

# Linked Movie Exploration Graph

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# Linked Movie Exploration Graph

- Build an app that allows you to create a graph similar to the Google Knowledge Graph based on the movie data on LinkedMDB



# Linked Movie Exploration Graph

- Language: JavaScript
- Frontend-Template: Materialdesign Light
- Libraries:
  - Graph-Drawing: Vis.JS
  - Jsonp-Requests: fetch-jsonp
- Sparql-Endpoints:
  - LinkedMDB
- Image-Endpoint:
  - Wikipedia Image API



# Foreseen Challenges (1/2)

- Performance of graph drawing
  - Vue.js best API in comparison to cytoscape.js and jsnetworkx
  - Vue.js has best engine to dynamically calculate node positions
  - All dynamic graph libraries struggle when displaying animated images
  - Outsource physics calculations in web worker
    - But communication with DOM difficult
  - Possibility to disable node images for larger graphs
- Merge already existing nodes
  - Lookup by LinkedMDB URIs



# Foreseen Challenges (2/2)

- Cross-Domain-Requests are forbidden in JavaScript
  - LinkedMDB does not offer CORS
    - Jsonp
- Movie recommendations
  - Missing LinkedMDB properties for movie topics
  - Missing links between LinkedMDB and DBPedia
    - Not possible with LinkedMDB and DBPedia
    - Show pre- and sequels instead



# Unforeseen Challenges

- Image Source
  - Image size needs to be strictly limited
    - Performance
    - Network delay
  - Disambiguation needed
    - Wikipedia Image API (but no disambiguation possible)
- LinkedMDB outage
  - Additionally corrupt LinkedMDB dumps
    - Local Blazegraph endpoint (but no Jsonp possible)



# Future work

- Build an image proxy server
  - Can use flickr-wrapper or Google Image API with better disambiguation possibilities
  - Can scale image to appropriate size
  - Solves cross origin issues
- Filter movies actors (how to determine importance?)
- Filter actors movies (the 10 movies with highest boxoffice?)
- Improve performance with web workers
- Movie recommendations?



# Live Demo

