

PHUSE US Connect 2025

Paper OS19

Future of Data Surveillance in Clinical Studies: A comprehensive approach on data monitoring using R Shiny application for study health



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1. Problem Statement

One App per Study

Pros

Access Control

Study Specific
Programming

Study Specific Reports

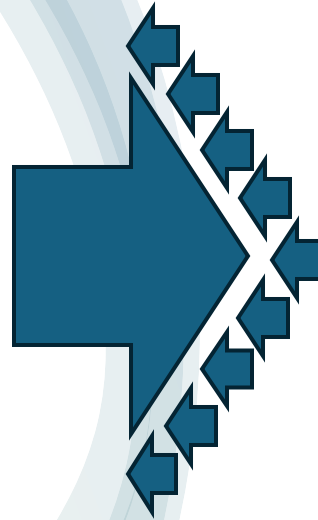
Relatively Less
Programming Intensive

Cons

Multiple App

Multiple Links

Lack of Consistency
across apps



One App Multiple Studies

Pros

One App, One Link

Updates Reflects
across all studies

Easy to Manage

Challenges

Access Control

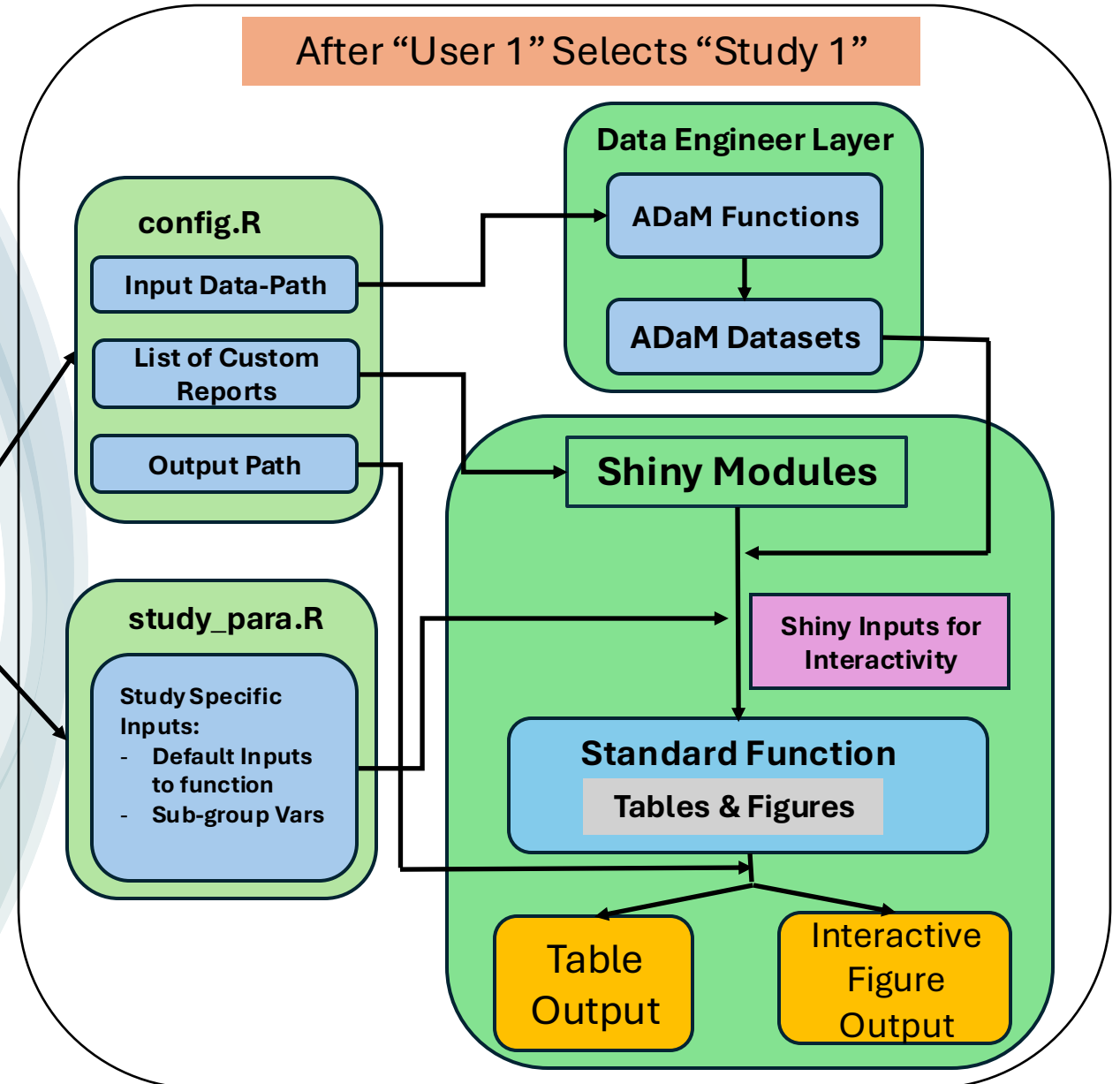
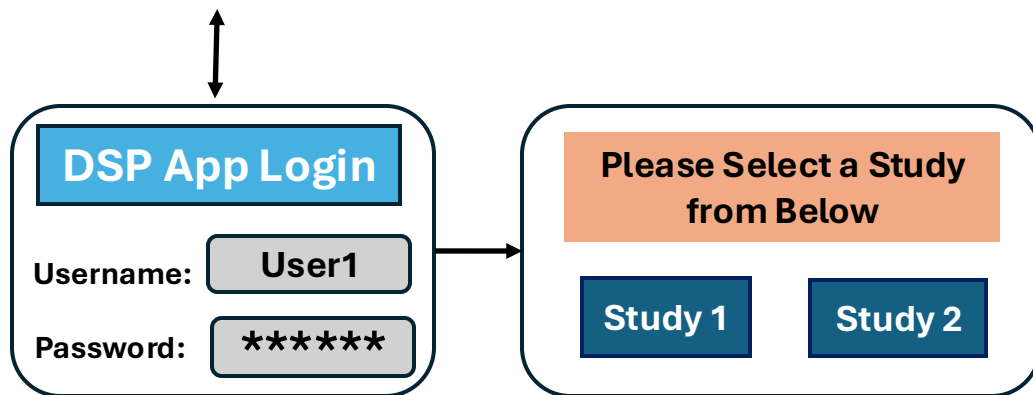
Study Specific
Programming

