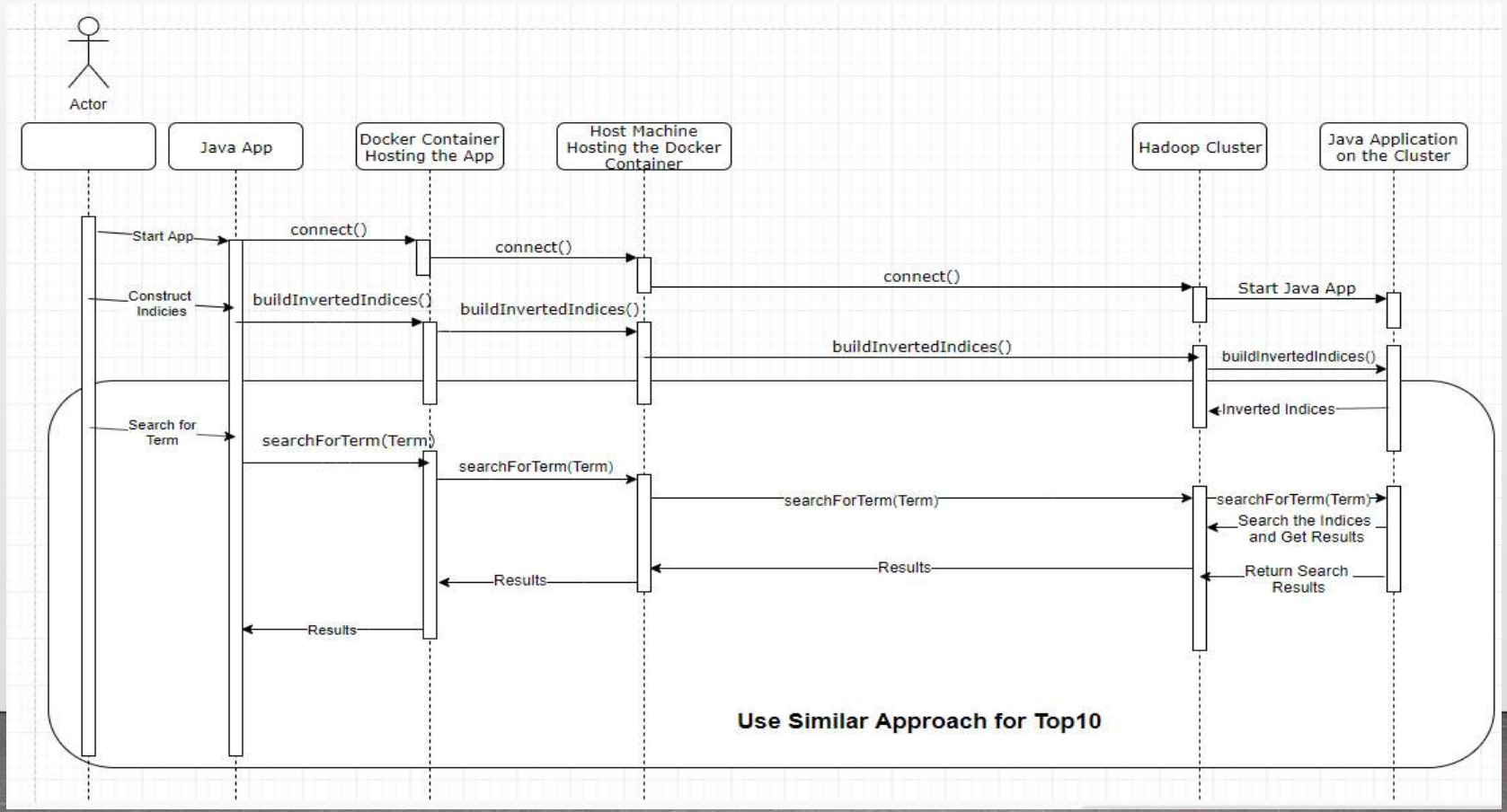
Cloud Computing

Course Project

Project Requirements

- You are required to develop two Java Applications.
  - First application communicates with the User (accepts user input and displays the output). This application is deployed on Docker container.
  - Second application processes User requests (such as constructing Inverting indices and processing user search requests). This application is deployed on the GCP Cluster.
    - The implementation of secondary sort algorithm on the cluster is 5 extra-points.
    - Counters, logging and profiling are optional. Students who implement them will get 5 extra-points.
    - Top-N algorithm is extra-credit choice. Students who implement this algorithm will gain 5-extra-points.
    - Students who deliver **ALL three requirements above are exempted from final exam**.
- Use the Mockup as guide for understanding the project requirements.
- Next page has Proposed Sequence diagram.
  - You don't need to follow the sequence. It's clarification for the communication theme required for the project.
- Graphical User Interface is required for this project.
- Use the data files uploaded in the assignment section.
  - For simplicity, you can limit your application to the data files provided in the attachment section.

Proposed Pseudo-Sequence Diagram



Project Grading Criteria

Item	Points
First Java Application Implementation and Execution on Docker	7 Points
Docker to Local (or GCP) Cluster Communication	3 Points
Inverted Indexing MapReduce Implementation and Execution on the Cluster (GCP)	10 Points
Term and Top-N Search	+5 Points
Implementation of Custom Functionality (e.g. counters, logging, ..etc.)	+5 Points
Implementation of Secondary Sorting Algorithm with Inverted Indexing	+5 Points
Total	30 Points

Project Delivery

- Project Submission Deadline: April 12th, 2020
- Project Submission Details:
  - Your submission is URL for your Github repository.
  - Your repository should contain screen video recording for the starting and execution of the application including a code walkthrough. Please use FilmoraScrn for recording and make sure to deliver acceptable video formats (mp4, avi,..etc). https://filmora.wondershare.com/
- Refer to this video for more details: https://www.youtube.com/watch?v=yjlyvvCOaMc
- 3. Your Github repository should contain all the source files you used to implement your project and ReadMe file