* Slide 1 and 2
  + My presentation will be on interactive plots in R. I will begin with an overview of Plotly and Shiny app and then go through some examples of each and 1example of shiny with plotly
* Slide 3
  + Plotly is based on the open source javascript library. It allows you to create interactive graph. Initially it was built to support 3d and mesh charts that gglplot2 did not support. Plotly utilizes the htmlwidget framework. Htmlwidgets use Rbinding calls to the data which in turn uses the widget. Then the javascript binding passes the data and options from R binding to the Javascript library . the range of plots that can be built in Plotly go from basic plots to advanced statistical plots. You can utilized from your local browser or remote web calls.
* Slide 4
  + Like plotly Shiny allows for interactive graphs The main difference is Shiny can be used as an app and can be served directly from the web. Plotly can be utilized together with shiny and we’ll see an example of that later.
* Slide 5
  + This slide shows locations for Plotly documentation and cheetsheet. The online books gives complete step by steps on how to’s. To use plotly just use install.package(plotly). Plotly also has a function called ggploty()that works in conjunction with ggplot2 plot. GGplotly transfoms ggplot2 to interactive plots The difference between ggploty and plotly is ggploty has ggplot2 as a dependency., while Ploty can work with any dataset without the need to ggplot2.
* Slide 6
  + The first example is a basic histogram with some population and financial data. As you can see it’s not just a static chart. You can see the data as you lighlight different sections.
* Slide 7
  + This next example has a dataset that displays a box plot that takes the Midwest data and give min, mean, median an max colleges per state.
* Slide 8 and 9
  + Here is a basic ggplot using the saved data in a p variable. As you can see there is no interaction. The next plot has the same data set that was saved in the P and uses ggploty to build a split plot. As we highlight we get city data and as we select it expands. This is just a simple example.
* Slide 10
  + Here is one more with statistical data. As we lighlight more datra shows.
* Slide 11
  + As stated earlier with Plotly you can deploy charts online, First you need to setup an account on the plotly site , get the token and code for your account page then use those details to set the env and create the file. Here it is in the R Console. As we run this, the poltly page will pop up. As you can see the plot is now in the plotly site, with myid and a plot idly. We will use this information to get the file back into the console.
* Silde 12
  + To retrieve the plot you use the api\_download\_plot function together with user name and the plot id that was noted eariler. Here it is in action. As you can see the plot is in the console and on the localhost browser. He is an example of an external plot that user cpsserivert posted. As you can see here we have downloaded an external plot locally that we can now interactive with.
* Slide 13
  + The slidy documentation is part of rstudio and the tutorial includes text and in-depth videos. In this demo I used shiny library as well as the rsconnect library to work with an online version.
* Slide 14
  + The Shiny app needs to have a app.R file to run. When building the file you need 3 sections. The UI which builds the interace , Server to give information on how to build the app and includes input and output, and the shiny app function which utilizes Ui and server object to create the shiny app. This basic example just takes some bins and creates an interactive histogram with a slider for the bins.
* Slide 15
  + ({Start app before}The Shiny online example is similar plotly. You first need to setup an account in the shiny site. Get details on key and tokens and use rconnect to deploy the app. As you can see the app is now on the shiny site with my id.
* Slide 16
  + The last example is using ggplotly with shiny app. Here we are using an plotlyoutput plot and displaying it on a shiny app. This is a basic dot plot that give coordinates as you hover over the point.
* Slide 17
  + As a recap, both shiny and plotly can be used for interactive plotting in R. Plotly can be used for data frames or together with GGPlot. Shiny can be used as an app to rendor plots as web pages. Both Plotly and shiny can be used together or on their own.