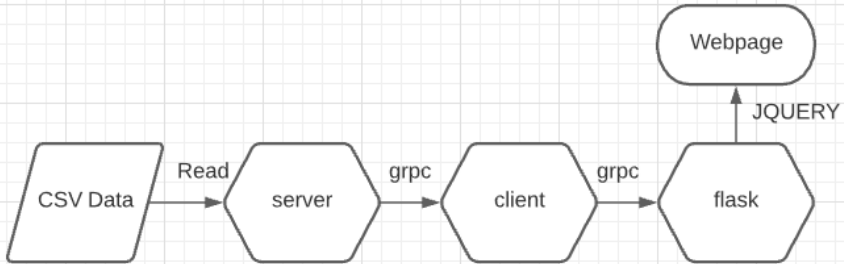**SOFT8026 - Data-driven Microservices**
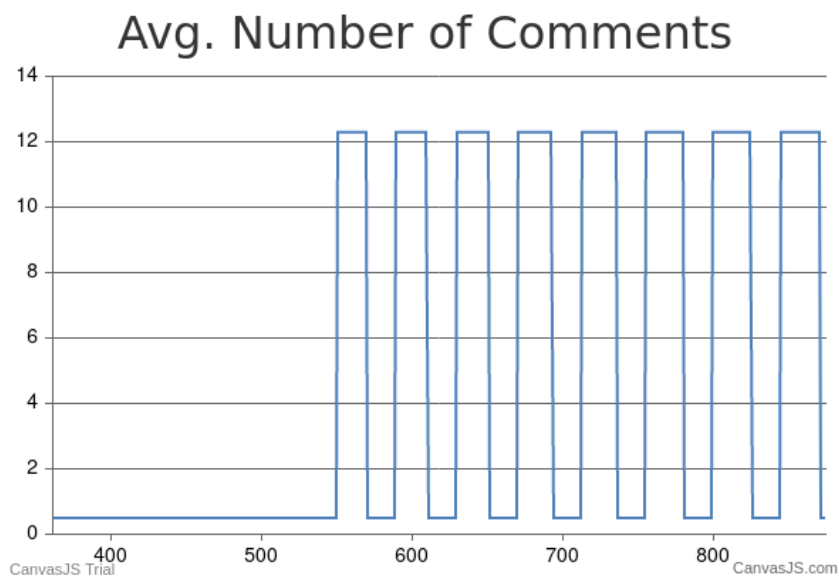**Assignment 1 Form**

Instructions
Please complete the following form and include in the zip file you submit. Include screenshots / images in the appendices below the form.

Discussion of Architecture	
Put a diagram of your architecture opposite (e.g. paste an image); indicate the microservices, integration endpoints, messages being sent, etc.	
Why did you opt for the microservices you did? You could address topics from the lectures, e.g. bounded contexts, independent pipelines, etc.	Used microservices pipeline where each microservice was in or around 100 lines of code. The bounded context which encapsulates the system allows for the input of a csv into one end, and the output of a stream of strings from the other end.
Checklist of requirements completed	**Delete as appropriate**
Do you have a Dockerfile per microservice that you have created?	YES
Do you have a gRPC proto file with a service, rpcs and messages for each microservice?	YES
Do you have your Dockerfiles and other microservice files (python scripts, requirements.txt, etc) in separate folders?	YES
Do you have a functioning Docker Compose file?	YES
Are you streaming data, simulating real-time throughout?	YES
Do you have 4 pieces of analytics calculated, including a window-on-data	YES

(e.g. rolling 3-minute window)?	
Are you displaying live analytics on a web page?	YES and yes to cell above (Cant edit it)
Any other comments, e.g. anything you want to highlight that could otherwise be missed by the marker?	To display the live analytics the page does not have to be refreshed as I am using jquery. The line chart displaying the avg comments works but duplicates the line. Check the console log to view the stream entering the browser, it takes a few seconds for the page to update the incoming data. The CSV should be placed into the RedditDataApp/app/server directory.

Appendix – Screenshot(s) of your application running (e.g. Log output as it starts up, any log output as it runs, any web pages, etc.)

Reddit Data App

Avg. Number of Comments

CanvasJS Trial

CanvasJS.com
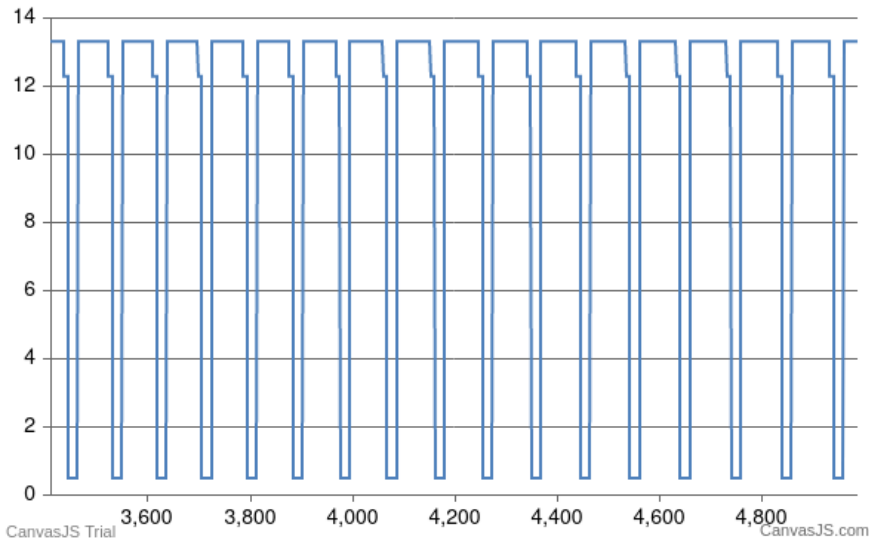
Incoming Data

37//12.297297297297296// Over 18 in last 3 min: 0// Post removed by Moderator: 7// Longest Post Title: I follow a Twitter account that explores fake accounts/spam/etc. They post images like this weekly. https://twitter.com/conspirator0/status/1361483149256048640

