

## Location Based Services and Personalise Museum Information Systems

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The development of computer technology, mobile devices and sensor technology during the past 30 years has continually affected the creation of new applications based on emergent technologies. Whilst newly developed device types with different technical specifications have surrounded us in our everyday life and private environment, new base technologies have also been established step-by-step.

By combining the advantages of established technologies with these new approaches and furthermore adapting those criteria to the different user needs and application scenarios, including the location of users, we are able to extend existing applications with new mobile components and services.

### **“A LA CARTE” INSTALLATION – PERSONALISED INFORMATION SYSTEMS BASED ON PASSIVE RFID TAGS FOR THE JEWISH MUSEUM BERLIN**

The main idea of the RFID based “A La CARTE” installation is data collection without a typical computer interface. The visitor to the museum receives a spoon with an attached passive RFID tag as an entrance ticket and a short description of how to use the spoon for data collection. Additionally, a unique spoon (RFID-) ID and the URL of the “Koscher & Co” website are printed on the spoon. The user can find one media station in each of the ten rooms of the temporary exhibition “Koscher & Co”. The media station consists of a plate, a hidden RFID reader and a hidden miniature computer. The plates have unique labels, for example fish, lamb, grapes, chicken, and pomegranates. The user will see only the plate, and only the spoon and the plate can interact.



If a visitor wants to have more information regarding the objects in the room and the attached recipes they have to place the spoon on the plate. The RFID reader under the plate receives the ID from the spoon and sends the ID with a time stamp to the server. If the transfer of the ID was successful the media station generates an optical and acoustic feedback. Now the visitor knows that they have collected the recipes on their spoon.

There are three recipes of three different categories in each room. The three categories are “5 ingredients”, “5 senses” and “5 minutes”. The “Koscher & Co” context-sensitive software determines which recipes best fit the visitor. The selection of recipes and relevant category for the specific visitor is

dependent on their visit of the exhibition. Criteria are for example the visited media station, the sequence and the duration of the visit.

Following the visit to the museum visitors can enter the website. Firstly, they have to log in (by typing the ID found on the spoon).

Following that they will see their profile, the category and the collected recipes. The visitor can continue to visit the exhibition – not in reality but the virtual exhibition. They can for example collect more recipes from their category and additionally recipes from the other two categories. To do, so they have to visit a virtual table with ten plates and have to place their virtual spoon on a specific plate. They can do this on three different tables, one for each category.

Further applications are possible. The visitor research department can analyse the data collected and provide the visitor with more detailed information about the artefacts visited or additional information about other artefacts in the exhibition. The museum can also recommend additional tours through the museum. Staff members can use the data and sensor networks for the management of the museum and the exhibition.

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