StormWare Requirements

# Domain

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| Stakeholders | Goals |
| Owner , Manager, Designer, Developer, Quality Assurance, Professor, TAs | Develop stable, maintainable, robust software that locates dangerous areas with respect to natural disasters, and aids in natural disaster research.  Ensure development process is structured and organized. |
| Users (Disaster researchers, environmental scientists, general public) | Use StormWare to determine disaster prone areas and use that information to create efficient solutions to disaster management.  Helps government agencies to track trends and accordingly determine locations that are suitable for city development projects. |

# Functional requirements

* Datasets
* Dataset parser
* Separating disaster events into lists of different categories
* Calculating heatmaps of specific types or groups of disasters using the neural networks
* Google Maps API
  + display historical disaster events as points
  + display heatmap of neural network output magnitudes
* Machine learning (Neural Network) to process latitude and longitude into magnitude
  + Back propagation through the network to train it
  + Forward propagation through the network to calculate magnitude from latitude and longitude
* User input of latitude and longitude

# Non-Functional requirements

* Stable
* Maintainable
* Robust
* Correctness
* Speed
* Security
* Encapsulation

# Development and Maintenance

* Java doc will be provided for all modules
* Each module will be thoroughly tested
* Information hiding will be present for the maintainability and reusability (private and immutable state variables, classes, etc.)
* Each task will be rigorously logged
* Weekly meetings to discuss project progress and future plans