Study Specific Reports

Programming Intensive

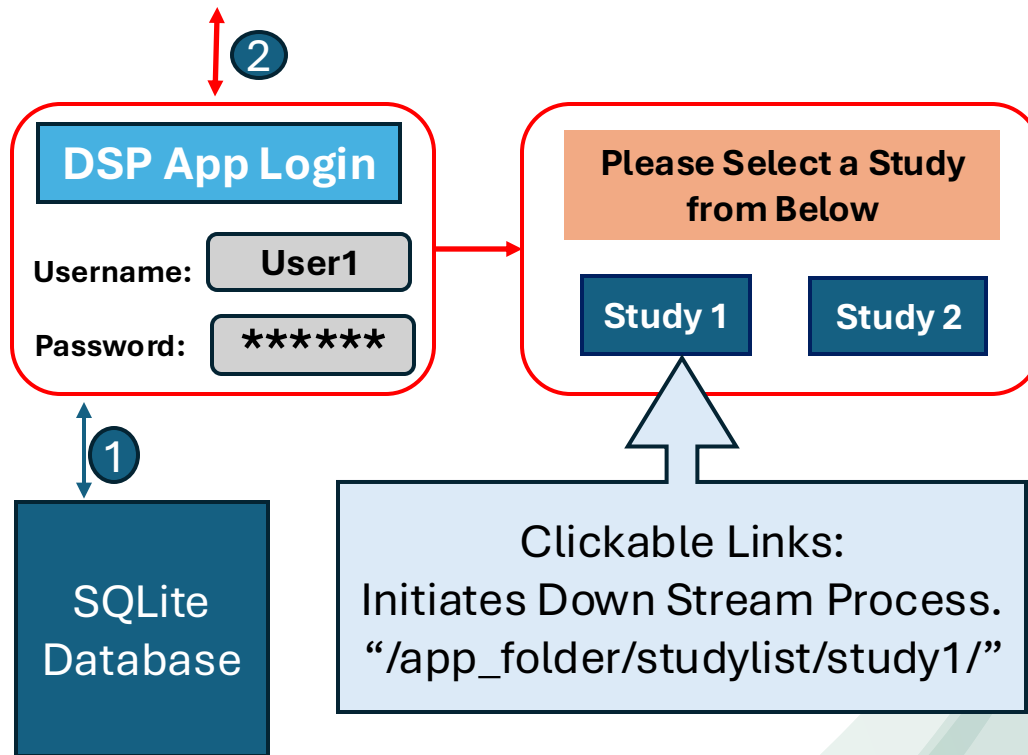
2. App Design Overview

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2



3. Administrative Layer

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2



- *shinymanager* R Package
 - Authenticate users who can access the application
- Excel / CSV file
 - User ID and Study ID list

The screenshot shows the Shiny application interface. The title bar reads **Shine Brighter with R Shiny: Empowering Data Surveillance**. Below the title bar is a section labeled **DSP Studies**. The main content area displays the text **Please select a study from below** and four buttons: **Demo Study**, **study-001**, **study-002**, and **study-003**.

4. Configuration

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2



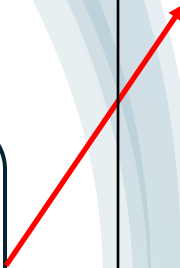
DSP App Login

Username:

Password:



