

“It will discourse most eloquent music”: Sonifying Hamlet

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Visualisation is an established method to explore and understand data. Sonification [1,2] is a complimentary technique that uses sound to describe data.

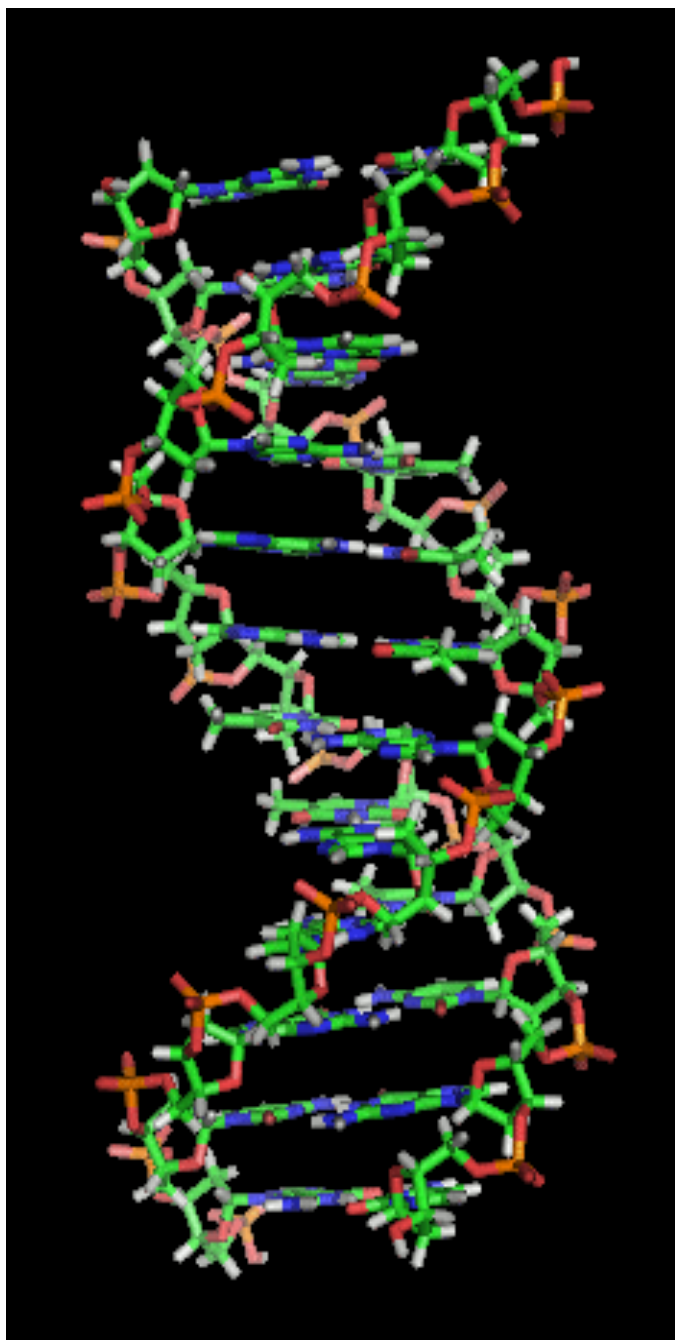
I describe work to sonify versions of Hamlet to aid understanding structural changes between variants. This project explores sonification with textual data.

Sonification poses challenges with presenting the patterns in data to the user with an unfamiliar medium [3]. Audio allows the brain to understand the changes between the versions in an alternative way to a pure visual representation.

Hearing the Bard

The work on Shakespeare, beginning with the Bodleian’s work on the First Folio [5] and the earlier work on the Quartos, is focused on stereo transmission to help the user listen to differences between variants.

This work focuses on an alternative presentation on Hinman’s Collating Machine where two texts are transposed in stereoscope to show the differences between them.



Using an audio stream for each text, the project aims to produce a stereo audio image of the text with beacons to help the user locate themselves in the audio stream.

Playing an audio stream in each ear helps the listener’s brain to hear any subtle differences in the text.

The project extract hyperstructures from the text such as act, scenes, lines and stage directions. These are then coded into audio stream per textual variant.

The lines are encoded against the associated speaker. If the same line is spoken in the same way, then the sound will appear in the middle of the user’s head. If the sounds are different, then the dissonance will be apparent as the sounds are heard in each ear

Providing Auditory Waymarkers

Acts and scenes provide useful markers for the listener to understand which part of the text is being presented. As audio is an unfamiliar medium for this work, there is a need to help the listener identify their position. Using pitch, simple auditory icons have been created to aid.

Linking Sound and Visuals

An early prototype visualisation showing symbolic representations of the events was created. This helps the listener understand the audio display but needs further work to present stereo audio efficiently. User feedback suggests that further refinement is required to help make the displays more useful.

