Methodicate: an innovative platform for reproducible research

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Computers are an essential part of the workflow of today's researcher, but there is currently no straightforward way to document computer-based work. As a result, researchers waste valuable time and resources trying to reproduce their own results, protracting the journey from idea to publication. Methodicate is a combined software and web platform that relieves the researcher from the burden of record-keeping through automation. With Methodicate, a researcher simply continues working normally while all file changes that occur inside user-specified directories are automatically tracked. This information is displayed in the intuitive form of a timeline that offers a number of powerful features, including the ability to recover old file versions, visually browse a file's version history to see what's changed, and add annotations such as notes and tags. The browser-based interface means that all work, even if distributed across multiple machines, is centralised and accessible from anywhere. Researchers can link related files to draft a "Story" that contains not only text and figures, but also references the code and data used to produce the results. Stories automatically evolve as new results are generated and can be shared with collaborators, streamlining communication by ensuring that results, their context, and any feedback are all logged in one place and stay up to date. From here, submitting a manuscript together with its relevant figure, code, and data files for publication is painless. By integrating the entire research process from idea all the way to publication, Methodicate has the potential to revolutionise scientific publishing by fostering a culture of reproducibility, incentivising the reuse of data, and accelerating the journey from idea to publication.