



Assignment of bachelor's thesis

Title: Urban scene recognition and editing II.
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Supervisor: Ing. Radek Richtř, Ph.D.
Study program: Informatics
Branch / specialization: Web and Software Engineering, specialization Computer Graphics
Department: Department of Software Engineering
Validity: until the end of summer semester 2022/2023

Instructions

The thesis goal is to create a tool that allows utilizing geolocation data (accelerometer, gyroscope, etc.) to recognize the urban scene and find a particular position of the user and display a historic building in its right position. The historical appearance of the selected buildings will be placed in the recognized scenes, and the primary 3D models of the buildings of the VMČK project will be placed.

- 1) Research existing approaches for recognizing the content of urban scenes concerning the project's primary goal and including the work of J. Šefčík.
- 2) Analyze the searched methods.
- 3) Design a suitable prototype for determining the exact building location based on historical data and local geolocation data only. Focus on comparing the existing solution and do it.
- 4) Implement a prototype.
- 5) Thoroughly test the resulting solution.
- 6) Discuss the suitability and limitations of the prototype for the Dowry Towns of Czech Queens project.