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InCritApp — Interactive Critical Apparatus

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Website:	https://github.com/philkon/InCritApp, https://gams.uni-graz.at/context:epistles

The digital edition *St Patrick's epistles. Transcriptions of the seven medieval manuscript witnesses* is based on diplomatic transcriptions of the manuscript witnesses of the two surviving epistles of the fifth-century bishop Patrick of Ireland. The electronic transcriptions follow a document-centred editing approach trying to represent the text in its original manuscript layout (Bleier 2017), but still in the edition it was desired to allow comparison and analysis across the transcriptions and existing editions. This short paper describes a tool that uses distance and close reading methods to achieve such a cross-comparison of versions of a text.[1]

The tool is implemented as a client-side web application, making it usable on any system supporting modern web browsers. After starting the visualization tool, users must select a file to import. Once the data is loaded and processed, the user sees details, such as the number of texts and subsections (e.g., chapters), an options section where users can select the preferred comparison method (table or graph) and other additional settings, as well as a heatmap providing an overview of the data. *InCritApp* can easily be integrated into an existing website, as, for example, demonstrated by the implementation into the St Patrick's epistles edition.[2]

The tool uses data formatted in JavaScript Object Notation (JSON) and users must follow a predefined data format which is based on the *CollateX* JSON export format (*CollateX* — documentation 5.1 json). This format is essentially an alignment table structured as a two-dimensional array, where rows represent word tokens in a sequential order, and columns represent variant readings. Additional metadata has to be provided which is used by the tool for processing and displaying purposes: the

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[1] *InCritApp* was inspired by already existing tools, such as the *Versioning Machine* and *CollateX* and recent research in automated collation by Elisa Nury (Nury 2018).

[2] https://gams.uni-graz.at/o:epistles.1996/sdef:TEI/get?mode=InCritApp_Intro (26.6.2020).
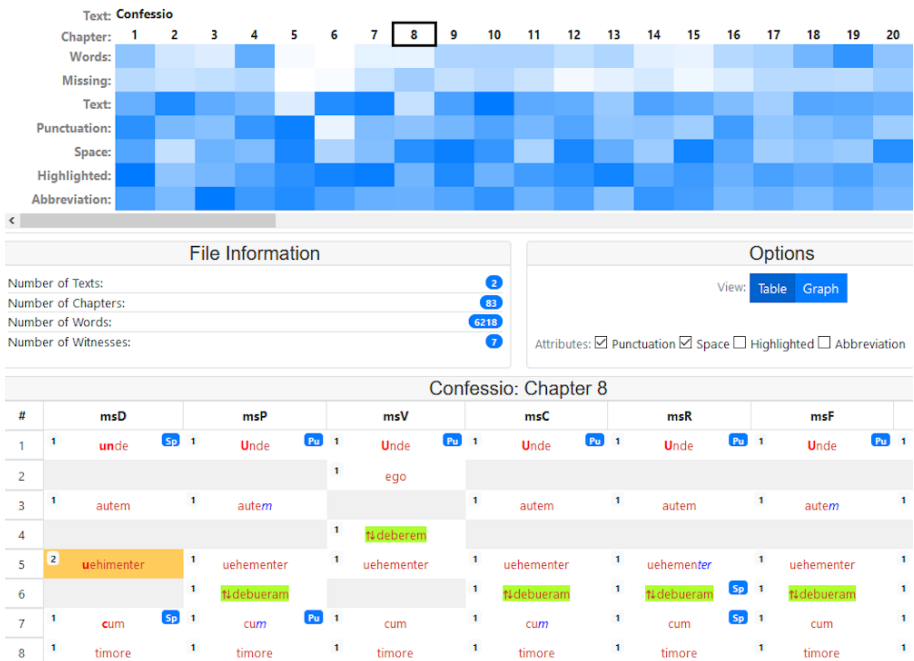
Figure 1: Comparison of the witnesses of St Patrick's epistles through the table view of *InCritApp*.

version/witness names, a plain text that is used for comparison, a formatted text that is used for display, and optional attributes for visualization can be handed to the application. In case of St Patrick's epistles, the JSON alignment table is generated from the TEI transcriptions using XSLT. Optional attributes used by this project include information about punctuation, highlighting, spacing between the words and abbreviations used by the medieval scribes.

The heatmap is the point of entry for users, providing them with a distant reading view over all data imported into the tool. It is interpreted as a matrix showing variations (e.g., number of words, number of missing words) across the witnesses and across the subsections of the imported text(s). If the user defined optional attributes in the imported JSON file, they will appear as further rows in the heatmap. Hovering the mouse cursor over a cell will provide details about the respective attribute and subsection. The user can open a detailed comparison view (as table or graph) for individual subsections by clicking on a column in the heatmap. This is the first step into a closer reading of the imported data. To explore the texts further, the user can choose between two different views provided by the *InCritApp* tool: the table and the

graph view. The table view allows for a parallel reading and comparison across all witnesses: each table cell contains a variant reading. The rows follow the sequence of the words as present in the original witnesses and, thus, users can read the text from top to bottom (see Fig. 1). Variations and commonalities between readings are highlighted and indicated by the coloring of table cells and a small number in the top-left corner of a cell. In the graph view, commonalities between the witnesses are combined into single nodes. An edge represents a transition from one word to another and the respective witnesses are shown by a mouse-over effect. For both views the displaying of additional attributes can be controlled in the options section. The presence or absence of punctuation or abbreviations in the witnesses is shown by labels (table view) or by the use of color markers next to a node (graph view).

To conclude, *InCritApp* was developed for a concrete editing project and allows viewing the variant reading of St Patrick's epistles in different display modes. A user can explore the variations starting from a distant reading view (heatmap) over to a table and graph representation. Each variant in the table view is a hyperlink leading to the word in the diplomatic transcription. Despite being developed in a project context, the tool is open source and can be used with any textual data following our predefined format.

Bibliography

Bleier, Roman. 2017. "Digital Documentary Editing of St Patrick's epistles. Linking the manuscript witnesses to the canonical text." *Studia Universitatis Babes-Bolyai Digitalia* 62 (1): 9–25. doi:10.24193/subbdigitalia.2017.1.01.

— (ed.). 2019. *St Patrick's epistles. Transcriptions of the seven medieval manuscript witnesses.* Graz. Accessed December 30, 2020. https://gams.uni-graz.at/context:epistles.

Nury, Elisa. 2018. *Automated collation and digital editions: from theory to practice.* PhD diss., London: King's College London.

CollateX. Accessed December 30, 2020. https://collatex.net.

CollateX — documentation. Accessed December 30, 2020. https://collatex.net/doc.

Schreibman, Susan, ed. Versioning Machine 5.0. Accessed September 30, 2020. http://v-machine.org.