dorengo

TECHNICAL SPECIFICATIONS

01

INFRASTRUCTURE

Dorengo can be used both online and offline, so that the range of applications can be expanded to meet your needs.

Why offline?

Offline means there is no need for a network connection to provide content to your users device. There is no need to work on installing a network connection or to worry about power supplies in the exhibition area. Only the charging station requires an online connection so that the devices can be updated during the night and statistical data can be read out.

Why online?

Using the online solution lets you collect statistics and change data in real time. It is also possible to connect to social media such as Facebook or Instagram and you can let your visitors actively participate in the exhibition.

Combining online and offline solutions lets a large number of visitors use the system even if there are only a limited number of devices available from the museum. Experienced digital media users can be given the opportunity to participate and interact with the exhibition. Since most WLAN and LTE networks can only handle a limited number of users, we recommend a combined online/offline solution e.g. for large museums or national parks.

Scalability

The solution provided by tuomi is infinitely scalable. There is no restriction on the number of users. The system can be used simultaneously by any number of visitors per day. The system also allows devices loaned out by the museum and private devices to be used at the same time.

Reliability

When using the offline version of dorengo, the outage of one component (one user device) does not endanger the entire system (no single point of failure). The online-version is dependent on various components and therefore slightly more vulnerable.

Maintenance and updates

TUOMI systems require very little maintenance. An automatic differential data-update is carried out on the devices over night. There is no need for your IT department or any other qualified employees to do anything.

02 TABLETS OR SMARTPHONES

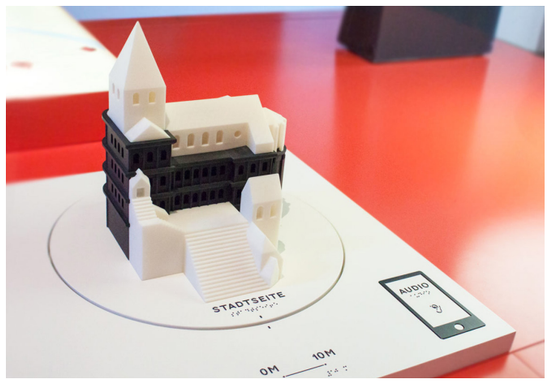
- One type of device can be used for all visitors (including the blind or those with visual impairments).
- Possible to have a device suitable for indoor or outdoor use.
- The system has been conceived to allow both the use of devices that are on loan from the museum as well as devices that belong to the visitor (tablets or smartphones).
- There are charging stations for devices loaned out by the museum, but we would also recommend having charging points for the visitors' own devices.

Advantage of loaning:

1. Better for visitors who are not technically inclined and those who do not own a smartphone or only have an older model.
2. No need for technical support if the device does not meet the demands of the system.

Advantage of BYOD:

1. The number of devices that are loaned out can be limited.
2. At peak times the visitors can use their own devices as a digital guide.



03 THE FOLLOWING INFORMATION TRIGGERS CAN BE COMBINED

dorengo is not limited to the use of NFC. Depending on your demands, ideas and local conditions a variety of different triggers such as QR codes, beacons, optical recognition, GPS or numbers can be used.

NFC tags or QR codes (any QR code scanner can be used) can be used with or without an app. If there is an app, the tag or code will start the app automatically without the user doing anything.

04 SOFTWARE

The App on loan devices

- The use of the app is simple and self-explanatory. Instruction by museum staff is not required.
- If small problems arise, these can be solved by the visitor independently or answered by any member of staff, including the security staff.
- When using loan devices, visitors do not have access to the system environment.
- dorengo is optimised in such a way that loan devices reach a runtime of at least 8 to 14 hours. There is no need to replace the battery or recharge it during opening hours.
- Apps for the different target groups (any number of languages, children, visitors with special needs such as blind and visually impaired) can be accessed intuitively on the loan devices without a selection menu.

App for using your own smartphone (BYOD)

- If required, apps can also be made available for the users' own devices.
- App download can be done on site or at home.
- When using NFC tags, the appropriate app starts automatically, an active call of the app by the user is not necessary.

Guidance and control system

1. dorengo can also be used as a guidance system for groups. The same content is displayed on all devices, the display is controlled by the group leader.
2. dorengo can be used as a control system for content within the exhibition, among other things. For example, it is possible to show films in different languages on a media station.

Copyrights are protected
All copyrighted data (images, films) on the devices is encrypted. Copyrighted data can only be accessed inside the museum.

05 CONTENT MANAGEMENT SYSTEM

- The CMS has a multi-client capability. Each client can have any number of projects (e.g. several exhibitions).
- The data entered into the CMS can be used by an app and can also be accessed via the internet.
- The system can handle any number of languages.
- There can be any number of specialized tours such as children's tours, themed tours etc.
- The responsive web design of the app is freely configurable.
- Applications can be expanded or changed at any time by the museum's personnel.
- Contents can include texts, images, videos and audio files.
- Contents such as animations or inquiries can be supplemented where needed.
- Contents can be grouped and then presented at a common site.
- It is possible to add "interactive images" – e.g. building plans with marked interactive areas and contents; these can be created and administered by the app's operator.
- Apps for all the modules offered for the content management system can be generated automatically. The update process is automated right down to the devices. There is no need for manual updates of any kind.

06 STATISTICS

- The system can collect extensive statistical data. Data privacy is guaranteed because the information is strictly object related. This information is important for answering questions such as the following:

1. Which language is used how often?
2. How often is which object viewed? (Ranking)
3. How long were the guests there?
4. How often and at what time of day were the tablets loaned out?
5. How did the visitors move through the museum?

- Additional information is available on demand (e.g. age and gender). Here attention must be paid to data privacy regulations.

07 OVERVIEW OF INCLUSION AND BARRIER-FREE MOVEMENT

- There is a high degree of accessibility for almost all groups of visitors. The technology is easily accessible even for people without any user knowledge and without any initial explanations in the entrance area. Older visitors and those with disabilities should be able to visit the museum and use the same devices as others do.
- Multilingualism is guaranteed. Individual tours with simplified language, as well as tours with subtitles or videos in sign language, can be entered via the CMS.
- Modification of font size, contrast ratio and colours is possible. In combination with a guide system and audio descriptions as well as touchable reliefs, NFC technology can also be used for visitors with impaired vision and visitors who are blind.
- To support visitors with disabilities, NFC tap points will be installed at a height suitable for people in wheelchairs (ca. 80 cm, which is also suitable for children). This technology, which is almost completely hands free, enables visitors with disabilities, (e.g. who have lost an arm, hand or fingers) to use the media guides.

Flexible

Barrier-free

Interactive

Educational

Mobile

Multimedia

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