3D Green Room – Stuttgart | Infrastructure Summary

Introduction to TURAS

Transitioning Towards Urban Resilience and Sustainability (TURAS) is an FP7 funded European-wide research and development programme. The "TURAS" project aims to bring together urban communities, researchers, local authorities and SMEs to research, develop, demonstrate and disseminate transition strategies and scenarios to enable European cities and their rural interfaces to build vitally-needed resilience in the face of significant sustainability challenges. As part of this process, the TURAS project has developed a suite of Geo-ICT tools for the project to demonstrate some of the research topic address over the lifespan of the project.

Design Intent

TURAS has helped to develop a QR code mobile first website to access information relating to the Green Room concept in Stuttgart. The website can be accessed by scanning a QR code with a mobile device. This mobile first responsive website is built with CSS, HTML, and Javascript to resemble a standalone app. It uses the latest CSS animations and Javascript to add fluid movement and everything will be loaded on a single page using AJAX to make it feel like an app. It uses scalable vector graphics to ensure that the icons and logo are perfectly crisp on every screen resolution.

Principal Elements

The Green Living Room is a mobile first responsive website. The purpose of the application is to disseminate ideas and information relating the Green Room project. It does so through 6 primary actions:

1. *Introduction – users are presented with contextual information related to the project and a range of images.*
2. *Video – a promotional video was completed to demonstrate the green room project in action*
3. *Data – Heatmap data measurements of the surfaces of the green living room and the surroundings, illustrating the change from blue in the morning to red in the afternoon and back to green / blue in the night*
4. *3D Model – users can view the 3D green room model, pan, and navigate through the 3D environment.*
5. *Information – Links to dissemination materials and links to information about green infrastructure*
6. *Contact - relevant info about project partners*

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Infrastructure

The infrastructure underpinning the dashboard can be considered in three parts:

1. Mobile-first application
   This mobile first responsive website is built with CSS, HTML, and Javascript to resemble a standalone app. It uses the latest CSS animations and Javascript to add fluid movement and everything will be loaded on a single page using AJAX to make it feel like an app. It uses scalable vector graphics to ensure that the icons and logo are perfectly crisp on every screen resolution.

2. *3D Model*
   The 3d model create for the studio was generated in Cinema4D. This model was then converted to a web based format to facilitate online interaction with the green room. The 3D viewer is WebGL-based system with the advantage of not requiring any specialized hardware or browser plugins. All you need is a browser that supports WebGL.

3. QR Code
   A QR code (abbreviated from Quick Response Code) is a type of matrix barcode (or two-dimensional barcode) which is a machine-readable optical label that contains information about the item to which it is attached. A QR code uses four standardized encoding modes (numeric, alphanumeric, byte / binary, and kanji) to efficiently store data.
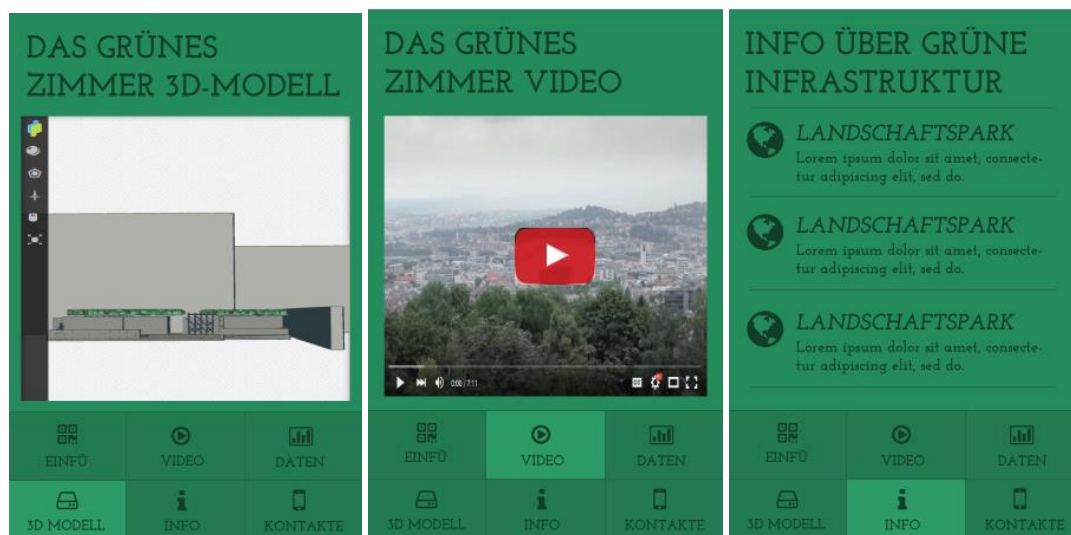
Wider Application Dissemination

In order to create the best environment for re-use, modification and visibility of the TURAS Geo-ICT tools we package all code and documentation for each application and have made them directly available to the public in zip file or available on GitHub @ https://github.com/UCDTURAS.

Compressed Archive File

- To make the development and coding accessible to the public and researchers interested in using, adapting, or further developing the TURAS tools, we have packaged the information (code, development operations and documentation) into a single compressed file which can be downloaded from the final TURAS interface. This package will contain a computer program as well as necessary metadata for its deployment.

GitHub Repository
- The aim of the TURAS project is to bring urban communities and businesses together with local authorities and researchers to collaborate on developing practical new solutions for more sustainable and resilient European cities. Following this, we recognise the importance of having a dedicated modern interface with which to disseminate all the Geo-ICT tools developed as part of the project. TURAS has created a GitHub account to allow end-users, technical developers etc to push/pull data code from the TURAS account.

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