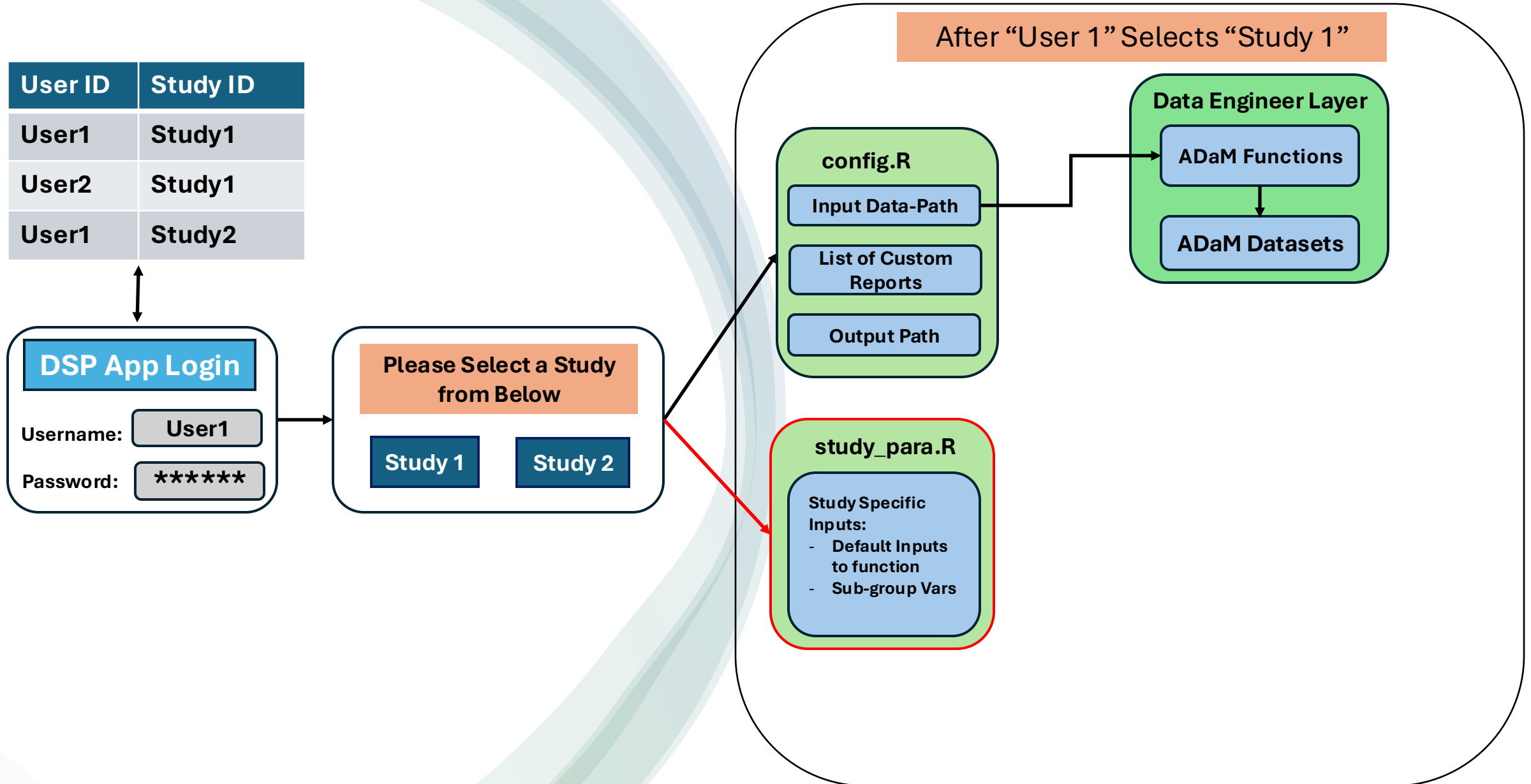
Please Select a Study from Below



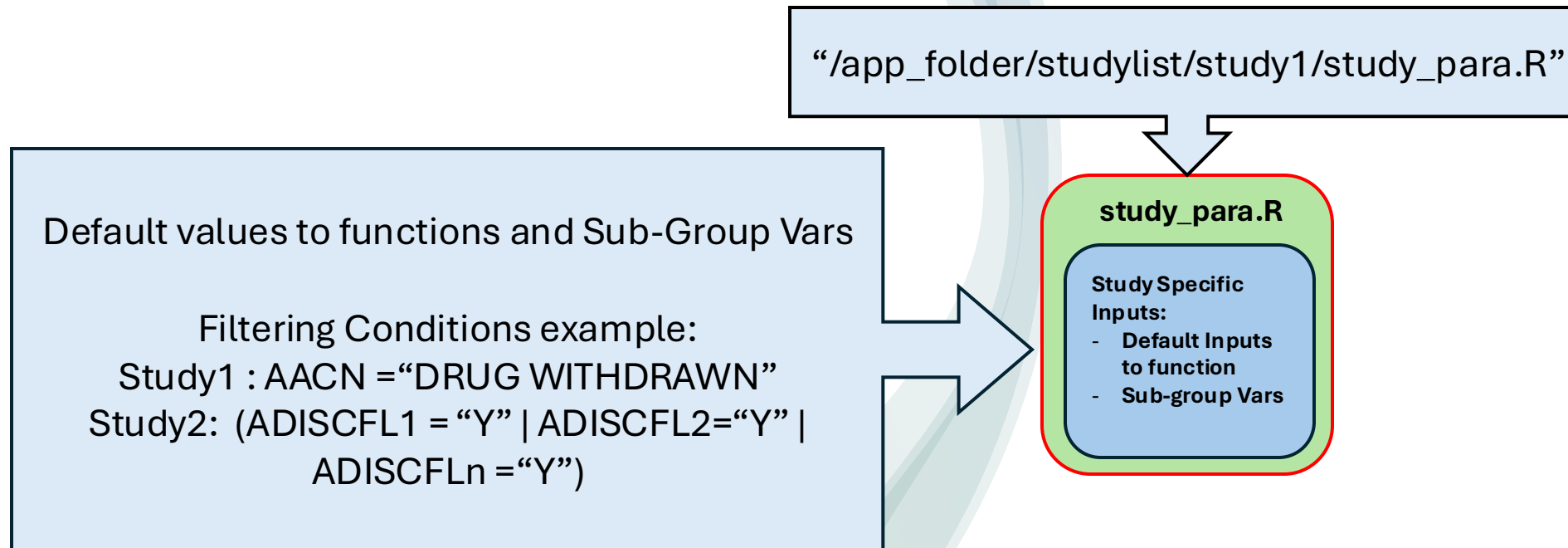
After "User 1" Selects "Study 1"

config.R

5. Study Parameter



5. Study Parameter



6. Data Engineer Layer

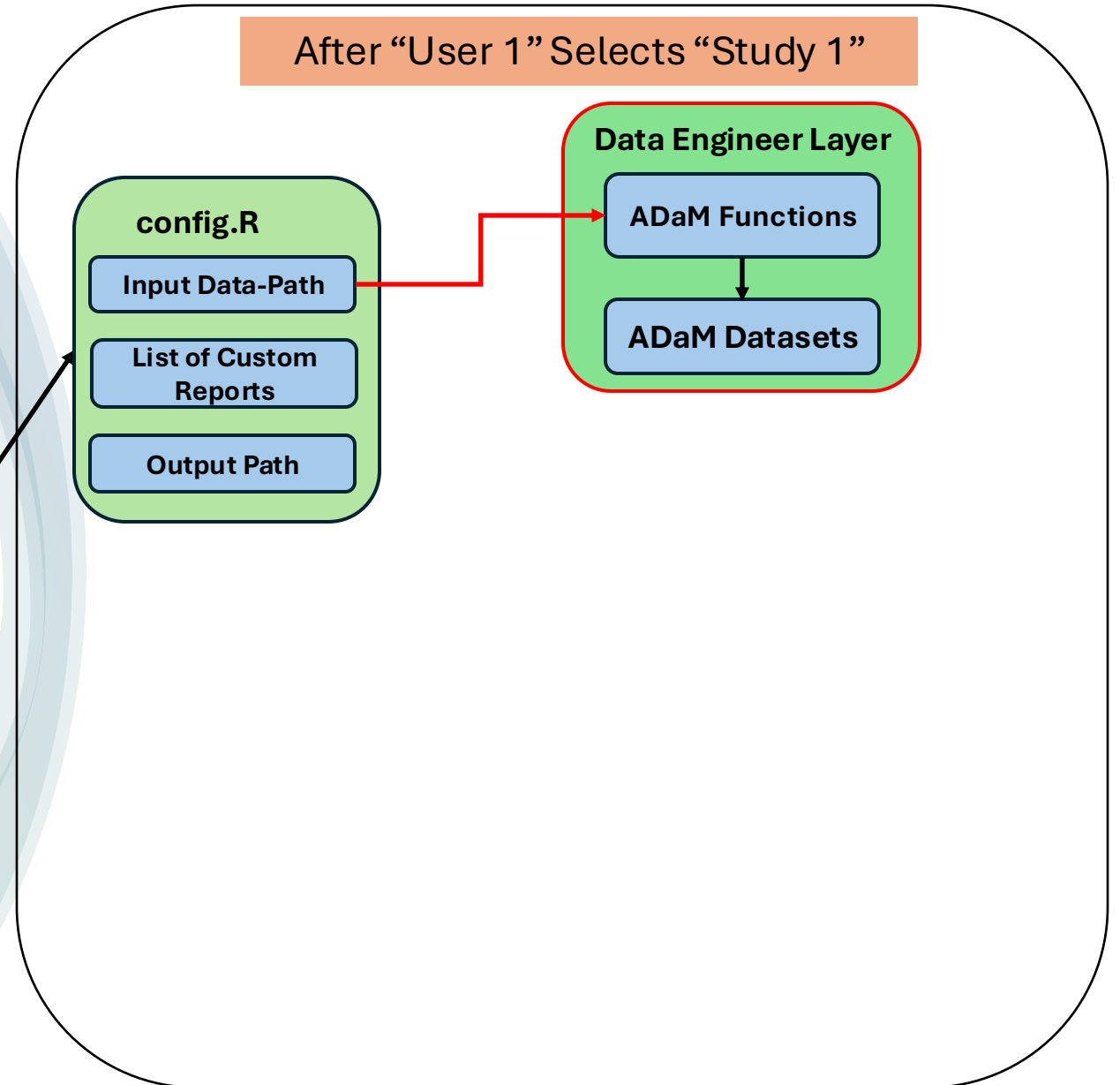
User ID	Study ID
User1	Study1
User2	Study1
User1	Study2

