WebGPlates: A Unity-based Tool For Enhancing Paleogeographic Research

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GPlates, an open-source, cross-platform GIS software, has been pivotal in plate tectonics and paleogeography. The recent browser-based implementation of GPlates, facilitated by pyGPlates and Cesium, offers real-time rotation of online datasets. Yet, this approach encounters limitations in data rotation efficiency and integration with diverse datasets. To address this issue, we introduce the Unity-based WebGPlates (https://dplanet.deep-time.org/DPlanet/), which harnesses the capabilities of the Web Assembly and Unity framework for enhanced computing efficiency and browser-based rendering. More importantly, WebGPlates integrates with the Deep-time Digital Earth Platform, ensuring comprehensive data access and services. Our preliminary results highlight the potential of WebGPlates as an indispensable tool in paleogeographic research. We extend an invitation to the whole community to engage and collaborate utilizing this enhanced platform.