











Figure 1. CrisisDPS: Crisis Data Processing Services

which represents everything else that does not belong to any of the six disaster types. The motivation behind this service is to determine whether a message belongs to a particular disaster event or not before dispatching it for further processing. Moreover, this service could be useful for decision-makers in an emergency department who are dealing with multiple disasters at a time helping them to distinguish disaster-specific messages.

**2. Informativeness classification:** To determine whether a text message contains some useful information for disaster managers or not, we provide the “informativeness” service. Given a text message, the service classifies it either as *informative* or *not informative*. We consider a message as *informative* if it contains some useful information for humanitarian aid; such as disaster-related warnings, reports about injured, dead, or affected people, rescue requests, volunteering or donation offers, reports of damaged houses, roads, etc.

**3. Humanitarian information type classification:** Given a message is *informative*, which means it contains some useful information for humanitarian aid, the next task is to determine what kind of useful information it conveys. For this purpose, we provide humanitarian information type services. These services correspond to a set of automatic classification services to classify a given text message into one of the ten humanitarian information types described below:

1. *Affected individual*: messages that contain information about affected people due to a disaster event;
2. *Caution and advice*: messages that report warnings, cautions, and give advice to people in the disaster area;
3. *Displaced and evacuations*: messages that report about displaced people or evacuations due to the disaster event;
4. *Donation and volunteering*: messages that request for donations, e.g., food, water, shelter, or offer help or volunteering services;
5. *Infrastructure and utilities damage*: messages that report damages to built structures such as buildings, roads, and bridges;
6. *Injured or dead people*: messages that report injured or dead people due to the disaster event;
7. *Missing and found people*: messages that report missing or found people due to the disaster event;
8. *Requests or needs*: messages that contain requests or urgent needs of affected people;
9. *Response efforts*: messages that report ongoing response efforts by humanitarian organizations, NGOs, and volunteers;
10. *Sympathy and support*: messages that convey thoughts, prayers, sympathy, and support to the victims of the disaster;





















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