**Initial data formating**

User:

username: max 20 chars

name: max 30 chars

password: max 20 chars

Individual:

job title: max 30 chars

date hired: mm/dd/yyyy

Municipality:

population size: integer

Government agency:

jurisdiction: max 30 chars. Example: Federal

Company:

headquarter: max 30 chars. Example: Downtown Atlanta

Resource:

ID: unsigned integer

owner: max 20 chars

resource name: max 30 chars

model: max 30 chars

capabilities: multi-value with max 30 chars, each

home location:

longitude: signed numerical decimal degrees, range [-180, 180]

latitude: signed numerical decimal degrees, range [-90, 90]

cost:

price: unsigned float

period unit: chosen from the set { Hour, Day, Week } which can be changed later

status:

description: chosen from the set {Available, In Use, In Repair}

next available date: mm/dd/yyyy

ESF:

number/description: chosen from a default set which is extensible: { (#1) Transportation, (#2) Communications, (#3) Public Works and Engineering, (#4) Firefighting, (#5) Emergency Management, (#6) Mass Care, Emergency Assistance, Housing, and Human Services, (#7) Logistics Management and Resource Support, (#8) Public Health and Medical Services, (#9) Search and Rescue, (#10) Oil and Hazardous Materials Response, (#11) Agriculture and Natural Resources, (#12) Energy, (#13) Public Safety and Security, (#14) Long-Term Community Recovery, (#15) External Affairs }

Incident:

ID: max 10 chars, numeric

owner: max 20 chars

date: mm/dd/yyyy

description: max 100 chars

location:

longitude: signed numerical decimal degrees, range [-180, 180]

latitude: signed numerical decimal degrees, range [-90, 90]

Repair:

start date: mm/dd/yyyy

ready by: mm/dd/yyyy

Request:

start date: mm/dd/yyyy

return by: mm/dd/yyyy

**Constraints**

1. For an individual user, the ‘date hired’ cannot be later than today.
2. For a resource, the ‘next available date’ of ‘status’ can not be today or ahead of today.
3. For an instance, the ‘date’ cannot be later than today.
4. All attributes except ‘model’, ‘capabilities’, and ‘additional ESFs’ cannot be NULL.
5. When a request is made, its ‘start date’ cannot be ahead of the ‘next available date’, and its ‘return by’ date cannot be ahead of the ‘start date’.
6. When a repair is scheduled, its ‘start date’ cannot be ahead of the ‘next available date’, and its ‘ready on’ date cannot be ahead of the ‘start date’.