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# ADAPT Next-Generation Recommender

A collaborative, contextual and content-based recommender

## Background

In 2017, Ryanair were launching a new accommodation service, Ryanair Rooms. Ryanair had limited data on guests using this new service and wanted to explore how it could offer a more personalised experience to these customers. The two main approaches to recommender systems are Collaborative Filtering and Content-based approaches, which do not perform well where there is limited data.

## Challenge

To create a recommender system that would be successful in a data sparsity environment, while adapting and enhancing as new data becomes available.

## Solution

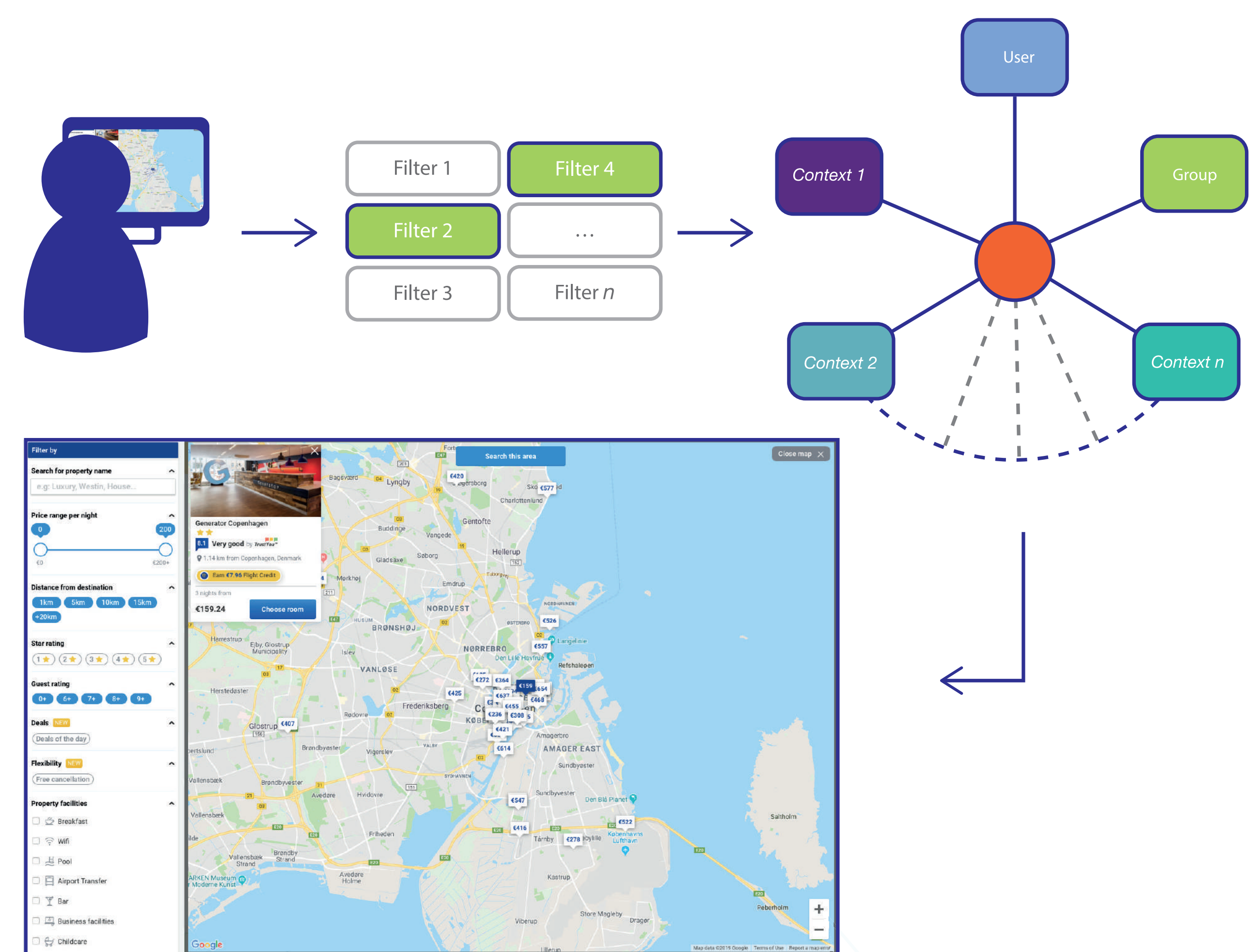
A real-time hybrid recommender that combines different techniques and exploits all the available information about users, such as:

- User preferences to personalise recommendations
- Group preferences to capture preferences of similarly grouped people
- Data associated with items to apply content-based techniques
- Contextual information

**Inputs:** User preferences and contextual information.

**ADAPT Technology:** Hybrid approach that blends elements of naive collaborative filtering, content-based recommendation and contextual suggestion.

**Outputs:** Custom accommodation recommendations for guests using the service.



## Results and Benefits

- A recommender that overcomes the cold start problems of content based and collaborative filtering approaches
- Deployed within Ryanair for evaluation
- Does not require significant rating data
- Generates personalised recommendations
- Provides real-time and robust recommendations

## Use Cases

Any consumer product, for example:

- Hotel recommendation, clothing, holidays, car insurance etc.
- Recommendations to users for items in cold start contexts where limited data is available

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