

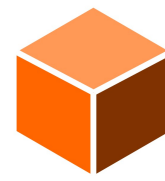
3D

3D PRINT REPORT

SCHOOL	COUNTRY
Šolski center Velenje, Gimnazija (Gymnasium)	Slovenia
PROJECT NAME	Mentor
Church of St. Martin in Šmartno at Slovenj Gradec	Viljem Osojnik
STUDENT NAMES	DATE
Teodor Kuzmič, Filip Kamnik, Tibor Kranjc Golob	May 2024

A type of 3D printer	Anycubic Mega X
Used material	PLA
Filament diameter	1,75 mm
3D CAD program	SolidWorks
SLICER programs for 3D	Ultimaker Cura





SUBJECT OF MODELING ON THE TOPIC OF TRADITIONAL CRAFT AND CULTURAL HERITAGE

The Church of St. Martin in Šmartno near Slovenj Gradec is a precious gem of medieval architecture, carrying a rich legacy through the centuries. Its origins date back to the 9th century when it was first constructed as a modest religious building. Despite numerous renovations and expansions, it has retained the charm of its Romanesque appearance, particularly prominent between the 11th and 13th centuries. Its external and internal elements from the Romanesque period, such as arches, columns, and ornamentation, testify to the exceptional artistry of that time. Gothic additions like stained glass windows and vaulted ceilings gradually enriched its appearance.

The parish of Šmartno was established in 1106, and the name of the first parish priest can be found in records only in 1265. Throughout history, the church underwent several reconstructions and repairs due to disasters, such as a fire in 1744 which damaged it. In 1997-98, the interior of the church was restored by the painter Petrovič from Celje, using the original technique. In 1998, the church received new pavement, and in 2000, the organ was renovated.

DESCRIBE THE WORK PROCESS

- Formation of working group, division of roles and tasks of group members.
- Selection of a suitable natural and cultural heritage object
- Field study of the church
- Measurement of the church with mobile phone app
- 3D modelling of the church
- Preparing of 3D models for 3D printing
- 3D printing of components
- Assembling the components
- Additional processing, such as grinding, polishing and removing support structures for more complex parts.
- Gluing, painting and assembling of 3d printed components and parts of the church

DESCRIBE ANY DELAYS AND/OR INCIDENTS

The church is made of many different components, so precision in 3D printing and assembly was required.

