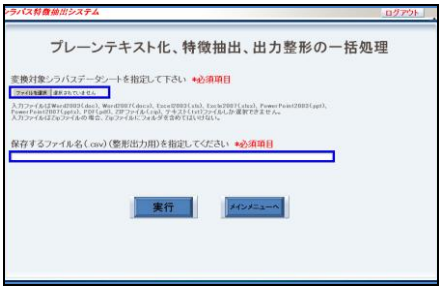

Fig. 6: Operation window for plain text conversion mode of SFE (in Japanese)

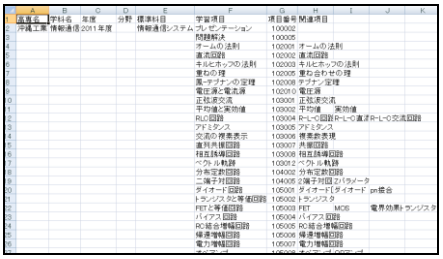

Fig. 7: An example of the output file (in Japanese)

3.2. Implementation

Since SFE service has to be used by all of the members in registered NCTs at any time, SFE has been implemented on a cloud server as server side programs that can be used via internet. Now, it is implemented on Amazon Elastic Compute Cloud (Amazon EC2) [4].

- CPU: Intel Xeon (2.67GHz)
- Memory: 4GB (PC3-10600)
- HDD: 250GB SATA (RAID-5)
- OS: CentOS 5.6 (32bit)

Modules: Java1.6.0, Apache2.2.19, Tomcat6.0.29(security-patched), MySQL5.1.57

4. Conclusion

In this paper, functions and implementation of the syllabus feature extraction system (SFE) are reported. SFE has been implemented on a cloud server as server side programs that can be used by registered NCTs via internet. By using these modules, each skill which should be learned and mastered by each student can be extracted automatically from each subject's syllabus data which is introduced for the learning plan summary of lectures and/or engineering experiments. Then, extracted skills are categorized and mapped into a 'skill sheet'.

Based on a "skill sheet" that we have defined as an embedded technology skill standard based on syllabus data for about 500 subjects gathering from 10 NCTs, the skill levels of all students can be extracted and visualized. In addition to the above, by comparing skill levels of students, curriculum characteristics can also be extracted and it is used not only for its improvement but faculty development of teaching staffs.

Now, we are trying to extend a "skill sheet" to the one which can be used for handling and managing skills for engineering experiments. Furthermore, to define the core curriculum that describes common minimum standard about learning contents, and the standard that should be acquired by students.

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