**Procedure for generating CMML report in R programming**

1. Assume that you already install R and R studio in your computer
2. User account and password for CMMLMS
3. Download five files from CMMLMS (<https://cmmlms.voozanoo.net/cmpms>)
   1. Stock management- click on
      1. Item batch listing
      2. Export data (end of the page) ==> OK (figure 1)
      3. Download
      4. Copy and paste file in R programming ==> folder (data)
      5. Name file as “Raw material dd.mm.yy.csv”
   2. Report- click on
      1. Media production
      2. Export data (end of the page) ==> OK (figure 1)
      3. Copy and paste file in R programming ==> folder (data)
      4. Name file as “Media production dd.mm.yy.csv”
   3. Report - click on
      1. Media distribution
      2. Export data (end of the page) ==> OK (figure 1)
      3. Copy and paste file in R programming ==> folder (data)
      4. Name file as “Media delivery dd.mm.yy.csv”
   4. Report- click on
      1. Media IQC
      2. Export data (end of the page) ==> OK (figure 1)
      3. Copy and paste file in R programming ==> folder (data)
      4. Name file as “IQC dd.mm.yy.csv”

*Note: dd.mm.yy is date extracted files from CMMLMS*

1. Sheep information are stored in google sheet (<https://docs.google.com/spreadsheets/d/1ixEijAjGdYoIG56HROUVuN9z_DXIak1A6achRbUAzFM/edit#gid=892905501>). This file is not required to download. When user run R, the program automatically retrieves data from google sheet with authentication account oeng.sopheap@dmdp.org.
2. Return to root folder and click on
   1. CMML.Rproj
   2. File (Menu bar) ==> Open ==> Run.R
   3. Select all (shortcut CTR + A)
   4. Click on R (shortcut CRT/Cmd + enter)
   5. Wait until sign stop disappear (usually less than 1 min)
3. Return to Output folder. Now you should see CMML Report dd-mm-yy.html

Graphical user interface, text, application, email

Description automatically generated

Figure 1: Semicolon separated file and data format as code