

Full stack developer home assignment

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The task is divided between frontend and backend. Any technologies, frameworks and libraries can be used to implement the solution.

Assessment will not be based on visual aspects but rather on how you decide to structure and make technical decisions. You will be asked to present and run your solution to developers at Spacemaker, and discuss the choices and assumptions you have made.

Frontend

The view should be a map with the polygons (provided to you as geojson on the next page) displayed on top of the map.

It should be possible to select two polygons and do the following operations on them.

- Union
- Intersect

The result of the operation replaces the selected polygons. The front end should sync the polygon state with the backend.

Backend

The polygons should be persisted on disk, database, file, etc... (not in memory). It should be possible to retrieve the polygons. The API should be easy to extend and structured in a well-mannered way.

The input polygons to the API must be validated.

Example input:

```
{
  "type": "FeatureCollection",
  "features": [{
    "type": "Feature",
    "properties": {},
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [-0.14007568359375, 51.5027589576403],
          [-0.12325286865234374, 51.5027589576403],
          [-0.12325286865234374, 51.512588580360244],
          [-0.14007568359375, 51.512588580360244],
          [-0.14007568359375, 51.5027589576403]
        ]
      ]
    }
  },
  {
    "type": "Feature",
    "properties": {},
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [-0.1352691650390625, 51.50810140697543],
          [-0.11398315429687499, 51.50810140697543],
          [-0.11398315429687499, 51.51963895991333],
          [-0.1352691650390625, 51.51963895991333],
          [-0.1352691650390625, 51.50810140697543]
        ]
      ]
    }
  }
]
```

```
        ]
      ]
    }
  },
  {
    "type": "Feature",
    "properties": {},
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [-0.13595581054687497, 51.49698840879303],
          [-0.11226654052734375, 51.49698840879303],
          [-0.11226654052734375, 51.50510971251776],
          [-0.13595581054687497, 51.50510971251776],
          [-0.13595581054687497, 51.49698840879303]
        ]
      ]
    }
  }
}
```

