Abstract Format Capstone Design Expo (XState Builder)

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This project delivers a web-based platform that simplifies the creation and deployment of event-driven workflows using XState. Focused on supporting call center operations, the application empowers agents to define workflows through a guided intake form integrated directly into Slack. Upon submission, user responses are translated into XState definition files and automatically pushed to a GitHub repository via pull requests.

The application consists of three core components. First, the web interface allows users to view existing XState definitions and simulate event triggers for each workflow. Second, a backend database is implemented to manage and associate tasks with their respective workflow instances. Third, the Slack integration provides an intuitive intake form that dynamically prompts users with relevant questions, abstracting away the complexity of XState syntax. The final output—production-ready XState files—are version-controlled and ready for deployment.

By automating the workflow creation process and reducing the technical burden on agents, this solution increases scalability and operational efficiency within high-volume support environments. The result is a streamlined system where workflows are generated with minimal friction, enabling faster case handling and improved customer experience.

Keywords: XState, Slack Integration, Workflow Automation, Web Application