care immediately.

-DMC decides which security units to deploy based on the threat level and possible actions to be taken. Police will be the first to respond. However for complicated high-risk situations (Such as terror attacks, hostage situations etc.), SWAT teams will be deployed by DMC.

-Police are responsible for providing security and helping teams whenever possible.

-SWAT teams may request air support for live feed from DMC with UAVs if required.

-DMC is obligated to provide updates to inform the public about the incidents via social media, news channels, web etc. In timely sensitive events, DMC can delay releasing information for up to 24 hours.

-DMC administration will be able to add/remove new teams and resources to the system. Also, existing teams can be updated if necessary.