Collaborative Personalised TV Programming

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1. Automating the Selection of TV Programmes
   - Distributing the Workload
   - A Standardised Review Format
   - Easy Writing of Reviews
   - Automated Distribution and Interpretation

2. System Architecture
   - Preference Engine
   - On-Demand Cache
   - User Interface
Automating the Selection of TV Programmes

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But how?
Distributing the Workload

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- Automated distribution and interpretation of reviews.
A Standardised Review Format

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My proposal for the meaning of a review:

- Presence/absence of a RSS entry with a specific keyword by a specific reviewer.
Easy Writing of Reviews

Reviews “written” by the push of a single button on the TV remote controller:

- Minimal workload involved in creating reviews.
- Everybody can contribute information.
- Automated creation of reviews can be integrated in ordinary operations of the TV remote controller.
Automated Distribution and Interpretation
Preference Engines

- Once we have identified a number of possible review values, we can train a **preference engine** to correlate the present reviews for each presented programme with the user’s feedback on the programme quality.

- A preference engine can for example be an artificial neural network (ANN) trained with the traditional back-propagation algorithm.
System Architecture

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- TV programme sources.
- On-demand cache.
- Preference engine.
- User interface.
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- Preference engine. – The filtering and selection software.
- User interface. – The TV remote controller is used for giving feedback about the shown programmes.
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- Ranks and filters the available programmes based on the available reviews.
- Helps the on-demand cache deciding which programmes to store.
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Features of TV programmes which can be presented as keywords (categorisation, director, actors, etc.) can be fed to the preference engine in the same form as reviews.

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For training:

- User feedback. – In the form of relative ratings of pairs of programmes.
Interaction with the on-demand cache

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- Answering queries from the cache system about the likelihood that there is interest in watching a programme.
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- **Prefer programme.** – Register and distribute a review saying that the viewer likes the current programme better than the previous one.
- **Label programme.** – Distribute a review assigning a keyword to the current programme.
Summary

We have seen how existing collaboration technologies can be put together to generate personalised TV channels.

We have seen how this can be done without a centralised database.

Outlook

- A prototype preference engine should be developed and tested on real users.
- The dynamics of the reviewer network and rules for generating an optimal reviewer network should be studied.