IDEAS TO MARKET

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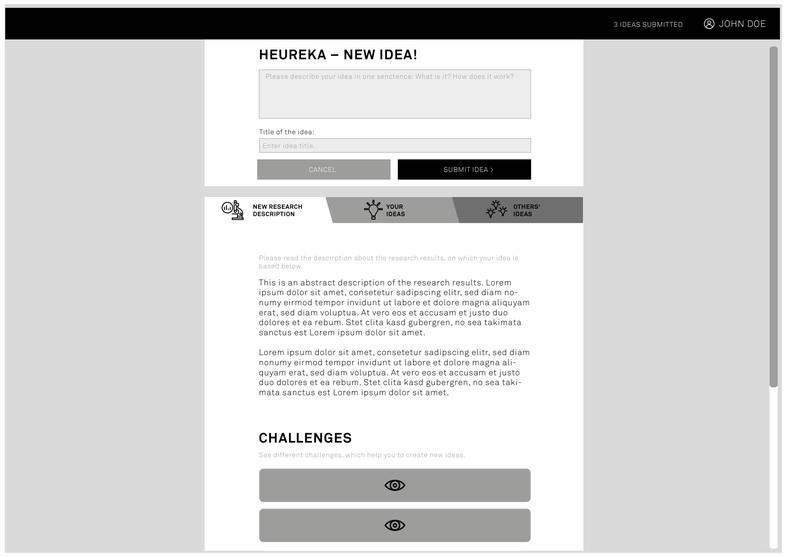
Further information at:

www.ideas-to-market.de

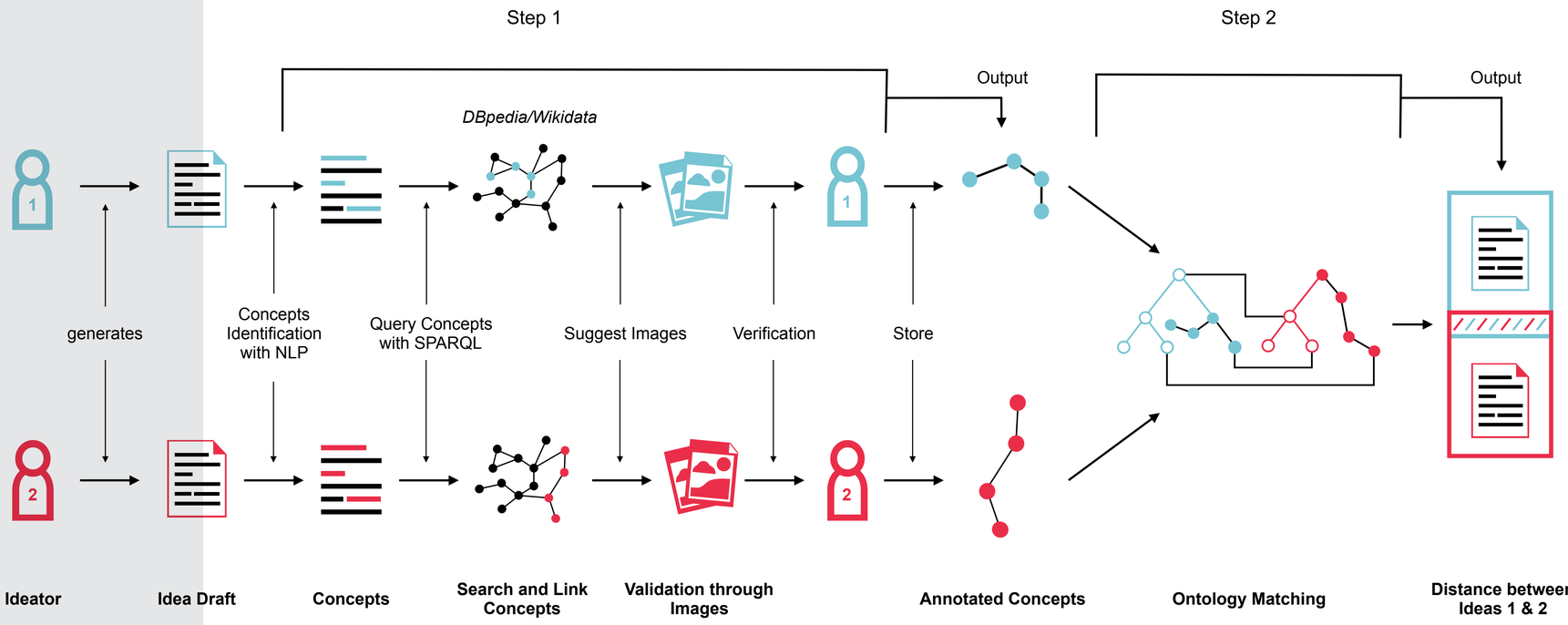


One of the main processes in innovation is the generation of ideas for new applications of technologies. Research has shown that new ideas can be greatly enhanced through seeing ideas of collaborating individuals (contrary to the „lone inventor“ myth). Online crowd platforms provide a promising approach for supporting such collaborative ideation process due to the heterogeneity of the crowd (each person brings unique knowledge and points of views). To leverage online crowds to generate even more creative ideas, research has explored different ways such as presenting diverse ideas as inspiration or employing expert facilitation. One challenge of collaborative ideation is the amount and the model of delivery of ideas: Large numbers of ideas make it infeasible to check every idea manually. Furthermore, users of crowd ideation submit their ideas in the form of short full text descriptions making it challenging to automatically assess the similarity between ideas and detect clusters.

