T-Train – Initial Specification

T-Train is a train ticket management system designed mostly with the goal of simplicity in mind. Unlike the majority commercially available ticketing systems in the UK right now, T-Train aims to give the customer an instant answer to their booking requests – all the customer has to do is to select where they depart from and when and where they plan to arrive.

The way this system operates, the customer is able to do exactly what they would expect to do with a train ticket booking system. Once they select the start and end point of their journey, the system will look for whether such a connection exists and if there are tickets available for it. From there the user can directly book the ticket.

In order to book the ticket the user needs to enter their personal details so that the ticket can be assigned to them and validated, this process creates an account for the user. Once the account exists or the user has logged back into it having selected a ticket, they are redirected to a merchant pay gate to complete the purchase. The user should also be allowed to simply check for all available connections and filter that list in case they do not know exactly what they are looking after.

Such purchased ticket can be then opened at any time by the user in the tickets menu. Some users are expected to own lots of tickets at the same time, so filtering them should also be possible just in case anyone needs to do so. There, aside from displaying the details of the ticket, the user can also perform two operations: to refund the ticket, only if terms of carriage allow it, or reissue the ticket, basically refreshing it for possible new changes.

For the system to work, there has to be some work put in by the staff of T-Train as well. If the user wants to buy a ticket for a connection between Leicester and Birmingham, this connection must first exist and be available to use, therefore, staff will be able to add new connections to the system and modify the ones that currently exist, for example temporarily disabling them. If the train operator wishes to cancel a connection for any reason, our staff must be able to cancel that connection in the system as well.

For obvious reasons, the ticket purchased by the user must be a valid type of a ticket accepted by the railway, therefore, staff of T-Train must be able to add a new ticket type if one emerges. Sometimes the ticket details change, such as price or train coverage, and in this situation staff must be able modify the existing ticket type to reflect the change. A ticket type may also be deleted by staff if this kind of ticket is no longer accepted by the carrier. To make this process easier, staff will be able to see all ticket types currently existing within the system and filtering them to suit their needs.

Because payments are not server directly by T-Train, the transactions and validation of them will not be handled by our system. All of them will, however, be logged before the user is transferred to the payment provider, and once a response is returned by that provider, whether success or failure, will be logged. This way staff can see all payments as they were started and finished. They can then filter these payments for ease of access. This feature should only be used when a customer requests help and the payment information is crucial to solve their issue.

The remaining functionality serves as last resort kind of functionality where the user can close their own account or have their account terminated by T-Train for breaking the terms of service. Although this functionality is not expected to be used often, it is vital that both users and staff have access to it. In some cases, users might have purchased tickets that were later deleted because of changes made by the train operators, and in these situations, staff is also able to delete these tickets from the users, granting refunds or issuing new tickets depending on the circumstances.