shiny.collections
Google Docs-like live collaboration in Shiny

useR!2017 Brussels

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What Shiny apps users expect

1 data persistence
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1. data persistence
2. live collaboration
What Shiny apps users expect

1. data persistence
2. live collaboration
3. delivered fast
live collaboration &
data persistence
in Shiny
REACTIVE DATABASE
What is a reactive database?
Examples of reactive databases

RethinkDB

Firebase

mongoDB
library(rethinker)
library(rethinker)

- RethinkDB API in R
library(rethinker)

- RethinkDB API in R
- Callback-based
library(rethinker)

- RethinkDB API in R
- Callback-based
- Painful to use in Shiny
library(shiny.collections)
library(shiny.collections)

- High-level API for using RethinkDB collections in Shiny
library(shiny.collections)

- High-level API for using RethinkDB collections in Shiny
- Results as Shiny reactives
library(shiny)
library(dplyr)
library(purrr)
library(purrrlyr)

ui <- shinyUI(fluidPage(
  titlePanel("Chat app (shiny.collections demo)")
  , div(input(textInput("username_field", "Username", width = "200px"))
  , uiOutput("chatbox")
  , div(style = "display:inline-block")
  , input(textInput("message_field", "Your message", width = "500px"))
  , div(style = "display:inline-block")
  , actionButton("send", "Send")
))

server <- shinyServer(function(input, output, session) {
  # TODO
})

shinyApp(ui = ui, server = server)
Chat app (shiny.collections demo)

Username

Your message

Send
connection <- shiny.collections::connect()

server <- shinyServer(function(input, output, session) {
    chat <- shiny.collections::collection("chat", connection)
})
observeEvent(input$send, {
    message <- list(user = input$username_field,
                     text = input$message_field,
                     time = Sys.time())
    shiny.collections::insert(chat, message)
    updateTextInput(session, "message_field", value = "")
})
output$chatbox <- renderUI(
  if (!is_empty(chat$collection)) {
    rows <- chat$collection %>%
      arrange(time) %>%
      by_row(~ div(class = "item",
                a(class = "header", .$user),
                div(class = "description", .$text)
          ))) %>% pull(.out)

    div(class = "ui very relaxed list", rows)
  }
})
Chat app (shiny.collections demo)

Username
marek

marek
Hi! How are you?
olga
Doing great! And you?
Your message

Chat app (shiny.collections demo)

Username
olga

marek
Hi! How are you?
olga
Doing great! And you?
Your message
shiny.collections  ♥  DT::datatable
leaflet
rhandsontable
QUESTIONS?

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