Conclusion

Sonification is an effective tool to help the user identify differences between textual variants in a more unobtrusive manner. Audio displays demand the creator to rethink how data is presented to the user and about the hyperstructures extracted for such a display to present useful patterns.

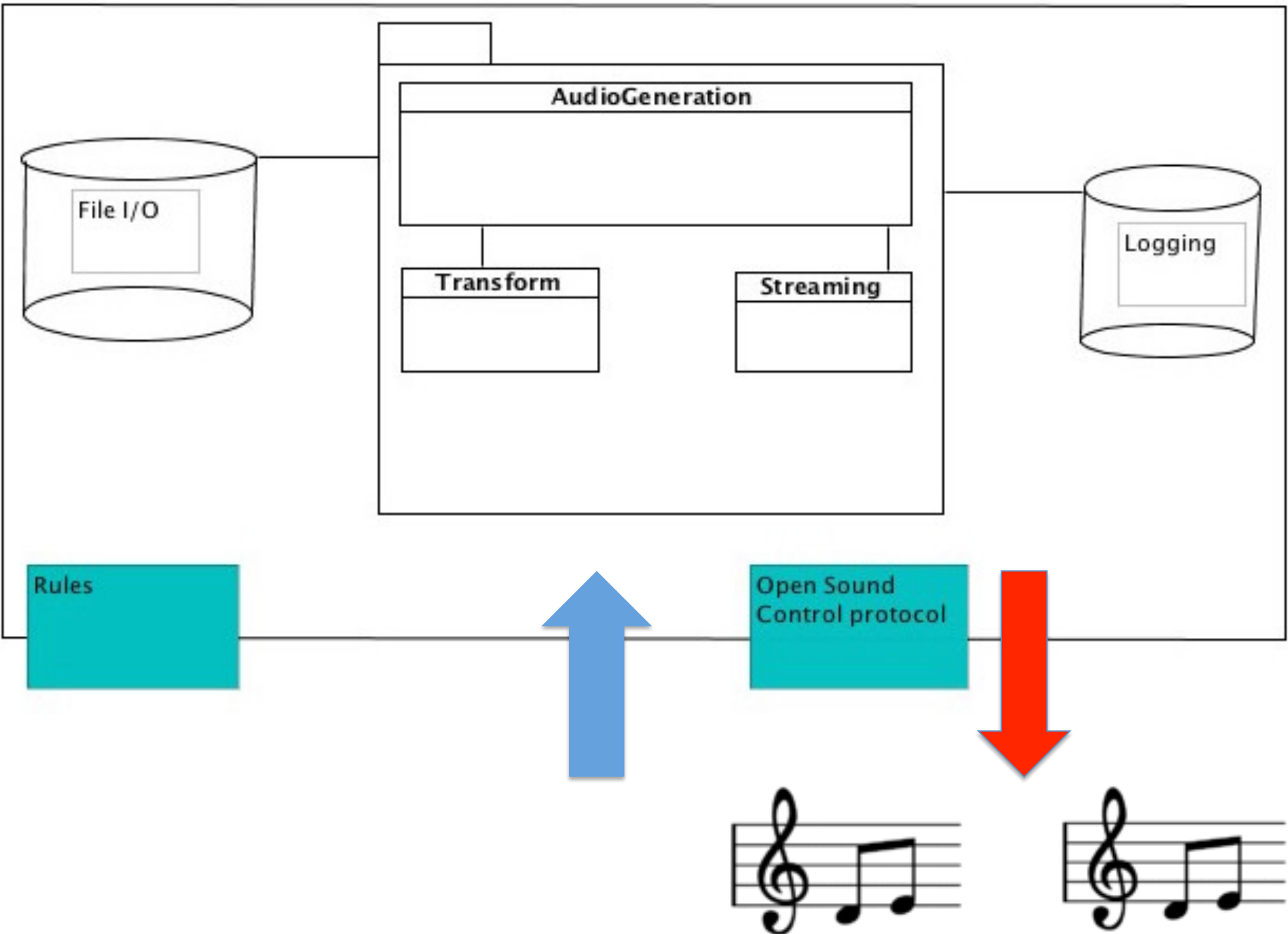
Further work is needed to create better auditory icons that work across streams and to integrate audio and visual displays.

Acknowledgements

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References

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[4] Digital facsimile of the Bodleian First Folio of Shakespeare's plays, Arch. G c.7, First Folio home page, <http://firstfolio.bodleian.ox.ac.uk/>
[5] C Hinman, Mechanized collation; a preliminary report., *Papers of the Bibliographical Society of America* 41 (1947): 99-106.
[6] Smith, Steven Escar. 2000. "'The Eternal Verities Verified': Charlton Hinman and the Roots of Mechanical Collation." *Studies in Bibliography* 53. 129-62.
[8] Digital facsimile of the Bodleian First Folio of Shakespeare's plays, Arch. G c.7, First Folio home page, <http://firstfolio.bodleian.ox.ac.uk/>



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