

2.1

Scottish tourism board create a bike rental system.

Type of bikes – road bikes, mountain bikes, hybrid bikes, ebikes etc

Customers requiring a given combination of bikes of different types for a given range of dates should be able to perform a search to get quotes from all providers that can satisfy their demands and place a booking after selecting the quote which best meets their needs (based on price, deposit amount, location etc).

This scheme is expected to boost tourism, allowing visitors to easily find the provider who can best meet their needs, and to help the environment, allowing customers to cycle instead of drive

2.2 renting and returning

Customers can use the online rental system to request a list of quotes from the different bike providers.

they need to provide information on their rental needs (number and types of bikes, date range, location of hire),

the system will return a list of quotes from different bike providers.

Each quote shows a bike provider who can offer the bikes requested on the desired dates, as well as the total price and deposit for renting the bikes.

If no quote is available for the customer's date range, the system suggests any quotes for the same duration within 3 days before the start or after the end of the date range.

customers must provide their personal information (first name, surname, address, post code, phone number), and their mode of collecting the bikes (in store collection or delivery)

Bikes can be picked up in person from the bike provider's shop, or they can be delivered to the customer's address if this is near to the provider.

Customers can return the bikes to the shop of the provider from which they were rented, or to the shop of one of the provider's partners

Once bikes are booked, payment is made online.

After payment, a confirmation is generated which includes the order number (unique for each order), order summary, deposit, total price, delivery and return information

Once booked, the bikes are also reserved for the customer on the required dates, and are unavailable to other customers on the same dates.

Assumption 1

We can assume that the customers will always pick up and return all of the bikes in their order, using the mode of collection they chose when booking, and also that they will always return the bikes on time (before the rental expiry date).

Bookings span entire calendar dates so it is not possible to place a booking for part of a day;

collection and return may take place at any time within a bike provider's opening hours but the details of their timing do not need to be included in your model. When the customer picks up the bikes, they need to pay for their full deposit. If they wish their bikes to be delivered then a delivery driver will collect the bikes from the shop and drop them off at the customer's address at the start of their booking period whilst collecting their deposit. When the customer returns the bikes (to the provider or one of its partners) their deposit will always be returned

2.3 Bike Providers

Registration of provider

their name, shop address, shop postcode, phone number and opening hours.

Once registered, the provider is able to register new bike types onto the system by providing each type's name (e.g. road bike, mountain bike, hybrid bike, ebike, etc), and the full replacement value for bikes of this type (for determining deposit amounts).

they can add bikes of a certain type as part of their stock.

The list of bike types is shared amongst different providers, however, each provider must set its own daily rental price for each type of bike included in its stock.

As well as setting their own daily price for each bike type, providers may also set their own deposit policies.

The deposit amount is always a fixed percentage of the replacement value of the bike, the deposit rate, however, different providers may have different deposit rates

When a customer picks a bike order, the provider or delivery driver registers the received deposit and updates the status of the bikes.

When the customer returns the bikes directly to the provider from which they were rented, the provider returns the deposit and updates the status of the bikes to record their return.

Providers can also make partnership agreements with other providers, whereby each provider will accept the return of bikes rented from any of their partners.

These partnerships can be registered in the system by indicating both of the providers entering into a partnership.

Then, if a customer returns their bikes to one of these partner providers instead of their original provider, the partner returns the deposit and updates the system to notify the original provider that they have been returned.

Assumption 2

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We assume that a provider's partners will use a delivery driver to return the bikes to the original provider overnight so they are available for rental on the next day, and that the status of the bikes will be tracked throughout this process.

2.4 Extensions