

# Uplatnění technologie virtuální reality v marketingu firem

## Application of Virtual Reality Technology in the Marketing of Companies

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Study Program: Innovation Project Management

### Abstrakt:

Cílem práce je vysvětlit technologii virtuální reality, její využití v marketingu a prezentovat užítí virtuální reality na praktickém příkladu z praxe. Práce bude rozdělena do tří částí. Teoretická část vysvětlí pojmy umělé inteligence a virtuální realita, technologii virtuální reality, použití této technologie v různých oblastech reálné praxe, specificky pak v oblasti marketingu. Zaměří se na přínosy a rizika užítí této technologie. Metodická část představuje specifickou úlohu uplatnění nástrojů virtuální reality na konkrétním příkladu, popíše konkrétní postupy tvorby virtuálního modelu. Praktická část se bude sestávat z vytvoření virtuálního modelu konkrétního praktického zadání.

### Abstract:

The aim of the thesis is to explain virtual reality technology, and its use in marketing and to present the use of virtual reality in a practical example from practice. The thesis will be divided into three parts. The theoretical part will explain the concepts of artificial intelligence and virtual reality, virtual reality technology, and the use of this technology in various areas of real practice, specifically in the marketing field. It will focus on the benefits and risks of using this technology. The methodological part will introduce the specific role of applying virtual reality tools on a specific example, describing specific procedures for creating a virtual model. The practical part will consist of creating a virtual model of a specific practical assignment.