DSP App Login

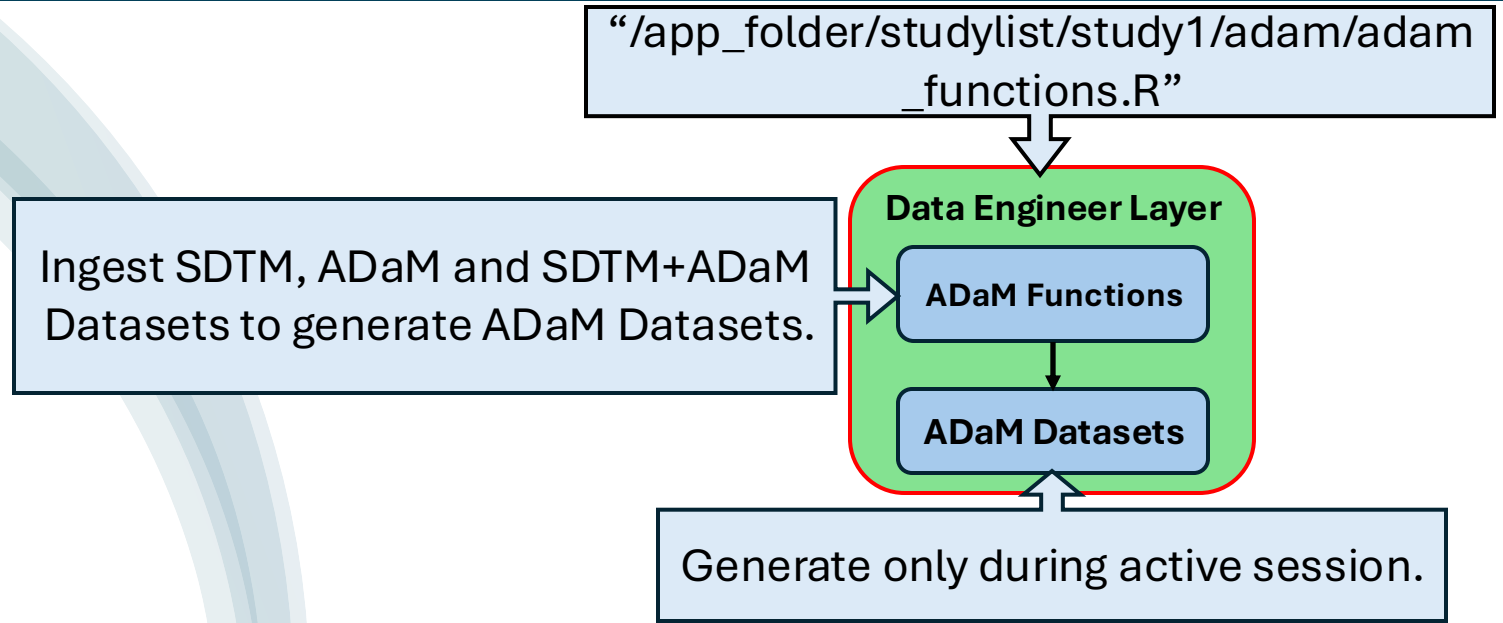
Username:

Password:

Please Select a Study from Below

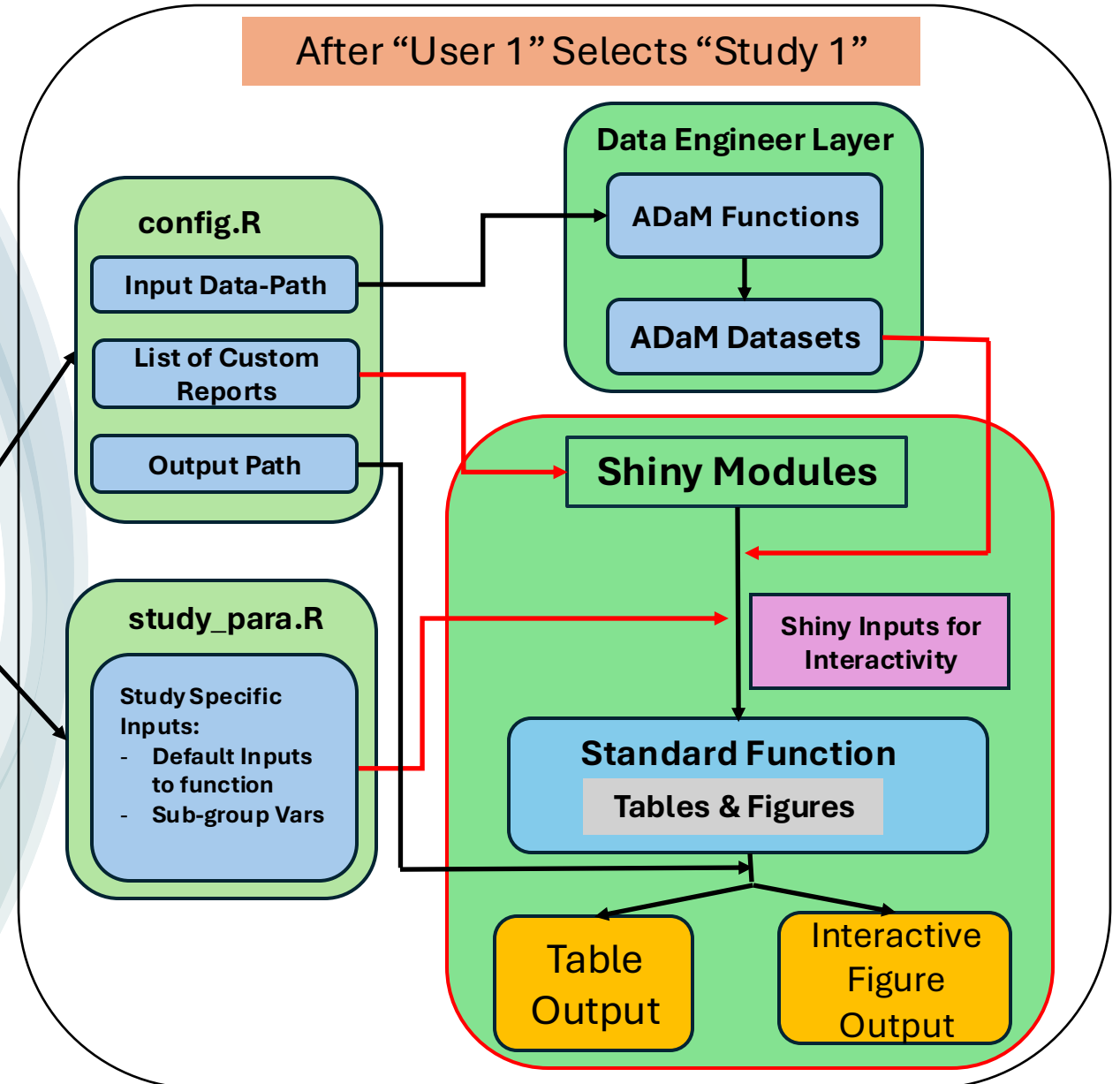
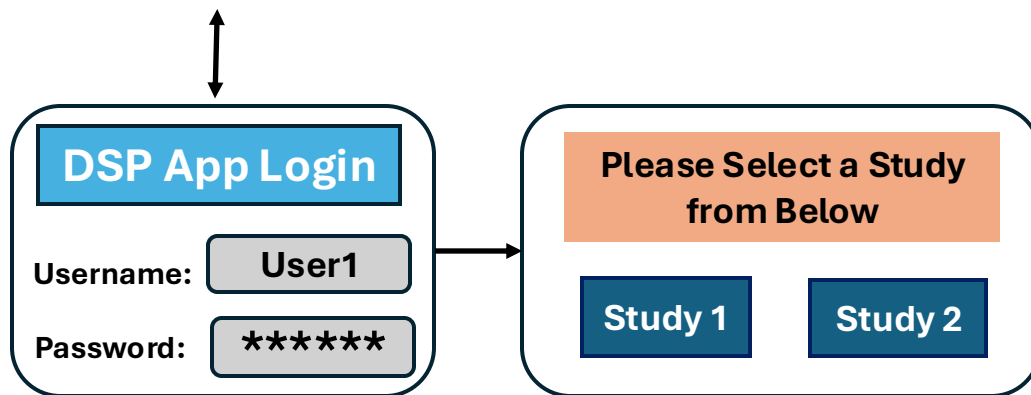