Interface Concept

Mockup for an Interface used by the Ideators: Users can look at the research description, see Inspirations (here called „challenges“), look at ideas generated so far and see others' ideas as further inspiration. The goal for the interface is that it's easy to learn and to use, so that people with diverse background and only a limited amount of time/motivation can use it.

To overcome this challenge, our research aims to obtain insights about the meaning of ideas by the use of semantic technologies, more specifically annotating concepts used in the ideas, and linking them to external knowledge-bases. Then applying conceptual similarity measures to assess the semantic distance (similarity/diversity) between ideas. Furthermore, the semantic distance between all ideas allows to build a two-dimensional representation of the ideas, the so called 'solution map'. This solution map can be used to get a quick overview over group efforts, find inspiration, and detect idea clusters.



Workflow (Approach)

The approach consists of annotating idea concepts using external knowledge more specifically, then, applying ontology matching techniques, to calculate the semantic similarity between ideas based on their ontological concepts.

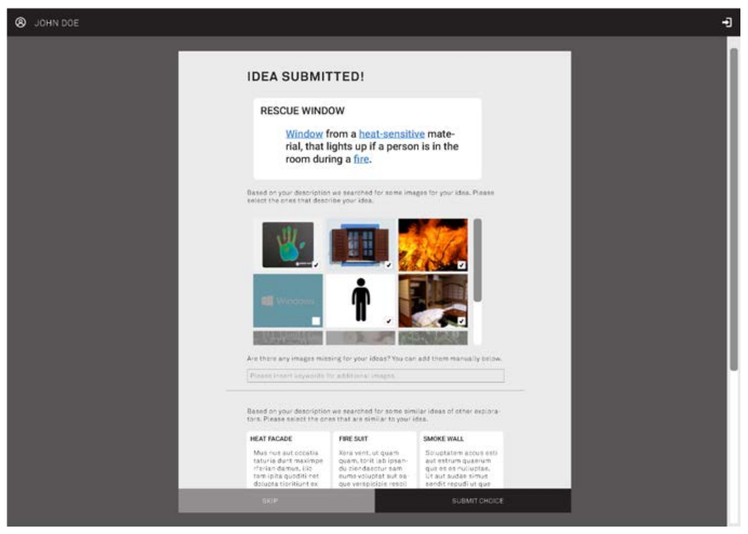
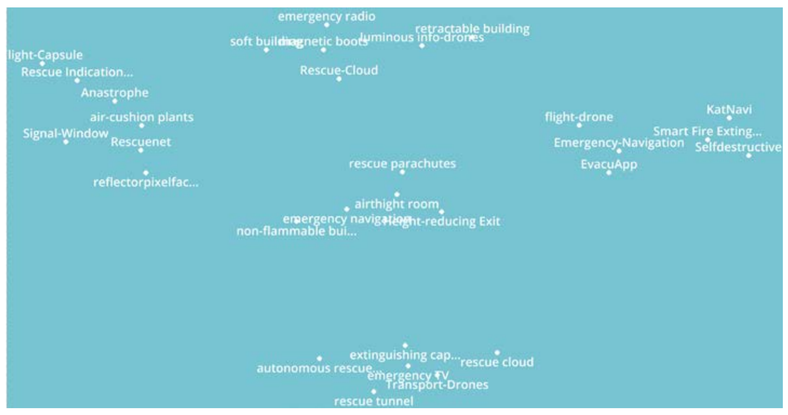


Image Selection Task

In order to provide meaning to the text the users submitted, we're employing a two step approach. We link the words used in the idea description to external concepts. For example the word „fire“ can be linked to „http://dbpedia.org/resource/Fire“ in the DbPedia Concept Library. These links to external concepts provide us with further information about superclasses and relationships.



Solution Map

A two-dimensional representation of the **solution space** (the conceptual space of all ideas generated). This overview can be used to get a quick overview over group efforts and visualize the distribution and clusterings of ideas. Getting a two-dimensional representation from the similiarity matrix calculated in the → similarity calculation step, works by employing dimensionality reduction algorithms, that maintain local clusterings in the high dimensional space. One example for an algorithm is the **t-distributed stochastic neighbor embedding** (t-sne) algorithm.

Human-Centered Computing

Fraunhofer IAO

Leibniz-Institut für Wissensmedien

Supported by:

DLR

Bundesministerium für Bildung und Forschung

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