Research Territory Mapping

1. Construing an RTM

A Research Territory Map (RTM) gives an overview of how the relevant elements of your research topic are related.

Step 1: An RTM is produced by first listing all the keywords that are related to your research topic. These loose concepts can, for instance, be represented by circles in a concept map.

Step 2: After you think you have a fairly complete list of keywords, you start relating them to one other. This is done by connecting the circles from step 1 using arcs. You must then name these arcs, so as to make explicit how the keywords that characterize your research topic are related. You can also use arrows instead of arcs, in order to clarify the directionality of certain interrelations.

Step 3: Now that all of the relevant keywords are both listed and related, you have a perspicuous overview of your research topic. Next, try to create meta-categories by grouping related keywords together. These larger groups can also be interrelated in a specific way. For instance, there might be different theories regarding the same topic. Such theories will generally have some conceptual overlap, but will also be substantially different from each other. Or, a process that you are trying to model can be divided into meta-processes, each containing an internal fine-structure of interrelated concepts.

Step 4: Once you have a fairly stable oversight of your research topic, you keep iterating the previous steps by adding, removing, or adapting keywords, relations and meta-groups. Every time you read a new article on your topic, you ask yourself where it would fit into the total fabric of the research topic. For instance, if the author introduces a new methodology, does it depend on others that are already in the conceptual network? If the author introduces a new argument, does it contradict others? Etc.

Step 5: Most importantly, you should try to get a clear idea as to where your research should be posited within the conceptual network. This is an extremely useful exercise, since it allows you to bring to the fore what gap in the existing research field you are filling, what positions you alienate with, which argument you oppose, etc.

An RTM keeps you focused during your research project, since it shows you (literally) the big picture of what you are doing, formulated in terms that are characteristic of existing research.

A good RTM is also a very useful input to the process of writing your research report. The RTM will first of all be excellent material for your chapter that describes the background of research activity preceding yours. In addition to that, it will indicate the main points of your own research, e.g. making clear what it is that your research adds to the discussion.

2. Software

- RTMs can be constructed as concept maps. An easy tool for construing concept maps is CmapTools: http://cmap.ihmc.us/conceptmap.html.
- Alternatively, RTMs can be constructed using Microsoft Visio, which is installed on the Windows computers in the Euclid building.

2. Examples

2.1 Research Territory Map (RTM)

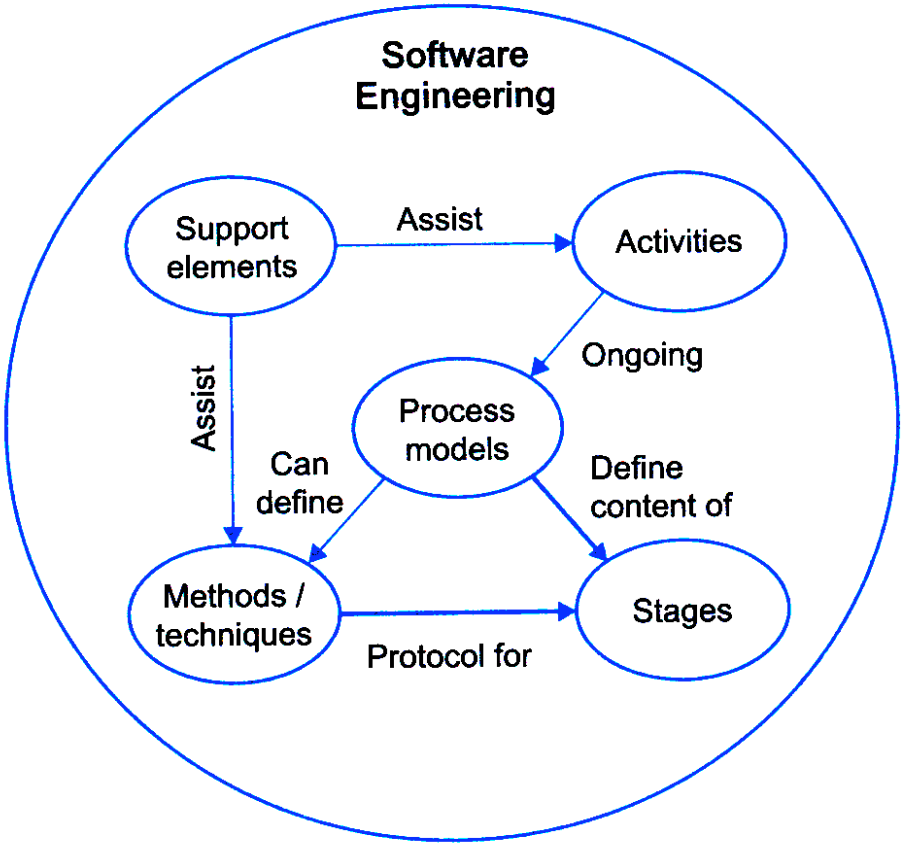

Figure 3.1 A high-level RTM for the field of *software engineering*

2.2 Relevance Tree

A relevance tree break down a particular subject or research question into lower and lower levels of detail.

