[Introduction]

In order to merge our two software solutions, we have to diagnose the problems, which arise from the differences between them and eventually to propose the possible solutions.

First let’s detect the software solutions we are going to talk about.

QR – Quick Resto, restaurant management software. Software service for managing the restaurant, defining the dishes, menu, price list, shifts, personal, supplies etc.

PMS – Property Management System, actually only its reservation module. It can be used in order to perform the reservations on arbitrary objects on the desired period of time. The objects of reservations can be anything that can be reserved on the time basis:

1. Physical objects, like rooms, offices, sport fields, vehicles, motorbikes, boats etc.
2. Services (per hour, per day) – massage, coaching, teaching, cleaning etc.

Its modular structure provide that anything can be defined as the reservation entity and be equipped with an arbitrary number of different attributes.

[Problems]

There are significant differences between the business models of our two applications:

1. Restaurant is a single sale spot (despite the multiple terminals, all the money goes to one place), while our business can and will probably have more different sale spots (hotel, sport club, massage parlor, reservation agency, other…)
2. Our price, depend on the particular sale spot and its financial plan. The restaurant has one fixed price-list with the different kinds of discounts that affect the prices. In our business (reservations), the price is affected, except from the part of the different financial plans, also by the different forms of discounts. But the discounts in our business are different than the ones in restaurant business. For example, the price of the restaurant service does not depend on how many persons are sitting at the table. In hotel business, the price per person can depend on how many persons share the same room.
3. In the restaurant, all of the expenses are bound to the person who is currently serving (waiter, waitress) and logged in to the QR program. During the shift change the collected cash is paired with the issued cash checks. No trace on who was eating. In the reservation business, when it comes to money collection, it is essential to know who was using the reservation and payed for it. The agency worker or the receptionist doesn’t matter in the process.
4. Services we are dealing with are calculated based on the time spent using the reservation objects and restaurant services are calculated based on the quantity of food, which is spent for the preparation of the dishes.

[Plan of Possible Coupling of the Two Applications]

When I say “they” I mean on QR software, when I say “us” or “we”, I mean our PMS application which is running on some distant VDEL server computer.

Since the billing is on their side (that’s why we want to connect to QR on the first place), and they print the final invoice, we don’t connect to them, they connect to us, ask us to provide one or more services that can help them to accomplish the task of the invoice production.

It’s because they lead the party, they define the price list, they need the resource usage information from us and based on these they create the invoice.

PMS application will provide the access for the QR through a user-id key, which will be provided by us, once when they are registered as the users of our services. When the QR client is registered in our database, it can request the different information through queries and use it further, independent of the format of the retrieved data. Retrieved data can be either in the ‘html’ form and be further injected into appropriate div sections of QR software or JSON strings, returned from our service API.

[Making of the price list]

In order to make the price list, QR will query from PMS the list of all object types, which are available for the reservation process. The query structure and the list of possible parameters will be provided by PMS. Once when the object type list is downloaded, someone on the QR side can determine the prices for each object type.

[Regular work]

PMS should be given one entry group in the left navigation sidebar of QR. It could be called, for example, ‘Reservations’. This group can have two entries for the start, **reservation list** and **reservation control**. When clicked on those links, QR will request from PMS the html data, corresponding to the selected action (‘reservation’ or ‘availability’). When PMS provides the html data, it will be injected on the hosting page section of the QR and can be further used as the part of QR software solution.

In order to achieve that, we would need QR theme for that, or at least its specification so that we can mark our graphic objects with appropriate id’s, so that all appears as the natural part of QR software.

In this way, the user of QR could use PMS reservation control in order to make the new reservation or check an existing one.

The obvious problem here is – who is going to be defined as the user of reservation and therefore charged? The active (currently logged in) user of QR program, or the person, who will actually use the reservation? Since the restaurant manager is not interested for the user of the service, maybe our database could be used for the user registration? On the other hand, since they seem to have a form of loyalty program, which registers some clients, I guess that they have some database already. So which one will be used? It should be cleared with them I think.

The reservation list (active, finished, upcoming, etc.) will be provided as the service, which will be called from QR code and used further in the calculation of invoices, together with the price list. We don’t have an API yet, but we are already working on that, because we need it for some other purposes. As soon as we finish and test it, it will be available and documented for the external use.