6. Data Engineer Layer



7.1 Shiny Modules Inputs

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2

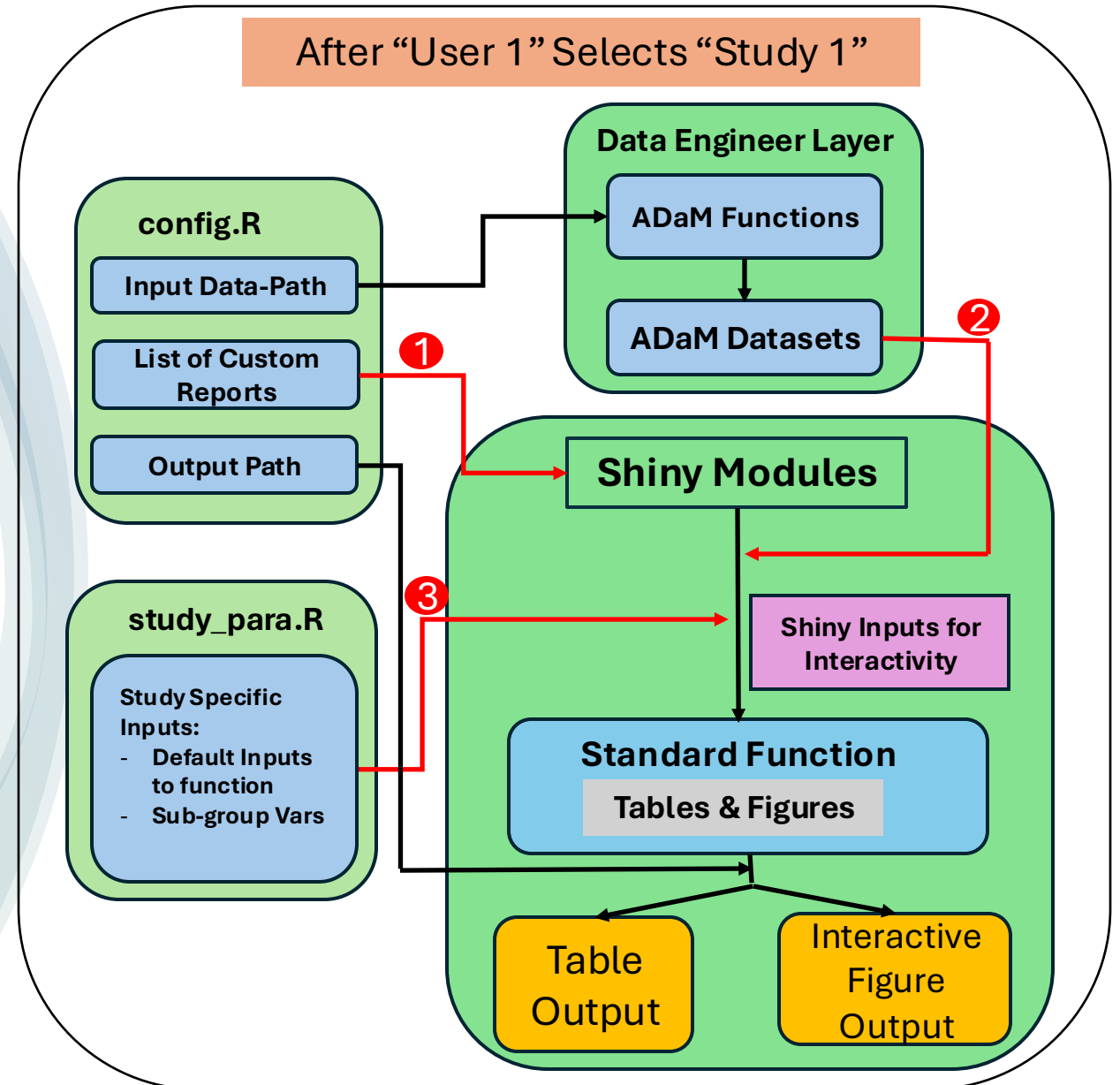


7.1 Shiny Modules Inputs

1 Custom Report to Generate? TRUE/FALSE.

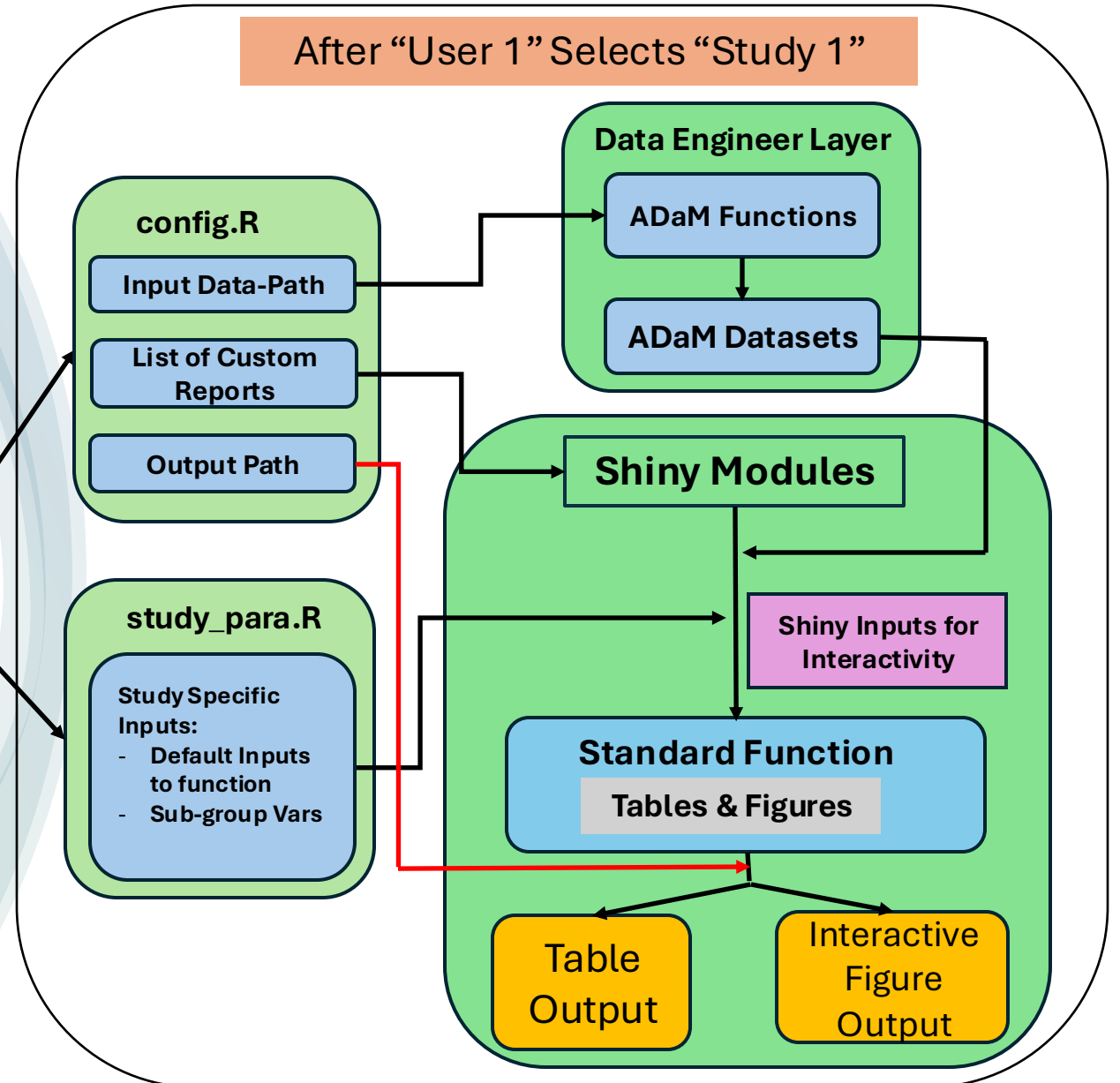
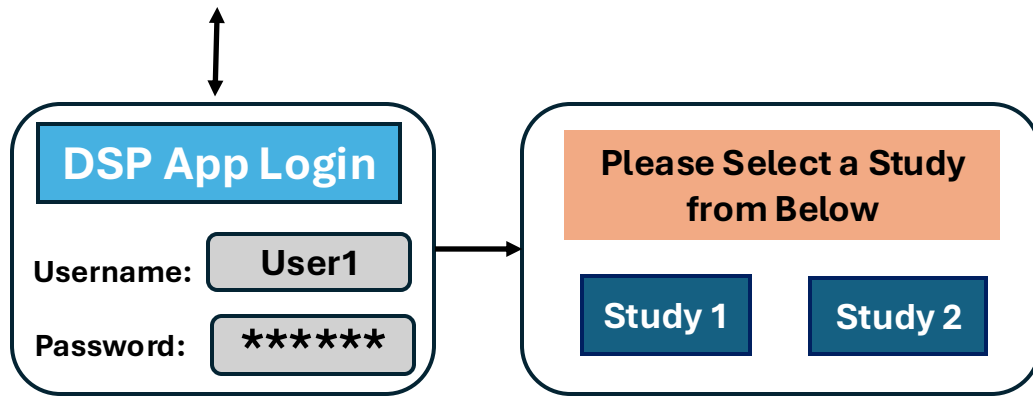
2 ADaM Dataset as inputs

