

Dante's Inferno as an ArcGIS StoryMap

Josef Münzberger^{a,*}

^a Czech Technical University in Prague, FCE, Dept. of Geomatics, email: josef.munzberger@fsv.cvut.cz

* Corresponding author

Keywords: StoryMap, Dante, Inferno, Galileo, Manetti

Abstract:

The StoryMap application is built on the author's master thesis, which is devoted to the spatial exploration of a literary imaginary place: Dante's Underworld. The thesis analyses and interprets a literature concept of Dante's Inferno from a cartographic and geographic point of view. It seeks spatial data within the Divine Comedy verses, which can be consequently used to determine the exact location, size, and dimensions of hell. The presentation is focused on the entire StoryMap creation workflow: data collection, visualisation, and technical implementation.

The research includes the initial scientific attempts to map the Inferno. Two different hell designs calculated by Manetti and Vellutello are examined based on Galileo's two academic lectures and Comedy itself. Especially Manetti's parameters are emphasized and subsequently incorporated into the author's maps and a 3D model, which form the final StoryMap.

According to Dante, Inferno resembles an enormous conical abyss with its vertex in the centre of the Earth divided into certain levels in which various sins are punished. A set of two maps (created in ArcGIS software) and a 3D model (constructed in SketchUp) was prepared for the topic. The main objective of the first map is to project the borders of principal Inferno sections (so-called circles) onto the Earth's surface. The second map is dedicated to the detailed structure of the Inferno (e.g., circles and its rings) including all characters Dante met during his pilgrimage through the otherworld. For this purpose, a database of every named sinner and devil in the first part of Comedy (i.e., Inferno) was compiled. Although the exact coordinates of the characters cannot be derived from the poem (except for Lucifer), each one is unambiguously linked to one of the Inferno rings. Since Manetti calculated even the trajectory of Dante's journey, it was possible to estimate the character's location along that line (within an appropriate ring) regarding the chronological order as they appear in Comedy. The trajectory of Dante's wayfaring through the hell is shown as well.

The final StoryMap is designed to introduce the spatial aspects of Dante's Inferno while reflecting a richly cartographic nature of his writing. Created for multiple levels of detail, both maps reveal the content gradually to narrate the story of mapping hell step by step. Selected map features are interactive and offer additional information using pop-ups. In the first detail, the terrestrial places relevant to the hell's location are highlighted. Furthermore, projected boundaries of the Inferno circles are indicated on the Earth's surface in a composition with a medieval cities network. Afterwards, the view is focused on the Inferno structure itself and a point layer representing all Comedy characters is exposed when zoomed. Among the Inferno ring attributes included in pop-ups belong its width and a height above the middle of the Earth, a brief description, a reference to an appropriate canto in Comedy, a specific sin, an illustration by G. Doré, etc. Ultimately, the StoryMap de facto fulfils the function of an interactive Comedy encyclopaedia.

Moreover, map windows are enriched by a sidebar with text. For each zoom level, it contains a significant verse according to which Manetti or Galileo determined some aspect or parameter concerning Inferno structure and an accompanying text regarding the currently displayed map features.

The StoryMap Dante's Inferno is freely available via the following link:

<https://storymaps.arcgis.com/stories/ad2a09720b75435b922396307e2d6004>