Specification

Travpedia is an online travel and accommodation booking system. Travel and accommodation companies are able to subscribe to Travpedia for a monthly subscription cost of £200 plus an initial £50 joining fee. This subscription allows the company to offer their products on the Travpedia website where they can be purchased by visiting users. Travel products that are advertised on the Travpedia website include journeys by road, rail, sea and air. Accommodation products include hostels, hotels and resorts. These products can be offered both individually and as packages.

Visitors to the website, after registering an account, are able to search for all available products offered by these subscribed companies. They are able to search with a number of criteria including type of product, number of people, location, date and price. Users can then view these search results and book and pay for products through the website. Users may also rate and review individual products and services that they have purchased. A product gains a review score based on these ratings. This review rating system provides further search criteria whereby a user can filter search results by product rating.

Payments made by both subscribing companies and users are handled online by a third party consortium. Subscribers must pay by debit or credit card while users have the additional option of paying with gift vouchers offered by Travpedia.

Users are able to view bookings they have made and, where possible, cancel these bookings and receive a refund via the third party consortium.

Travpedia disseminates advertisements and promotional offers to users based on previous patterns of use and previous purchases. These personalised offering are sent to mobile phones through SMS and email accounts. Users may opt out of receiving phone and email alerts.

Travpedia also has a number of critical compliance and security requirements. Travpedia stores user's personal information and payment details that should not be disclosed to other parties or kept for any longer than necessary. If this data is maliciously accessed, disclosed, leaked or manipulated it could breach confidentiality and data protection. Furthermore, any transaction information sent to the third party consortium used for payment must be kept secure. This is done with encryption using 128-bit SSL certificates.

During peak time, Travpedia receives up to one million simultaneous users and is designed to handle this number of users. The design is also scalable to accommodate its growing number of users and subscribers. This system is used by users 24 hours a days and must be always available. All data that Travpedia stores must also be kept safe from system failures. For this reason, user's profile, itinerary and transaction data and subscribers data are stored and backed up on three database servers in three distinct locations. Two of these locations are in the UK and the other is in the USA. This allows Travpedia to minimise downtime after unforeseen system failures.

Scope
The scope of our design is limited primarily to subsystems devoted to user's interactions with the Travpedia website. In particular, we will consider the following:

- Travpedia account registration.
- Searching for products.
- Making new bookings.
- Viewing and cancelling previous bookings.
- Reviewing products.

Assumptions
We have made a number of assumptions regarding the external systems and remaining internal modules described in the whole system specification. We assume that these other modules have their own interface with which we can communicate when necessary.

Subscribers All aspects of company subscriptions to Travpedia are handled by a separate module. We assume that vouchers are provided by Travpedia.

Consortium The third party consortium will deal with all aspects of forwarding userpayments to Travpedia's subscribers. We will be responsible for sending user payments to this consortium who will then respond accordingly about the success of the transaction.

User Database There is a database for user profile and account data. We can make requests to this database to retrieve and update this data.

Product Database There is a database for all travel and accommodation product data. We can make requests to this database to retrieve and update this data.

In the case of both databases, we assume that another module handles ensuring this data is backed up across the three distinct database locations. Finally, this module also ensures that data is not held longer than necessary in order to comply with the Data Protection Act.

Email and phone notifications Users can request email and phone notifications. Our system will provide the user with the option to receive these, but a separate module deals with the selection and dissemination of this information.