Reserva UML class diagram:

Room class has an instance of Schedule object. Schedule class contains and keeps track of room reservations.

RoomReservation class has a list of objects that inherit the IReservedRoom interface. This interface is inherited by a model called ReservedRoom that is used to transfer the data between ASP razor pages.

Pricing algorithms:

As of latest build Reserva has 5 diffrent pricingalgorithms that are also possible to be combined for different desired results. There are a selected set of combination possible , these being:

- (Reserva Curve **or** Minimal Curve) + (Seasonal Northern **or** Seasonal Southern)

Algorithms are chosen by hotels, and every room in that hotel will use these selected algorithms.

Reserva Curve: being the main algorithm, which is based on this graph below(with base price €100). Which is achieved by manipulation of the numbers but also be influenced by precentage booked and how far away the date of booking is(x-axis). In this way we get a demand based price (y-axis).

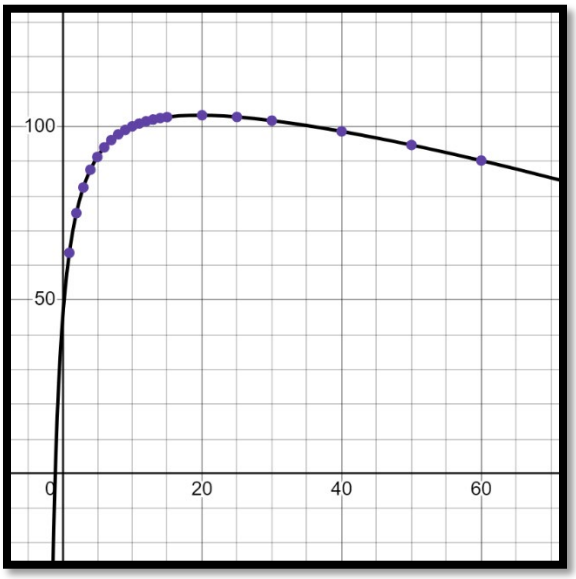

Figure 1: Reserva Curve at 10% of rooms booked.

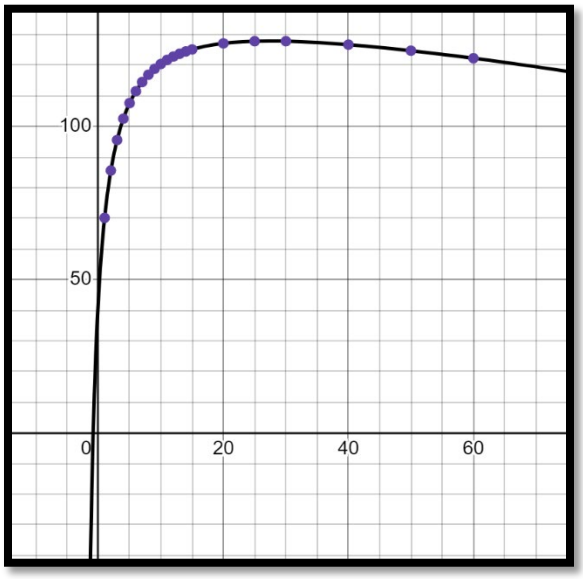

Figure 2: Reserva Curve at 90% of rooms booked.

Minimal Curve: this algorithm is also based on Reserva curve but having some limitations on how much discount can be given. Thus, essentially having a max discount amount as to not lower or raise the price too much. For example, if the discount price is bigger than 15% of the base price, the discount will default to a maximum of 15%.

Seasonal: there is two different seasonal algorithms to choose from, these being “Seasonal Northern” and “Seasonal Southern”. These try to give the yearly high and low season for both hemispheres. Which one too choose is based on where the hotel is located. During high season there will be a 10% price increase, and during low season a 10% price decrease.

There is also an option to choose **no discount** which just keeps the original base price of the rooms.