AUGMENTED REALITY

INTRODUCTION

We chose Augmented Reality because it was one of the most interesting topics to choose. It was also the best imaginable project.

PROJECT MEMBERS

- Simon Raaber
- Bence Győzö Drigan
- Maximilian Lehner

REQUIRED IMPLEMENTATIONS:

- Photo tagging different parts of images
- Saving the tag positions
- Presentation mode
    - Tag Popup on mouse over

EXTRA, CUSTOM IMPLEMENTATIONS:

- Managing of tags (move/edit/delete)
- Embedding Photos for sharing
- Clickable Link attachments for tags
- Custom colored tags
- Custom symbols for tags

CONTENT

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory and olfactory. AR can be defined as a system that fulfills three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3d registration of virtual and real objects. Examples: HTC Vive, Pokemon Go, Snapchat-filters

AR adds more possibilities to R&D and tries sets the technology standard higher. If that would become a standard, many people couldn't play because of the costs. It's also a threat to companies because people want to use AR for glasses that delete billboards out of the AR.

The website describes the following topics:

- Definition
- History
- Functionality
- AR VS VR
- Possible Applications (Usage)

DESCRIPTION OF THE IMPLEMENTATIONS

REQUIRED IMPLEMENTATIONS – PHOTO TAGGING, SAVING POSITIONS:

Photo tagging would function with javascript, detecting the mouse position and clicks on the image. We would

enable users to create tags all around the image, with different colours and symbols for better overview. The users would be able to edit, save or delete these tags of the images. These images and their tags could be saved in a database which would identify each picture with its link.

REQUIRED IMPLEMENTATIONS – PRESENTATION MODE:

We imagine the presentation mode as a wide-screen view of an image, where you could zoom into the picture and get a closer look of it. This could be useful if you're tagging a map for example, where multiple tags could be close next to each other and you still would be able to select between the tags. (If this still would make difficulties, we might implement a panel where you could choose between the tags that's currently around the mouse)

REQUIRED IMPLEMENTATIONS – CLICKABLE LINK ATTACHMENTS FOR TAGS:

This feature would be somewhat like the tags on the windows login-screen pictures. ("Do you like this image?") A button would enable users to get more information about the part of the image the tag is pointing on.

REQUIRED IMPLEMENTATIONS – CUSTOM COLORED TAGS AND SYMBOLS FOR TAGS:

For the sake of organisation users could manage the colors of the tags and select/upload symbols for them.

INITIAL SITUATION

The capabilities of our organisation:

- Advanced HTML
- Basic CSS
- Experiences in Atom
- C#
- basic C

The target capabilities of the organization:

- Advanced HTML
- Advanced CSS
- Experiences in a text editor
- Advanced JavaScript
- Database-management and usage in HTML
- Bootstrap Knowledge

A comparison of the target-actual capabilities:

- JavaScript
- Database-Management

A comparison of skills according to given evaluation criteria

- Bootstrap
- JavaScript
- Database-management

GENERAL CONDITIONS AND RESTRICTIONS

Technical framework:

- Google Chrome for the testing and debugging of the website
- a text editor (we use Atom)
- GIMP and Bootstrap for the realisation of the design
- Database managment software

PLANNING

The project needs to be done by the end of this school year. The start of our project is planned on 22/12/2020.

On of the bigger difficulties are the Database management/usage and the implementation of the app.

NOTICE

The custom implementations are only starting ideas, we are still not sure if we can implement them.