3 Default Values to R Function as inputs.

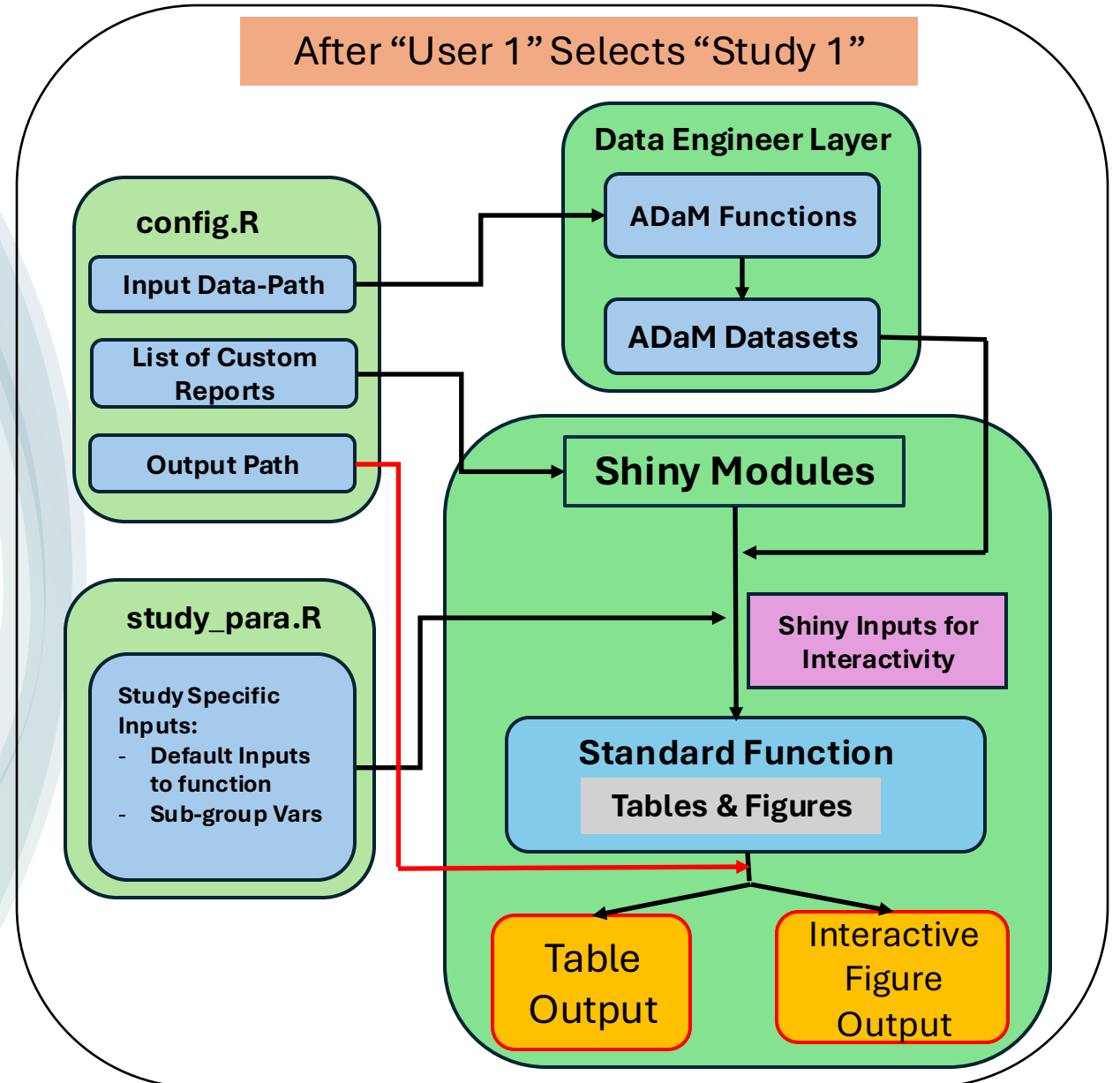
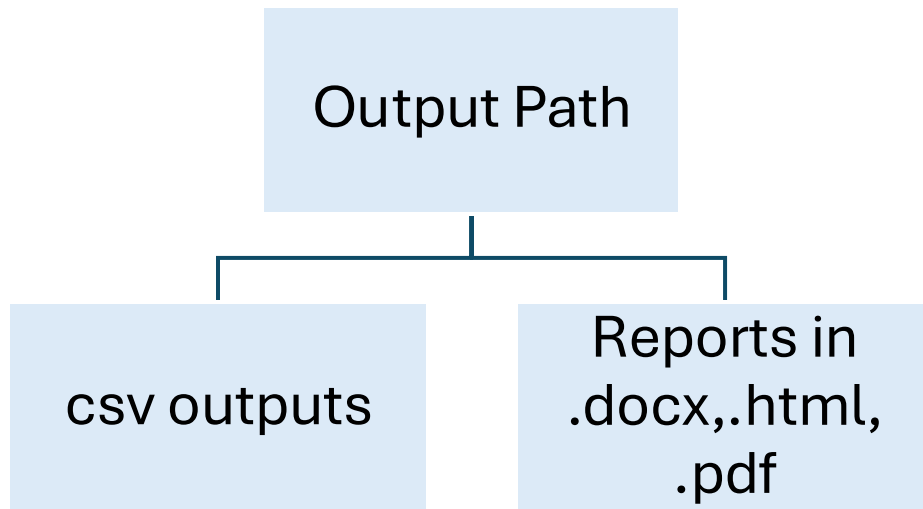


7.2 Shiny Modules Outputs

