**Homework #4 (Due Sep 24 11:59 PM)**

IST 3420 - Fall 2017, Chen

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**Working with Web APIs (20 points)**

**Instruction:** Replicate the Web API sample demonstrated in our class. The GetNewsForApp (v0002) API is provided by Steam. This time you need to **use XML as the response format**. You can refer to course slides for the R code implemented to parse JSON format. Upload this document with your answers and your R Markdown file to “Homework 4” on Canvas.

1. Check the XML format of the API response from the following link:

<http://api.steampowered.com/ISteamNews/GetNewsForApp/v0002/?appid=570&count=30&maxlength=300&format=xml>

1. Use the API to collect 300 news entries for the game “Dota 2” by using XML as the API response format. Use a data frame to store all information. Paste your R Markdown code in the following box.

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| **Your R Code** (**18 points**):  ---  title: "Homework\_4"  author: "Adam Forestier"  date: "September 18, 2017"  output: html\_document  ---  ```{r setup, include=FALSE}  knitr::opts\_chunk$set(echo = TRUE)  ```  # 1. Check XML format of API response  # 2. Use Api to collect 300 news entries for Dota 2  Clean Current Environment  ```{r}  rm(list = ls())  ```  Acces XML and RCurl Package  ```{r}  library(XML)  library(RCurl)  ```  Extract data from website  ```{r}  website\_url <-  "http://api.steampowered.com/ISteamNews/GetNewsForApp/v0002/?appid=570&count=300&maxlength=300&format=xml"  website\_doc <- getURL(website\_url)  website\_content <- xmlParse(website\_doc)  top <- xmlRoot(website\_content)  ```  Take the information and save to variables  ```{r}  d\_gid <- xpathSApply(website\_content, "//newsitems/newsitem/gid", xmlValue)  d\_title <- xpathSApply(website\_content, "//newsitems/newsitem/title", xmlValue)  d\_url <- xpathSApply(website\_content, "//newsitems/newsitem/url", xmlValue)  d\_is\_external\_url <- xpathSApply(website\_content, "//newsitems/newsitem/is\_external\_url", xmlValue)  d\_author <- xpathSApply(website\_content, "//newsitems/newsitem/author", xmlValue)  d\_contents <- xpathSApply(website\_content, "//newsitems/newsitem/contents", xmlValue)  d\_feedlabel <- xpathSApply(website\_content, "//newsitems/newsitem/feedlabel", xmlValue)  d\_date <- xpathSApply(website\_content, "//newsitems/newsitem/date", xmlValue)  d\_feedname <- xpathSApply(website\_content, "//newsitems/newsitem/feedname", xmlValue)  d\_feed\_type <- xpathSApply(website\_content, "//newsitems/newsitem/feed\_type", xmlValue)  d\_appid <- xpathSApply(website\_content, "//newsitems/newsitem/appid", xmlValue)  ```  Create Data Frame with all vectors  ```{r}  dota\_df <- data.frame(d\_gid, d\_title, d\_url, d\_is\_external\_url, d\_author, d\_contents, d\_feedlabel, d\_date,  d\_feedname, d\_feed\_type, d\_appid)  ```  Rename Data Frame Columns  ```{r}  colnames(dota\_df) <- c("Game ID", "Title", "URL", "External URL?", "Author", "Contents", "Feed Label",  "Game Date", "Feed Name", "Feed Type", "App ID")  ``` |

1. Upload this documents with your answers to “Homework 4” on Canvas.
2. Upload your R Markdown file to “Homework 4” on Canvas. (**2 points**)