

3D

3D PRINT REPORT

SCHOOL		COUNTRY
Secondary technical school, Přerov, Havlíčkova 2		Czech Republic
PROJECT NAME		MENTOR
Saint Wenceslas crown		Mgr. Jana Skopalová
STUDENT NAMES		DATE
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A type of 3D printer	Original Prusa i3 MK3
Used material	PLA
Filament diameter	1,75 mm
3D CAD program	https://www.tinkercad.com/
SLICER programs for 3D	PrusaSlicer , Verze 2.6.2+win64



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

The St. Wenceslas Crown, the oldest and most significant piece of the Czech Crown Jewels, holds a unique place in Czech history. Though not adopted as an official symbol after the monarchy's fall, it remains highly revered. [1] Dedicated to Saint Wenceslas, the crown is kept alongside the coronation scepter and orb in the Crown Chamber above St. Wenceslas Chapel within Prague's St. Vitus Cathedral. Public viewings are exceptionally rare, reserved for significant state occasions.

Commissioned in 1346 by Charles IV, then Holy Roman Emperor and heir to the Czech throne under his father, John of Luxembourg, the St. Wenceslas Crown was imbued with a public character from its inception. It wasn't the king's personal possession but belonged to the entire nation, symbolically guarded by its heavenly patron. Its use was strictly reserved for extraordinary events, primarily coronations.

DESCRIBE THE WORK PROCESS

The first step was to gather information about the St. Wenceslas crown. The students focused on the available materials, from which they derived the approximate dimensions of the individual parts of the crown.

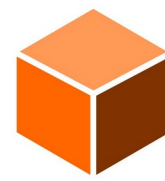
Then the modeling tools were chosen. Paint 3D Windows, Inkscape, Blender and tinkercad provided the necessary functions to create a 3D model. The students focused on every detail, with the goal of achieving the most faithful appearance of the St. Wenceslas crown.

After the model was completed, it was exported to STL format, which is commonly supported for 3D printing. The PrusaSlicer program was used for further editing and preparation for printing. This is where the model was sliced and any fine adjustments made to ensure a smooth and high-quality print.

When printing on a 3D printer, any problems that could affect the quality of the resulting print were monitored and solved.

We used a melt gun to complete the individual parts of the St. Wenceslas crown model. In this way, we ensured that the individual parts of the model were stably connected and held firmly together.





DESCRIBE ANY DELAYS AND/OR INCIDENTS

For printing the headband, we chose flat printing and then bent the headband into the required arc after heating.

