Medical Record as a Graph

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- Problems:
    - Although excellent telecommunication tools are available, effective collaborations between care provider remains difficult.
- Objectives:
    - Improvement of the way multidisciplinary Care Team members can share the overview of a common patient. Multidisciplinary means here GP, many specialists, nurses, paramedicals.
- Approaches:
    - Focus on the relations between Observations, Problems and Actions.
    - A one Screen synthesis of the patient record intended for situations when a doctor see a new patient, typically in case of hand-over, emergency entrance, as a kind of dashboard.
    - Presented as a graph.
    - Simply make the reasoning transparent and explicit. Not yet decision support.
- Description:
    - Introduction:
        - A graph database is a kind of NoSQL DB. In a graph any node can be linked to any number of other nodes.
        - Nodes and relationships are independent objects having their own attributes as author, date time, degree of belief, importance, etc...
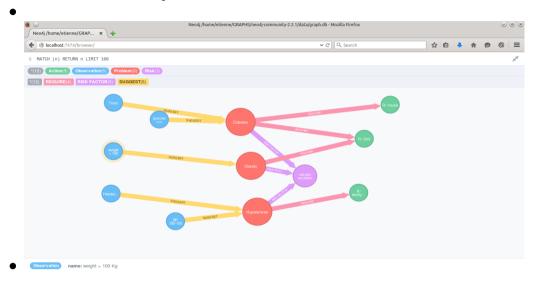   - Relationships:
        - A relationship is a links between 2 nodes. Relationships have a type, e.g. "BELONG_TO", "PART_OF", "SUGGEST", "REQUIRE", "COMPLICATION_OF", "RELATED_KNOWLEDGE", etc ...
    - Nodes:
        - A node is any meaningful entity of information.
        - Nodes can have one or several "Labels", e.g. "Observation", "Problem", "Action", etc... in visual representation of a graph labels can be associated with typical layout as color, shape, size, etc...
        - Nodes as well relationships can have many optional attributes as "key-value pairs", typical attributes are:
            - author, ID, version, title, date_time, degree_of_belief, importance, content what it may be, links to external documents, etc...

- Navigation in a graph:
  - A dashboard without borders because you can move to related nodes as "friend of friends". A node will be able to active specific applications (not yet working).
- Conclusion:
  - Interactive graphs are expected to be very easy to understand, because they work like the human mind !