## Requirement specification and scope for the travel rating and recommendation (TRR) sub-component

|  |  |
| --- | --- |
| Subsystem 2 | Travel Rating and Recommendation  A web-based interactive system which:   1. Must allow all registered members to suggest/recommend travel spots (i.e. create, edit, delete travel suggestions based on text graphical representations). 2. Must enable other registered members to rate a suggested travel spot. 3. Must enable other registered members to leave reviews (i.e. comment on) a suggested spot. 4. Should allow an organising committee member to suspend, edit or delete a suggest spot or review. 5. Could provide a registered member with a list of system generated recommendations based on their habits or the similarities of other locations. |

The travel rating and recommendation (TRR) system must provide registered users the choice of the **creation, editing and deletion** of travel spots. They will be prompted with a form which will include inputs for them to fill in, these inputs will be.

* The title of the destination (i.e. family holiday, party destinations and more) which can be incorporated as a simple text box.
* The exact location of the spot which can be incorporated either as an interactive map in which they place the marker of the location or a text box where they would write the address of the location and a drop down menu would give them the closest match to what they wrote.
* A description of the location such as why they felt that this location is worth visiting and what amenities it included, this will also be incorporated as a text box as it is the most suitable.
* Lastly the user can submit a photo of the location that they recommended which I think is very important as it provides other users with a good visual representation therefore the rating of the locations will be more accurate.

The TRR system must provide registered members the choice of rating and reviewing the submitted travel locations. This will be incorporated in to the system as a comment section below the submission. The inputs this component will include.

* A title of the submitted review used to summarize the description of the review, this can be capped to a maximum of 40 characters to prevent over spill. This will be incorporated as a static text box at the top of the element.
* A detailed review of the location used to give other users insight of why the reviewer has come to their conclusion. This will also be incorporated as a text box however it will be much wider and longer and will be capped to 200 characters to allow for more detailed description. This input will be optional as not everyone will want to interoperate exactly why they left the review.
* Media submission, the reviewer can submit a photo as evidence to further backup their review. This will also be optional as not everyone will have a photo to submit.
* Lastly the user can leave a score to further summarize their review, this will be incorporated as a star based rating system where they can choose out of 5 stars. This function is quite important as it could be used to create a recommender system later on which will be based on user reviews.

The TRR system should allow administrators the ability to suspend, edit or delete submitted suggested locations or reviews, the reason for using this functionality is to discourage users from abusing the system by posting fake locations or leaving inappropriate reviews rather than constructive ones.

* To complete this functionality the application will determine what type of user is logged in; if it has determined that an admin account has logged in, extra buttons such as suspend, edit or delete will appear on each submission and review.

The TRR system could provide registered users with a list of recommendations based on their habits with other users or the similarity of other locations. This is a widely popular tool used by ecommerce websites to increase the sales of their items but it can also be used to increase the amount of time users spend on the website. Including this function will require to do a few things to determine what the most suitable method of extrapolation is.

* Data collection – creating a recommender system will require me to gather user data which will be used to determine their preferences. There are two ways of collecting user data. Implicit data collection which is logging the user actions on the website then determining their behaviour based on their actions (I.e. visiting the same post more than once, leaving a positive review on a specific post). Explicit data collection which is taking the users star rating (from 1 to 5) to determine what they like. This will be the method that we will use as we have already incorporated a rating system in previous function.
* Data filtering – the next step is to filter through the data to make a prediction on what the user will like, the first method is passive filtering which simply put means using the average rating of each location to predict the next one, drawback to this system is that users will only be shown top rated submissions and not necessarily user specific. The second method active filtering is a bit more advanced as it uses the patterns of a user and compares it different users for similarity then makes a prediction. The method I will use to filter the data will be a collection of both methods, I will retrieve the average scores the locations however I will use the scores submitted by the users to determine their preference then I will work out the similarity between each users using K nearest neighbour algorithm which will use the Euclidian distance metric to calculate how far apart one rating is from another one thus giving me a similarity score.

