

<b>Project Year</b>	<b>rstanarm</b>	<b>innovation</b>	<b>shinystan</b>
<i>First</i>	organize project team, update rstanarm package on CRAN, establish online user group		Improve online demo version of shinystan, more flexible posterior predictive checking tools
<i>Second</i>	additional levels to rstanarm generalized linear model, implement basic meta-analysis functions	develop dependence plot and other additional new visual tools for graphical exploration of model convergence and model fit	
<i>Third</i>	flexible multilevel meta-analysis functions, integrate rstanarm algorithms in multiple imputation package		Develop visualization for incomplete data, Integrate some shinystan functions in Stan
<i>Fourth</i>	develop and implement basic missing data integration into rstanarm, start implementing advanced multilevel change point models		Interactive visualization tools to test model fit for advanced multilevel models
<i>Fifth</i>	scale missing data integration to larger datasets		Incorporate shinystan functions into the main software Stan

**Timeline:** The above time line delineates the planned project progress by year. We begin by setting up the project team in the first year, establishing our online user interface and updating the *rstanarm* package in CRAN. In year two and three, we will sequentially add additional model levels to the newly developed functions, simultaneously providing advanced tools for visualization. We start to develop additional functions for meta-analysis and change point models, scaling eventually these also to multilevel models. In the fourth project year, we will begin to integrate missing data algorithms into *rstanarm* and finally scale the packages to large datasets in year five.