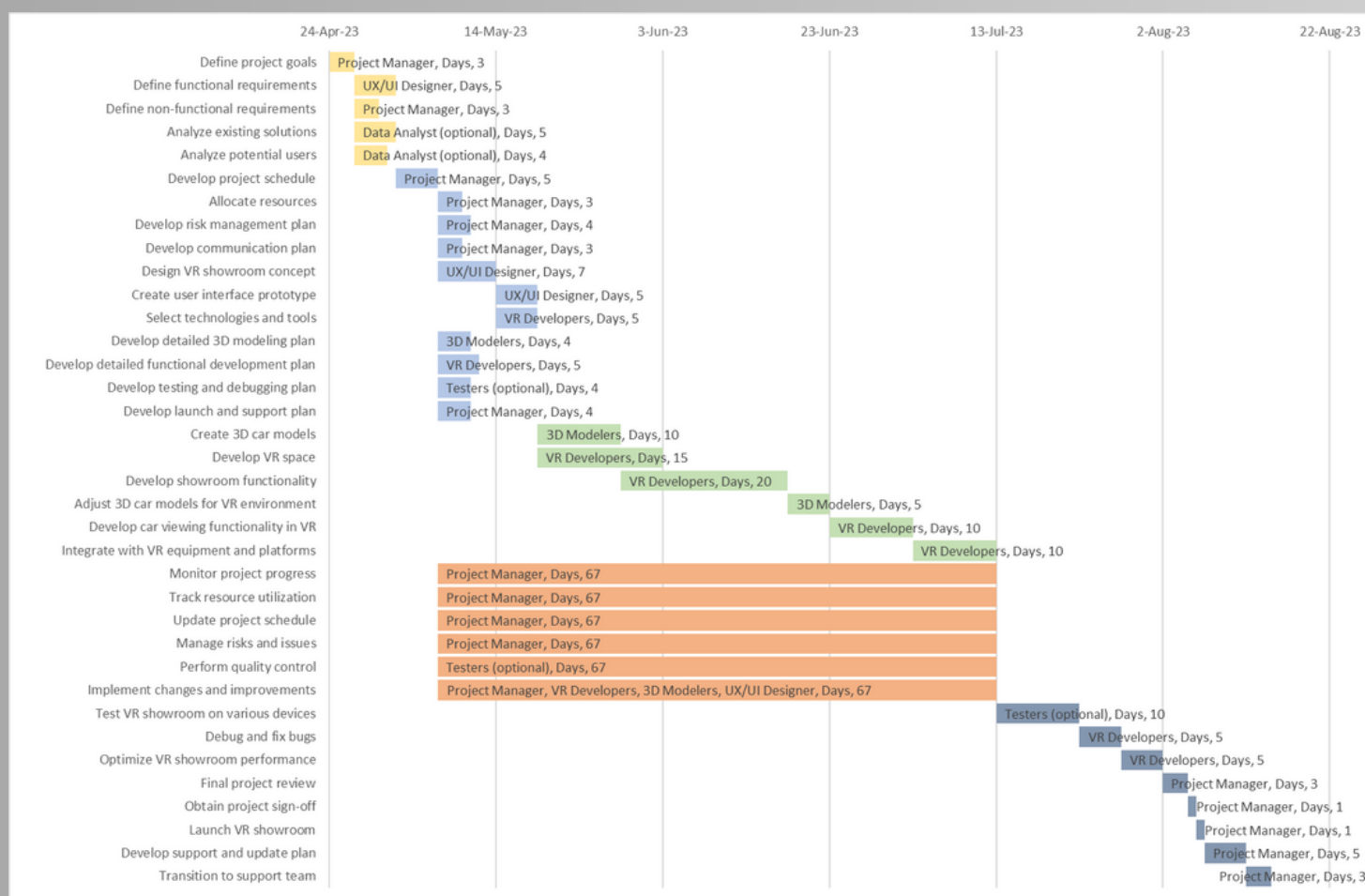


3D model of car in Unreal Engine (Source: own elaboration)

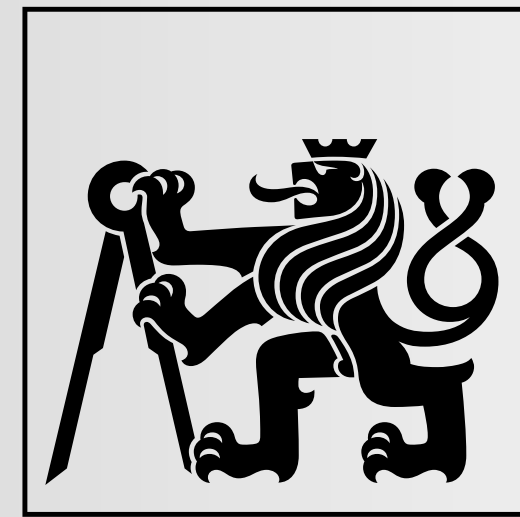
The purpose of the study is to explore the potential of using VR technology in the automotive industry for marketing purposes. This article describes the basic considerations and steps for creating a VR car showroom using Unreal Engine, looking at aspects such as user experience, 3D modeling, materials, lighting, and optimization.

Developing a VR car showroom is a fairly complex and multitasking project that requires many factors and steps to be considered.

### Development plan



Development plan (Source: own elaboration)



Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Enhanced customer experience</li> <li>Streamlined decision-making</li> <li>Competitive advantage</li> </ul>	<ul style="list-style-type: none"> <li>High initial costs</li> <li>Limited accessibility</li> <li>Technological challenges</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Expansion to other industries</li> <li>Collaboration with VR hardware manufacturers</li> <li>Increased market share</li> </ul>	<ul style="list-style-type: none"> <li>Rapid technological advancements</li> <li>Data privacy and security concerns</li> <li>The potential backlash from traditional sales channels</li> </ul>

SWOT analysis (Source: own elaboration)

