

Providing R Reporting Capabilities to a Web Application from a Version Controlled R Code Database

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Reusing R Code for Item Display and Reports

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Why?

- International Company
- Many people
- Lack of control
- Wasted effort



Benefits

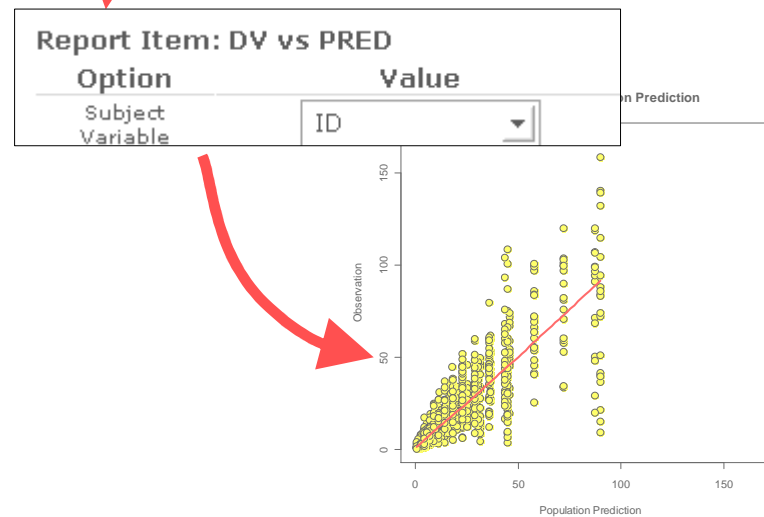
- Use the same R code with different data
- Hide the R code from the end user
- Store results for later use
- Cope with changing code
- Automate report production



Generating an Item

- Item definition from database
- Display fields
- Set variables
- Run the R code
- Audit and store new results for re-use

```
- <report-item-definition>
  <item-title>DV vs PRED</item-title>
  <item-name>DV vs PRED</item-name>
  <apply-subset>TRUE</apply-subset>
  <execute-with-default>TRUE</execute-with-default>
  <item-type>image</item-type>
  <order>1</order>
  <language>R</language>
  <required-columns>@ID,@DV,@PRED</required-columns>
  <subset />
  <arguments>
  - <argument>
    <name>IVar</name>
    <type>Column</type>
    <default>@ID</default>
    <display-name>Subject Variable</display-name>
    <description>Subject Variable</description>
    <filter-type>@ALL</filter-type>
    <visible>TRUE</visible>
  </argument>
  </arguments>
  <categories>Prediction Plots</categories>
  - <code>
  - <![CDATA[
    with(optionList, {
      reportImage <- rmScatterPlot(.dataList[[1]],xVar:
        addLoess=addLoess,idLines=idLine,equalAx
      )
      print(reportImage)
    })
  ]>
  </code>
</report-item-definition>
```



Report Production

- Define reports using item definitions
- Use the same process of item generation
- User arguments are provided as part of the report definition
- Output to a number of standard formats
- The report data is reusable



In Summary

- Reusing versioned R code
- Quick comparison of data
- Faster item generation
- Faster report generation
- Quicker turnaround from data to final report

