Probabilistic Programming
Final Project Proposal

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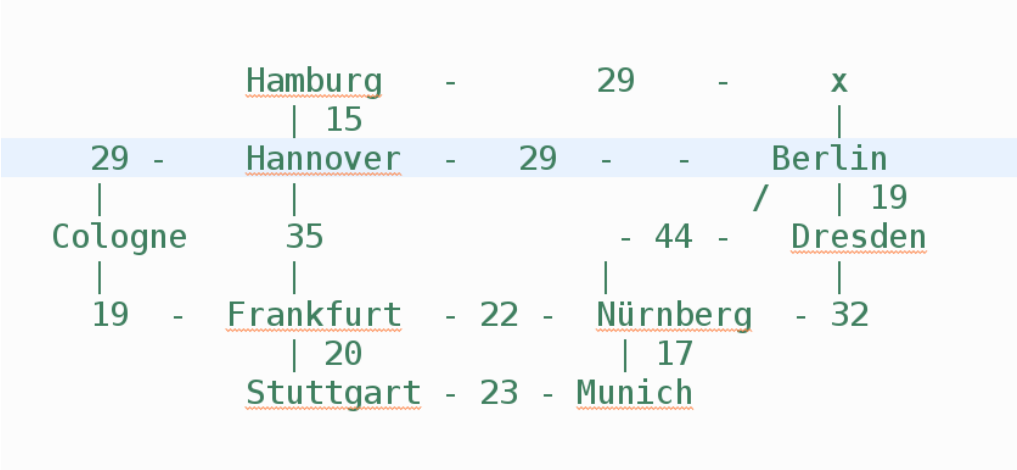
Idea

We got a graph or tree structure but only limited knowledge about the whole structure.
So we generate a Figaro designed model to work with the restricted knowledge to get a most optimal solution to given queries.

Specifying on a particular example

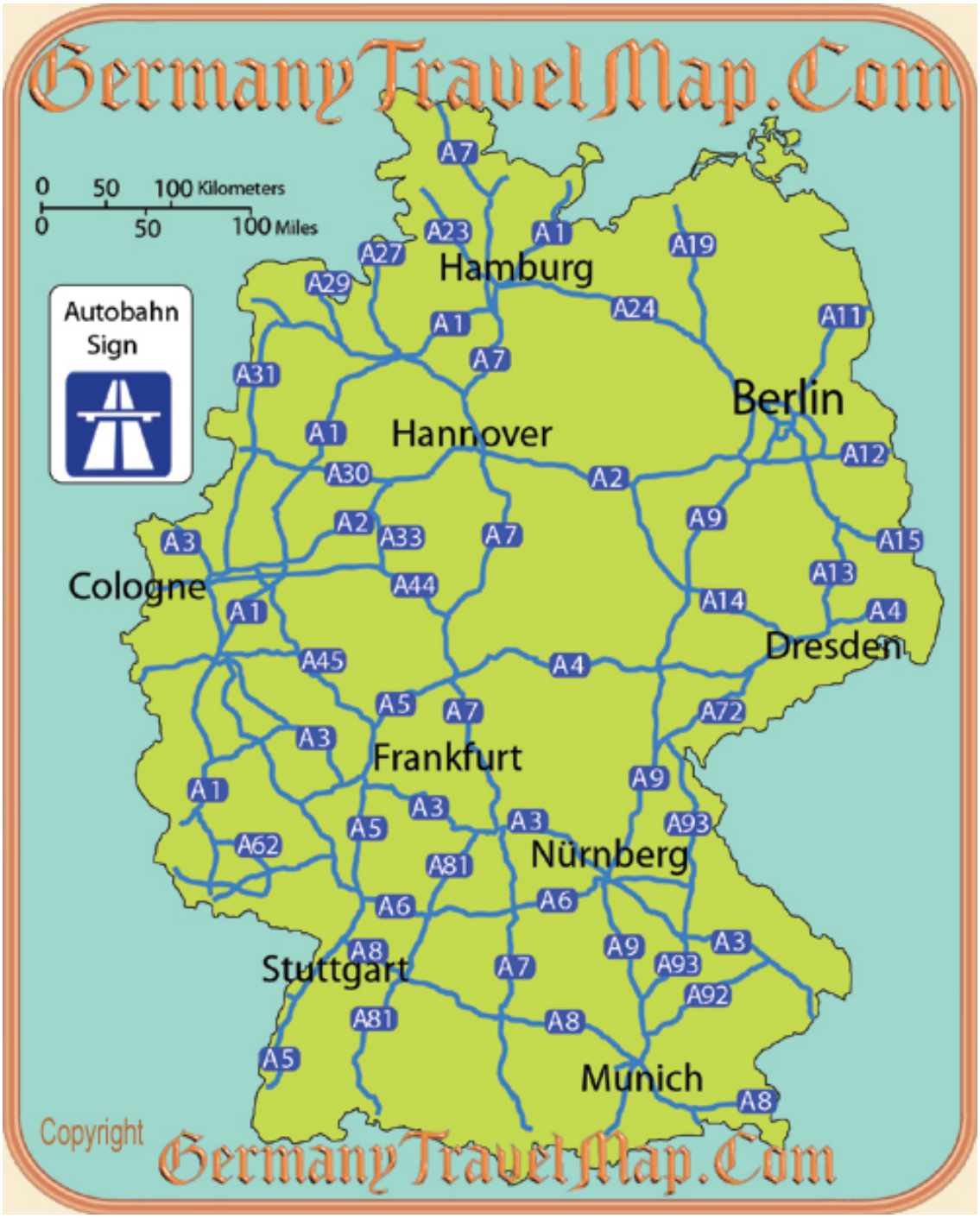
We got a roadmap, here some major German Autobahn's, where we know our location(coordinates in 2D), the location of our destination and the distances and coordinates of the next cities linked to our actual location.
We got 9 big cities and a start location on the map plus several connections between those spots. This is an overview above the edge costs and which vertices are linked.:



At the end of the document is another more detailed map but these numbers and links will used in the code.

Pre-thoughts which should be implemented

- Create a graph structure with Figaro's Elements
- Design a universe-based framework for the movement through the graph
- Figure out different approaches for traversing(e.g. completely random, based on costs, based on locations)
- Evaluate the success of those approaches with sample-based computations
- Try to visualize it maybe
- Try to keep it as dynamic as possible since it should be useable for different structures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0 50 100 Kilometers
0 50 100 Miles
Autobahn Sign
Hamburg
Berlin
Hannover
Cologne
Dresden
Frankfurt
Nürnberg
Stuttgart
Munich
A7
A23
A1
A19
A27
A29
A24
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