# First change request

The client wants a module that detect geographic relations within the text and generate a spatial-temporal graph that describes the following directions: north, south, east, west, above, below, left, right inside, and outside.

## Configuration Identification

Using the concept of configuration identification, we identify the following concepts applicable to the change request:

### Code

Functionalities to be implemented:

1. **Geographic Relation Detection:** The system should be able to parse the text and identify geographic relationships. This includes directions such as north, south, east, west, above, below, left, right, inside, and outside.
2. **Spatial-Temporal Graph Generation:** Post detection (point 1), the system should generate a spatial-temporal graph that visually represents these geographic relationships.

This new functionality will enhance the system's ability to understand and visualize geographic relations in each text, providing a more interactive and intuitive user experience.

### Design

Implementation of this feature may depend on the existing system architecture and may require additional libraries or tools for text parsing and graph generation.

### Documentation

All modules to be developed must be documents complying with the quality characteristics as required by ISO 25000.

## Risk assessment

### Budget

The additional budget for this change request is:

### $63,330.00

### Human Resource

We have the team already only needs to update details of the change.

### Time

The additional time required for this change is:

Two months

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| **Strength** | **Weaknesses** |
| Advanced Functionality: The ability to detect geographic relations within the text and generate a spatial-temporal graph is an advanced functionality that can significantly improve the system's capabilities.  User Experience: It can enhance user experience by providing more context-aware and visually appealing responses. | Technical Complexity: Developing a module that accurately detects geographic relations and generates a spatial-temporal graph can be technically challenging.  Data Availability: The accuracy and effectiveness of the functionality heavily depend on the availability and quality of the geographic data. |
| **Opportunities** | **Threats** |
| Innovation: This could lead to the development of new features or products based on advanced geographic data analysis.  Market Differentiation: By prioritizing geographic relations detection, the client could differentiate themselves in the market. | Competition: There are already established players in the market offering similar functionalities.  User Expectations: High user expectations for accurate geographic relations detection could lead to dissatisfaction if not met. |