Automate flexdashboard with GitHub

Introduction

► flexdashboard is a great tool to create interactive dashboard in R. Our aim to build automated flexdashboard which updates the data based upon our requirements.

Motivation

► Build Cost Effective Dashboard
► Scheduled Auto-updates
► Make useful for demo purpose

Overview

To update the flexdashboard, we need to a hosted shiny server. Our goal is to automate flexdashboard using GitHub Action which doesn't require hosted shiny server.

Problem

► Hosted flexdashboard is static so changes in our data we need to manually update and publish every time.
► If we want to auto-update we may need to integrate Shiny. However, it may not be suitable for every case.

Solution

► GitHub Action is a solution to automate the workflow.
► We can automate our flexdashboard (Rmarkdown) updates.
► It builds a container that runs our R scripts. We can trigger it every time we push on GitHub or schedule it every X minutes/hours/days/month.

Figures and images

Figure: Covid-19 Global Dashboard
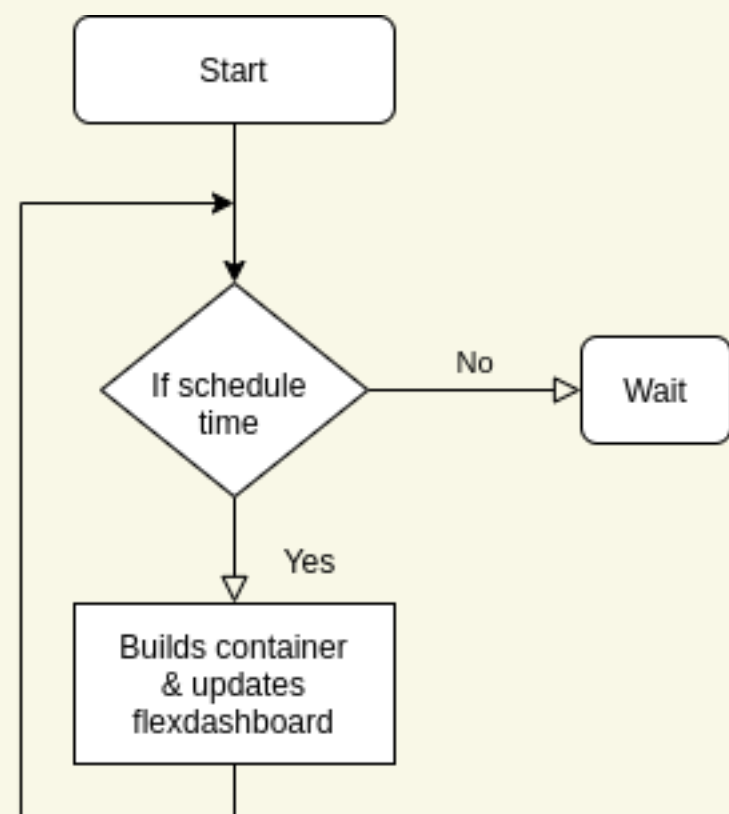
How it works?

Figure: Schedule update of the flexdashboard

Process

► Push flexdashboard project in GitHub Repository
► Write GitHub Action scripts to schedule updates
► Container starts with help of GitHub Action
► Pulls the data from source
► Render flexdashboard with R scripts
► Push git commits via bash scripts
► GitHub Pages publishes changes to flexdashboard

Bibliography

► GitHub Actions for R: https://github.com/r-lib/actions
► Flexdashboard: https://rmarkdown.rstudio.com/flexdashboard/
► Covid19 Global Dashboard: https://dash.numericmind.com/covid19

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