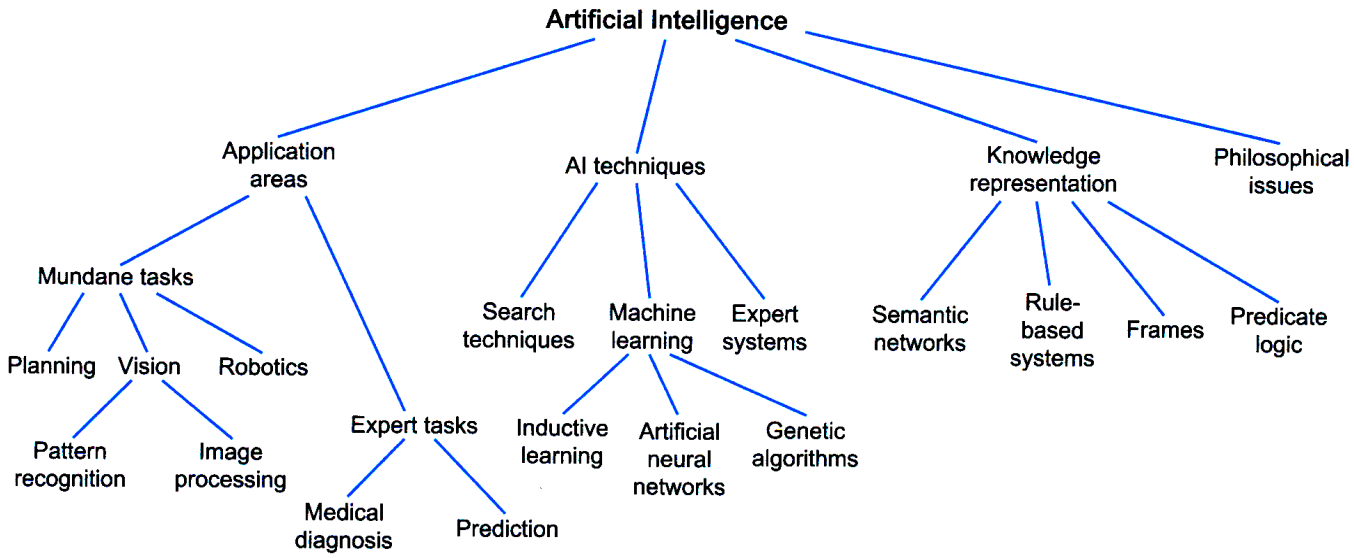

Figure 3.2 An example relevance tree for the field of *artificial intelligence*

2.3 Spider Diagrams

A spider diagram combines features of Research Territory Maps with those of Relevance Trees.

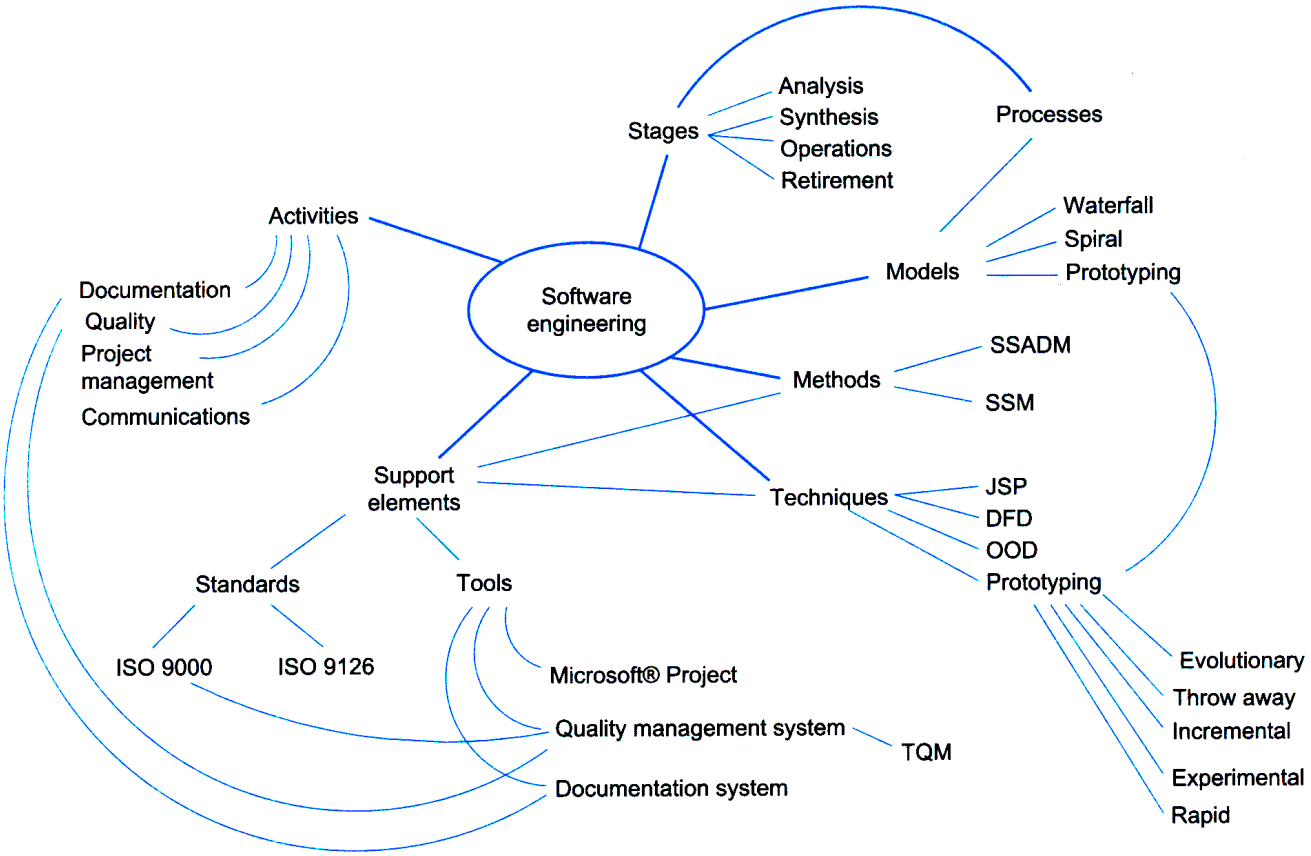

Figure 3.3 An example spider diagram for the field of *software engineering*