Decentralized Partnership Formation: Applications in Branding, Product Development and Product Distribution
Andreea Sandu, Bogdan Aurelian, Sophie Corlay, Anna Chmielowiec, Ivar Vermeulen, Maarten van Steen
{a.i.sandu, b.aurelian, s.j.s.corlay}@student.vu.nl, {a.a.chmielowiec, i.e.vermeulen, m.r.van.steen}@vu.nl
Vrije Universiteit, Amsterdam, The Netherlands

Web mining for co-branding potentials

1. Extracting brand images - by determining the strength of the associations between brand names and several attributes on the web. These attributes include the facets of the five core brand personality dimensions, expanded with selected synonyms from a thesaurus.

2. Assessing brand associations
   - Symbolic overlap - whether two brand images have ties of similar strength to their corresponding attributes
   - Functional overlap - the competitive pressure by determining whether two brand images exert on each other (based on their number of co-occurrences on the web)

Decentralized matching

1. Matching protocol
   - Finds groups of k partners
   - Each partner which forms a matched group cannot be part of another group
   - Uses co-branding values to assess the partnership value
   - Uses heuristic to avoid searching through all the solution states
   - Matching is run independently at the site of each company

2. Node knowledge layer
   - Provides stable node list to the matching protocol
   - Saves all known nodes and updates constantly with new nodes
   - Samples peers from the gossiping protocol

3. Gossiping layer
   - Every company is free to join or leave the matching process
   - The number of companies taking part in the process can become very large
   - Who keeps track of the companies and at what cost?
   - Gossiping solves this problem because it is decentralized and every company keeps track of its own set of potential partners

3. Computing the co-branding potential
   - Combines the two brand association metrics such that a high symbolic overlap and a moderate functional overlap lead to a high co-branding potential
   - A high symbolic fit ensures compatibility between the two brand images
   - A moderate functional fit ensures complementarity of the contribution of the two brands to the marketed product