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Final Report: Quick Doc Filler

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Quick Doc Filler (QDF)

I. Introduction

Quick Doc Filler belongs to the domain-specific languages (DSL), specialized in simplifying the office documents generation, eliminating tedious information handling. This concept arises due to the non efficient processes that need to be performed in most office environments which results in unnecessary time consumption. This platform enables the users to transform commonly performed time consuming tasks into highly productive procedures.

II. Scope

- Included
    - Enables users to add and delete employees to and from the database.
    - Facilitates generation of following documents:
        - Employment Certification
        - Contract
        - Dismissal Letter
        - Written Warning
        - Training Certification
        - Employee Evaluation Form
    - Allows user to print, and email generated documents.

    - Enables the users to print a generated document.
    - Save generated files

- Not Included
    - Capacity to have multiple databases.

III. Example of a Program

The user is able to add employees to an already existing database. He can also generate, print, and email documents with an employee's information as long as this employee is on the database. An example of how this program can be used is as follows:

```
add Ename Eid Esal Epostype Edate Esuper
generate eCert Eid DocName
print DocName
email EmailAddress
delete Eid
exit
```

The `add` command interacts with the database adding a new employee to the list, `Ename` is the employee name, `Eid` specify the employee identification number, `Esal` indicates the employee salary per hour, `Epostype` points out the employee position type that can be regular, temporary, or

intern/coop, Edate is the employee start date, and Esuper refers to the employee supervisor name.

The action command generate specifies the action of creating a document, the definer eCert indicates the document type. EmployeeID will refer to the identification number of the worker in the database where the company member's information is located, and the DocName field refers to the name of the output file.

The print command, as the name states, prints the currently generated document. DocName specifies the name of the file to be printed.

The email command sends the document in an email to the recipient EmailAddress.

The command delete, removes an employee and its information from the database.

The exit command closes the program.

IV. Implementation Requirements and tools

The development and implementation of QDF programming language is based in the concurrent programming type using python. Some of the

resources used are PyCharm IDE, which is an intelligent python editor, and PLY, which is a pure-Python implementation of popular compiler construction tools lex and yacc. Those tools are in charge of tokenizing the input strings and parsing the language syntax respectively. Since our applications interacts with several types of documents, the following python packages were required: openpyxl 2.3.3 (Handling Excel spreadsheet) and python-docx 0.8.5 (Managing MS Word files).

V. Conclusion

While developing the software there were many things to be learned. No one was familiar with Python which we had to learn first. Then deciding which packages were needed for our application and how they worked. The lexer and parser part of the application was a little troublesome at the start but once we figured how it worked the rest was easy.

At the end, we are satisfied that we could complete the application with all the goals that were set from the start. We learned a new programming language in the process and the application has a lot of room for improvement. This improvements can be connecting to a server database with more information, creating new document templates, a user interface, and many others.