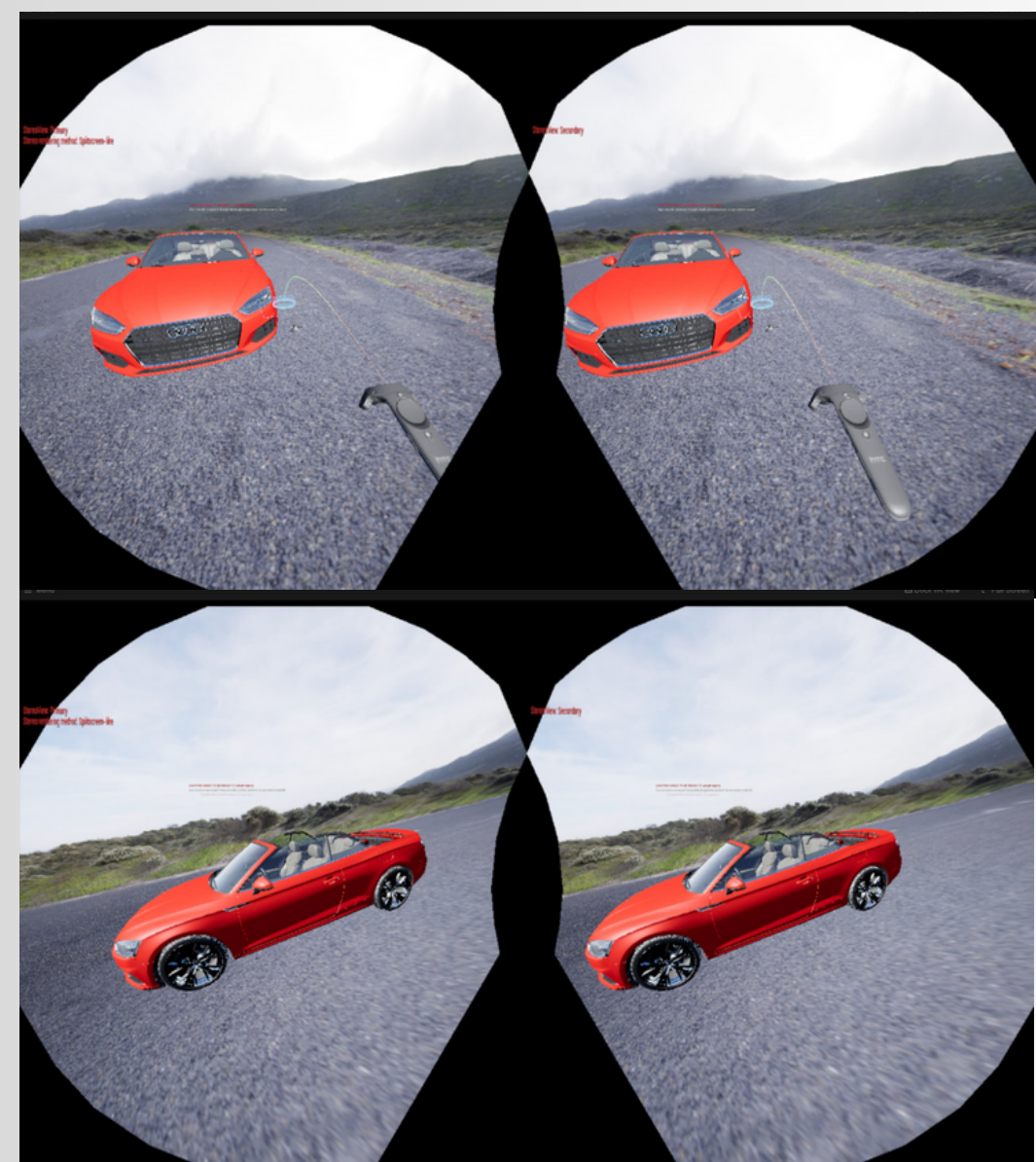
Development team	Communication plan
<ul style="list-style-type: none"> <li>Project manager;</li> <li>VR developers;</li> <li>3D modelers;</li> <li>UX/UI designers;</li> <li>Data Analyst (optional) ;</li> <li>Testers (optional).</li> </ul>	<ul style="list-style-type: none"> <li>Daily project status update;</li> <li>Regular progress reports;</li> <li>Communication with the customer;</li> <li>Organization of communication within the team;</li> <li>Prompt response to problems;</li> <li>Communication within different departments;</li> <li>Communication with the user;</li> </ul>

Stakeholder	Interest / Role in Project
Automotive manufacturers	Provide car models and information to showcase in the VR showroom
VR technology developers	Develop the VR technology and tools used to create and run the showroom
Marketing and sales teams	Promote and sell the VR showroom to potential customers
Automotive designers and engineers	Contribute to the accuracy and realism of the car models in the showroom
Dealerships and retail partners	Use the VR showroom to showcase and sell cars to potential customers
End-users (consumers)	Use the VR showroom to view and interact with cars in a virtual setting

Stakeholders (Source: own elaboration)

Creating a VR car showroom using the Unreal Engine requires a team with different knowledge and skills. I use an existing car model that is widely available in the Epic Games marketplace and integrate VR technology to provide users with an immersive car showroom experience. There are four main factors to consider when developing a VR application:

- 3D Modeling
- Materials and Textures
- Lighting and environment
- Developing VR functionality



VR car showroom (Source: own elaboration)

The work developed the VR Car showroom application and addressed theoretical issues surrounding virtual reality's evolution and capabilities. A plan for implementing VR development was created, considering stakeholder identification, communication plan, and optimization of the development process. The study focused on interaction with virtual reality, including control, movement, and navigation. The project required extensive research and exploration of programming, 3D modeling, user interface, and the Unreal Engine development environment.

### Literature

Samuel Greengard: Virtual Realty, The MIT Press, 2019

Martina Mátlová: Virtuální realita, Yuli, 2022: ISBN: 978-80-242-8263-3Zeynep Tacgin: Virtual and Augmented Reality, Cambridge Scholars Publishing, Newcastle upon Tyne, 2020, ISBN: (13) 978-1-5275-4813-8