HW3: Execution Architecture with CPE and Deployment Architecture with UIMA-AS

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1 INTRODUCTION

The purpose of this homework was to execute the pipeline developed on homework 2 with a CPE, and also deploy it as a service using UIMA-AS.

2 CPE

The CPE consists of three main stages:

- Collection reader
- Analysis engine
- Cas Consumer

2.1 COLLECTION READER

Dependening where the input files are located, the collection reader needs to establish a connection with the source files and then stream them to the CPE. Since our files are text files with q/a, we only need to read the filesystem and get the text files.

For this, one of uima's core components was used, called *FileSystemCollectionReader*, located in uima tools/components folder.

A descriptor for this component was created, which has the following configuration parameters:

- InputDirectory: the folder where the source q/a text files are located, by default this parameter takes the computer's location of the homework and the folder *inputData*.
- Analysis engine: the already developed aggregated analysis engine. For this homework the file is located in the resources folder with the name *hw3-146368-aae.xml*.
- Cas Consumer: the "printer" for the evaluations of the answers. For this, a code was developed in the java sources called *CasConsumerPrint.java*. Basically it does the same process as the Evaluator, but instead generates a file in the outputFolder (by default is referenced to the folder of the computer where the homework was done) called *print.txt*

After defining the stages, the UIMA CPE GUI was used to generate the CPE's descriptor file, which is located on the resources folder with the name *hw3-146368-CPE.xml*.

3 Deployment

The project was not finished with the deployment on AS part, but was started. Nevertheless it will be updated on the github when that part is finished, only the deployment descriptor was created, and the asynchronous part of the annotators with the brokers was started.

Also, the broker was started in the local computer without problems.

Its bemoaining that the homework couldn't be finished on time, but still will be developed for learning purposes.

4 References

- Lane, Dale. Using UIMA-AS to run UIMA annotators in parallel, http://dalelane.co.uk/blog/?tag=uima-as
- UIMA Collection Processing Engine DeveloperâĂŹs Guide, http://uima.apache.org/d/uimaj-2.4.0/tutorials_and_users_guides.html#ugr.tug.cpe
- UIMA CPE GUI Manual, http://uima.apache. org/d/uimaj-2.4.0/tools.html#ugr.tools.cpe)
- UIMA AS Manual: Getting Started: Apache UIMA Asynchronous Scaleout, http://uima.apache.org/doc-uimaas-what.html