

# Magic Framework: Stateful Dashboards to Record Relationships Between User Choices

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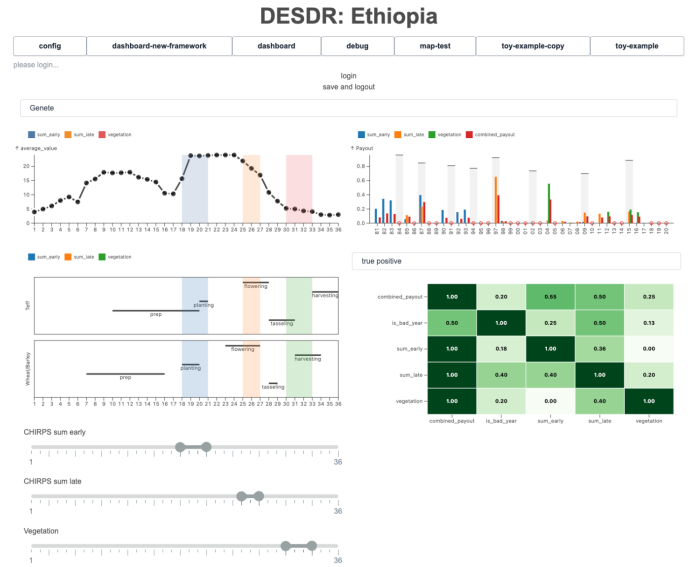
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**Introduction:** Meaningful state means that a user should be able to modify some visual component, and that visual component should correspond to a persistent object. Such objects can be passed between visual components or back to a backend for processing. Meaningful state matters because it allows users to study how changing various parameters shown as visual components impact one another and data models. Prior frameworks for creating dashboards allow the passing of state to backends, but they do not meet the requirements for enabling meaningful state in its entirety without ad-hoc solutions. In short, they do not consider meaningful state tracking as part of the framework itself.

**Methods:** We propose Magic, a framework to enable meaningful state within web dashboards. To test the effectiveness of Magic, we apply it to the use case of index insurance programs. A prior dashboard was substantially ported to magic replacing bespoke components and object stores with a single instance of a class written to implement the Magic framework.

**Results:** We successfully generated an interactive dashboard with defaults,

state-saving by login, and data dependencies. This compares to a previous dashboard with similar functionality but more bespoke components that are less portable with harder to read code.



**Conclusion:** Looking forward, we will set up a use case for the DRC that will determine a single reference crop calendar for many villages and measure the effectiveness of magic by reviewing the time needed to create a dashboard from a concept to deployment.