Avg. Number of Comments

CanvasJS Trial   3,600   3,800   4,000   4,200   4,400   4,600   4,800   CanvasJS.com

Incoming Data

45//13.311111111111112// Over 18 in last 3 min: 0// Post removed by Moderator: 10// Longest Post Title: I follow a Twitter account that explores fake accounts/spam/etc. They post images like this weekly. https://twitter.com/conspirator0/status/1361483149256048640

▶ Array(5) ["\n \n   Incoming Data \n   8", "0.5", " Over 18 in last 3 min: 0", " Post re
▶ Array(5) ["\n \n   Incoming Data \n   8", "0.5", " Over 18 in last 3 min: 0", " Post re
▶ Array(5) ["\n \n   Incoming Data \n   8", "0.5", " Over 18 in last 3 min: 0", " Post re
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▶ Array(5) ["\n \n   Incoming Data \n   8", "0.5", " Over 18 in last 3 min: 0", " Post re
▶ Array(6) ["\n \n   Incoming Data \n   37", "12.297297297297296", " Over 18 in last 3 mi
weekly. https:", "twitter.com/conspirator0/status/1361483149256048640"]
▶ Array(6) ["\n \n   Incoming Data \n   37", "12.297297297297296", " Over 18 in last 3 mi
weekly. https:", "twitter.com/conspirator0/status/1361483149256048640"]
▶ XHR POST http://localhost:8080/update_data
▶ Array(6) ["\n \n   Incoming Data \n   37", "12.297297297297296", " Over 18 in last 3 mi
weekly. https:", "twitter.com/conspirator0/status/1361483149256048640"]
▶ XHR POST http://localhost:8080/update_data
▶ Array(6) ["\n \n   Incoming Data \n   37", "12.297297297297296", " Over 18 in last 3 mi
weekly. https:", "twitter.com/conspirator0/status/1361483149256048640"]

```
Successfully built d7655ec442bc
Successfully tagged app_weblogs:latest
Starting app_redis_1 ...
Starting app_redis_1         ... done
Starting app_redditclient_1 ... done
Starting app_weblogs_1       ... done
Attaching to app_redditserver_1, app_redditclient_1, app_redis_1, app_weblogs_1
redditclient_1  | wait-for-it.sh: waiting 15 seconds for redditserver:50051
redditclient_1  | wait-for-it.sh: redditserver:50051 is available after 0 seconds
redis_1         | 1:C 01 Apr 2021 21:21:28.625 # oO0OoO0OoO0Oo Redis is starting oO0OoO0OoO0Oo
redis_1         | 1:C 01 Apr 2021 21:21:28.626 # Redis version=6.2.1, bits=64, commit=00000000, modified=0, pid=1, just started
redis_1         | 1:C 01 Apr 2021 21:21:28.626 # Warning: no config file specified, using the default config. In order to specify a conf
redis_1         | 1:M 01 Apr 2021 21:21:28.627 * monotonic clock: POSIX clock_gettime
redis_1         | 1:M 01 Apr 2021 21:21:28.629 * Running mode=standalone, port=6379.
redis_1         | 1:M 01 Apr 2021 21:21:28.629 # Server initialized
redis_1         | 1:M 01 Apr 2021 21:21:28.629 # WARNING overcommit_memory is set to 0! Background save may fail under low memory condit
' to /etc/sysctl.conf and then reboot or run the command 'sysctl vm.overcommit_memory=1' for this to take effect.
redis_1         | 1:M 01 Apr 2021 21:21:28.630 * Loading RDB produced by version 6.2.1
redis_1         | 1:M 01 Apr 2021 21:21:28.630 * RDB age 382 seconds
redis_1         | 1:M 01 Apr 2021 21:21:28.630 * RDB memory usage when created 0.83 Mb
redis_1         | 1:M 01 Apr 2021 21:21:28.630 * DB loaded from disk: 0.001 seconds
redis_1         | 1:M 01 Apr 2021 21:21:28.631 * Ready to accept connections
weblogs_1       |  * Serving Flask app "output_logs" (lazy loading)
weblogs_1       |  * Environment: production
weblogs_1       |    WARNING: This is a development server. Do not use it in a production deployment.
weblogs_1       |    Use a production WSGI server instead.
weblogs_1       |  * Debug mode: on
weblogs_1       |  * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
weblogs_1       |  * Restarting with stat
weblogs_1       |  * Debugger is active!
weblogs_1       |  * Debugger PIN: 246-912-536
```

```
gearoid@gearoid-VirtualBox:~/Desktop/RedditDataApp/app$ sudo docker-compose up --build
[sudo] password for gearoid:
Building redditserver
Sending build context to Docker daemon  41.06MB

Step 1/6 : FROM python:3-stretch
 ---> b9d77e48a75c
Step 2/6 : WORKDIR /app
 ---> Using cache
 ---> 21d0793f32ee
Step 3/6 : COPY . /app
 ---> Using cache
 ---> 4dc99857e298
Step 4/6 : RUN pip install --trusted-host pypi.python.org -r requirements.txt
 ---> Using cache
 ---> 26bc264e721b
Step 5/6 : EXPOSE 50051
 ---> Using cache
 ---> 2366e143d88d
Step 6/6 : CMD ["python", "server/reddit_server.py"]
 ---> Using cache
 ---> 2a0eeb45188f
Successfully built 2a0eeb45188f
Successfully tagged app_redditserver:latest
Building redditclient
Sending build context to Docker daemon  41.06MB
```