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2

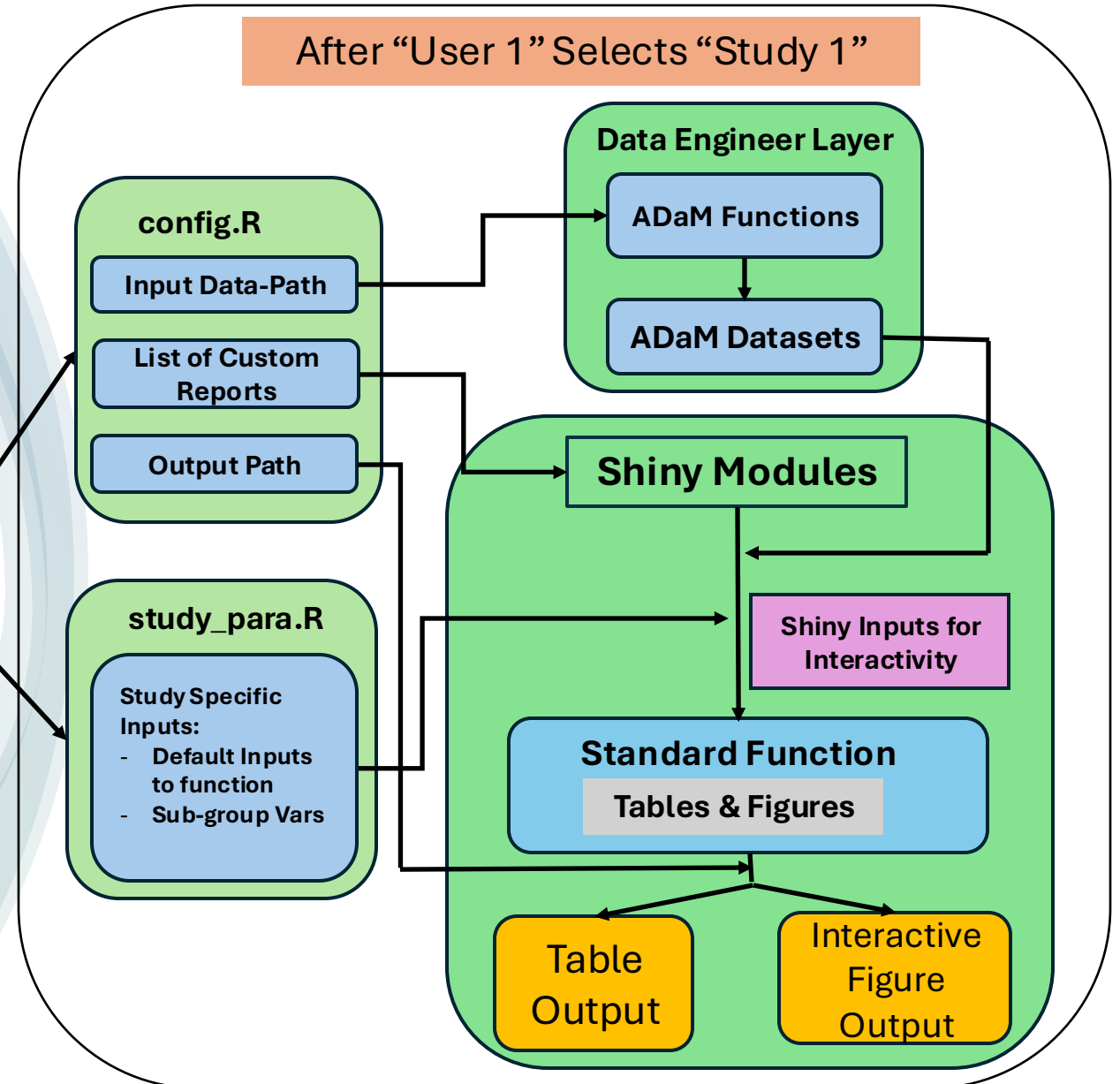
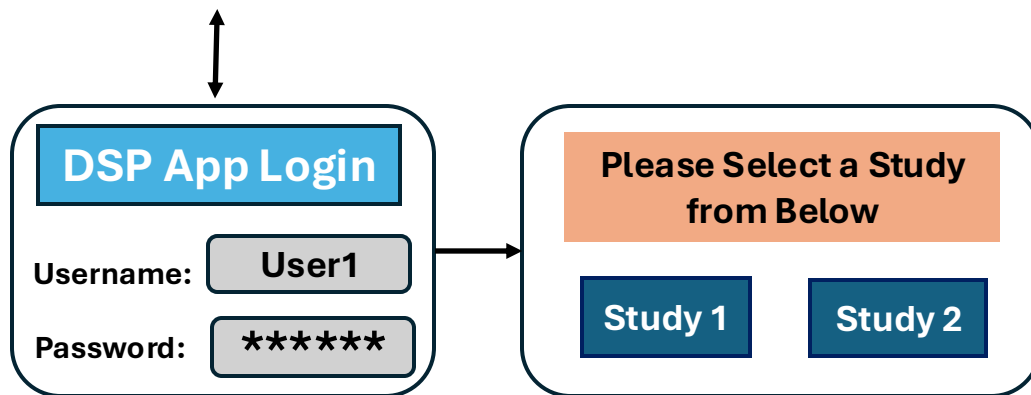


