Description of project for A325a

# Problem

Recommendations at music festivals for individuals and groups

# Computer science fields

Algorithms for recommender systems  
Object Oriented Programming

# Contextual problems

How to handle clash of interests within a group  
Choosing different ways of recommending/which algorithms to apply  
What types of data sets to use and how to use them

# Applying theme and goals of curriculum

Through solving the problem of recommending concerts for individuals and groups by modelling the solution as a program created using OOP programming with applied algorithms.  
The program should be able to recommend concerts/food stalls based on the user’s preferences. The recommended concerts could be based on Spotify data. Food could be recommended based on the user’s budget and taste. Furthermore, the program would need some sort of graphic user interface, preferably with a customizable calendar. The program should also be able to recommend concerts based upon a group of user’s preferences.

# Initial problem statement

Which algorithms are best suited for a recommendation program? Based on which parameters should the program suggest concerts/food? How should the program be recommending concerts to a group of people with diverse music taste?

# Features for the program

## Music

The main focus for the program should be the music recommendation.

* **Preference (Spotify)**

The program could use Spotify (or other music services) to schedule what artist you should see based on your taste of music. This should enable the app to recommend new artists to the user that fits the user’s personal musical taste.

* **Find group**

An option to find and recommend other unknown people with the same music tastes as you. This way you can find and meet new people to enjoy the concerts with, based on the program’s recommendation.

* **Scheduling**The program should, based on the musical recommendations, create a personalized schedule of concerts.
  + **Group**  
    It should be possible for the app to combine the music taste (Spotify history) of your entire camp (group of people) to make a schedule that fits you all.
  + **Individual**The scheduling should of course also be a possibility for an individual.

## City

We would like the program to also be able to recommend things outside the festival for Roskilde City, as we know that the people attending the festival often goes to the city for supplies such as Beer and food. Having a recommendation for where to go, would be a huge benefit to people who attend the festival for the first time, or people who are not familiar with Roskilde city.

* **Supermarket**Recommendation of where to go to get food and stuff in the nearby city, based on preference and budget.
* **Beer/Cheap camp-food**
* **Offers**- This feature should look at the ”e-offer-catalogs” of nearby supermarkets to find and recommend which stores to go to when you need beer, food etc. for your camp.  
  - Compare the prices from the festival to the stores in the city. And give this info to the user, so he can decide if it’s worth it.
* **Distance**Consider the distance to the market.
* **Budget**Also take into account the amount of money the user have left.
* **Toilets**Gives info on nearby free toilets.

## Food – On Camp

A feature for the program to recommend food would also be a good thing to have. Giving the user an easy way to keep track of budget and a recommendation of what to eat, and where to quickly get your food and when to get it so you don’t miss a concert, and food that will prevent hangovers as much as possible.

* **Budget**  
  The user needs to specify a budget beforehand. So the app is able to recommend what to buy and how much to be sure the users budget is not exceeded.
* **Distance**The app should use distance to the foodstalls and bars when recommending where to go.
* **Preference**  
  Food and beer preferences should be given to the app to ensure the app will recommend food that the user actually likes.
* **Que**The que time or the approximate waiting time should be a included when recommending. This might be done by looking at other users of the app, or getting acces to data from the stores at Roskilde to know when the different shops/bars are busy.
* **Food**The app could also recommend food items based alcohol consumption. The user enters the amount of alcohol he/she has consumed, and the app tells the user, what food he/she needs to consume to avert a hangover.