Reference:	**Tapestry of Life (QSE:ToL)**
Topic:	**Tapestry of Life – Knowledge Engineering and Visualization**
LVA-Type:	Praktikum, Bakk-/Diplomarbeit
Start:	Ab sofort
End:	Nach Vereinbarung
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Background

Family and friends want to document and share important events in their history. Often photos document important events and the persons involved. There are ancestor trees and photo albums to keep memories and relationships but these are isolated and hard to recombine for interesting visualizations.
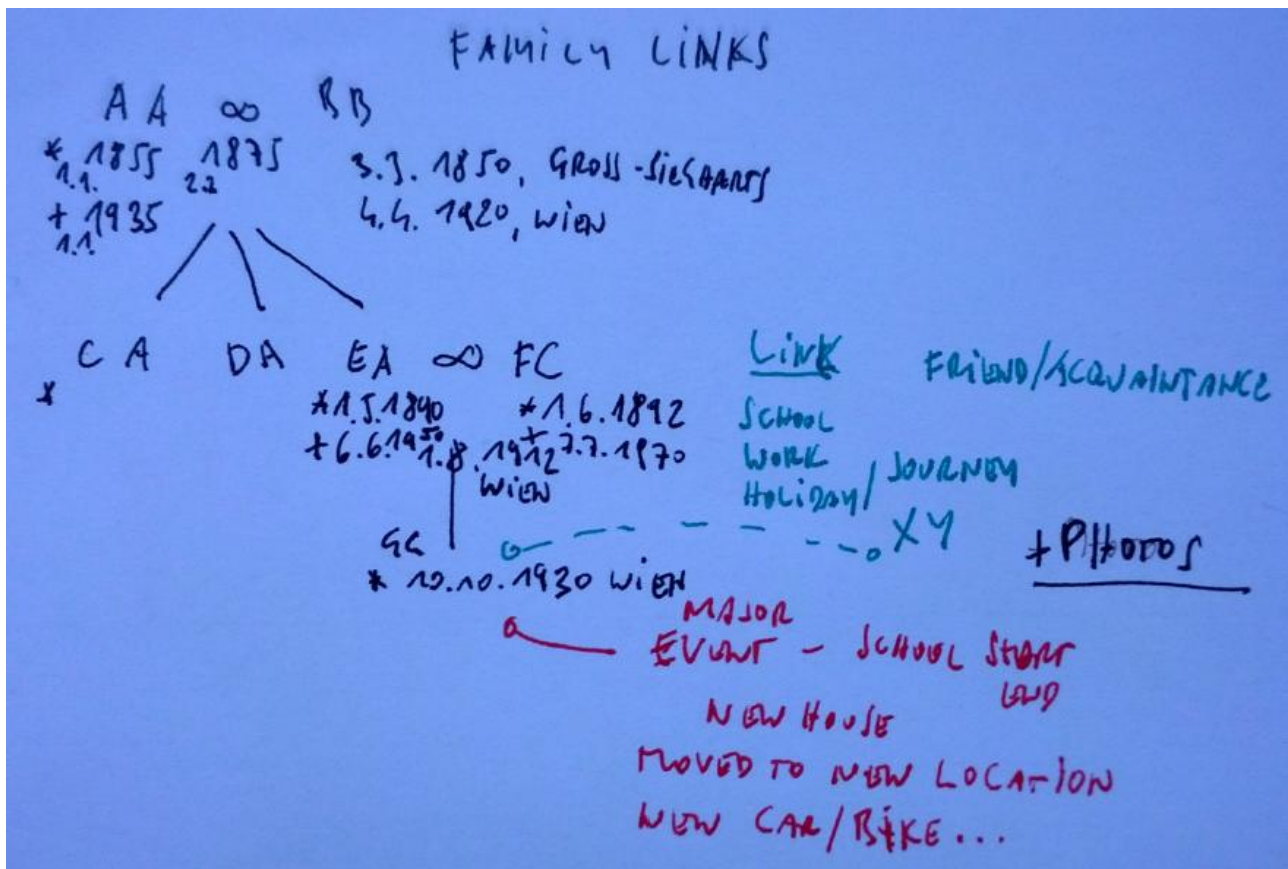

Figure 1: Example ancestor tree enhanced with
new links to non-family members and major events in a person's life.

Tasks

- Goal is to design a knowledge base and visualizations, which allow a group of persons to document important events and relationships in their family and friends/acquaintences.
- Basic parts
    o Research existing similar applications on the data and links to external knowledge bases they use and visualizations, functions they provide.
    o Design and implement a knowledge base to support the relevant functions and visualizations.
    o Design and implement user interfaces for intuitive data input and for data import, e.g., from spreadsheets.
    o Design and implement interesting visualizations, e.g.,
        ▪ Ancestor tree for a person, which can be completed interactively
        ▪ Timeline of major life events of a person or small family
        ▪ Timeline of major life events of a person in relation to historic events in politics/society, art, and/or science/technology.
    o Collect and import test data into the knowledge base to demonstrate the the relevant functions and visualizations in the context of a prototype.

Experience and skills needed
The following preconditions are needed/recommended.

- Java as used in SEPM PR.
- Interest in user experience/interface design.
- Basic understanding of and interest in ontology
- Ruby on Rails for prototyping
- Basic experience with data visualization
- UI mockup tools (e.g., balsamiq) (optional)
- Experience with Heroku and Git (optional)