7.2 Shiny Modules Outputs

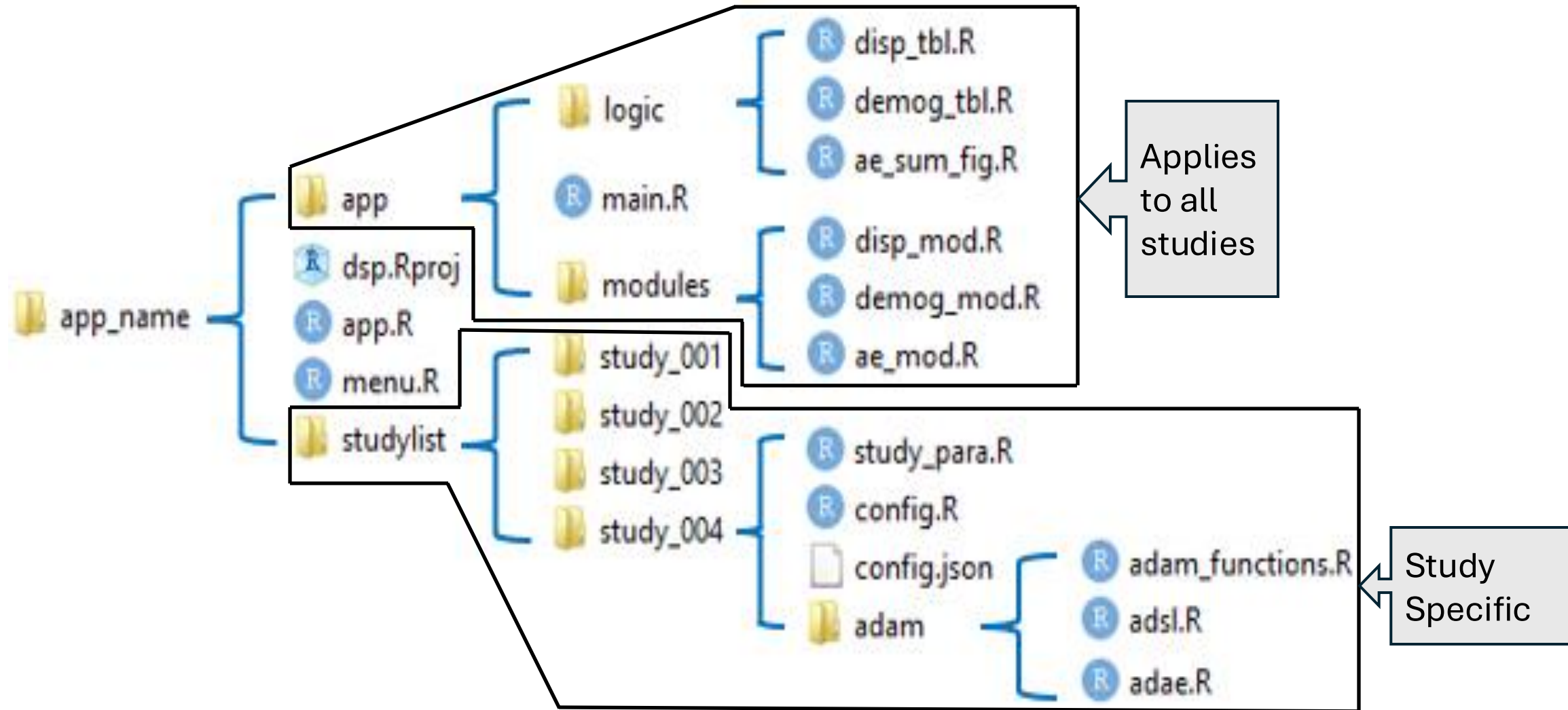


How it fits together

User ID	Study ID
User1	Study1
User2	Study1
User1	Study2



8. Example Folder Structure





Questions for the presenters?

A photograph of two business people shaking hands, overlaid with a blue geometric design. The image is split diagonally from the top right to the bottom left. The top-left and bottom-right triangles are a dark blue, while the top-right and bottom-left triangles are a lighter, vibrant blue. The handshake is centered in the image, with the person on the left wearing a grey pinstripe suit and the person on the right wearing a white shirt. The text 'Thank You' is written in a large, white, sans-serif font across the middle of the handshake. A white rectangular border is positioned around the text, with its top and bottom edges extending slightly beyond the text itself.

Thank You