HACETTEPE UNIVERSITY

DEPARTMENT of ENGINEERING

COMPUTER SCIENCES ENGINEERING

INTERNSHIP REPORT

STUDENT

NAME : ALİ UTKU

SURNAME : ÜNLÜ

GRADE : 4th Grade

ID : 21228817

INTERNSHIP SUBJECT : SOFTWARE

START and END DATE : 03/072017 – 11/08/2017

TIME :6 week / 6*5 work day

INTERNSHIP PLACE

NAME : KUASOFT INFORMATION TECHNOLOGIES Inc.

ADDRESS : METU TECHNOPOLICE IKIZLER BUILDING B BLOCK

CANKAYA/ANKARA

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1,INTRODUCTION

In the summer of 2017 I took the internship required by Hacettepe University, Engineering Department, Computer Science Engineering Department for 30 working days at Kuasoft Informatics Technologies Incorporated in METU Technopolice.

I chose this company because I do expect to learn new programs with the support of the engineers and learn new programs about the sector that has high quality, teamwork, new technologies and innovative products in the field of software. Furthermore, the presence of this company in a university technology, the opportunity to observe the internal structure and the dynamics of the technologies we regard as technology centers, is the impression of former interns in this institution.

My internship was a software internship. As a result of interviews we made with my responsible engineer, in the first week under the heading "How to make a project from scratch"

We have specified the Software Requirement Specification

I did preliminary work on the project to be done in C # program language.

Within the next four weeks, we decided to do a Windows Desktop Application as we specified and completed the software in 4 weeks.

In the last week, the final tests were carried out and the project was successfully completed.

2. CORPORATION PROMOTION

2.1 About The Corporation

The name of the institution where I interned: Kuasoft Infotmation Tech. Inc.

Address: METU Technopolice Ikızler Building First floor

Cankaya/ANKARA

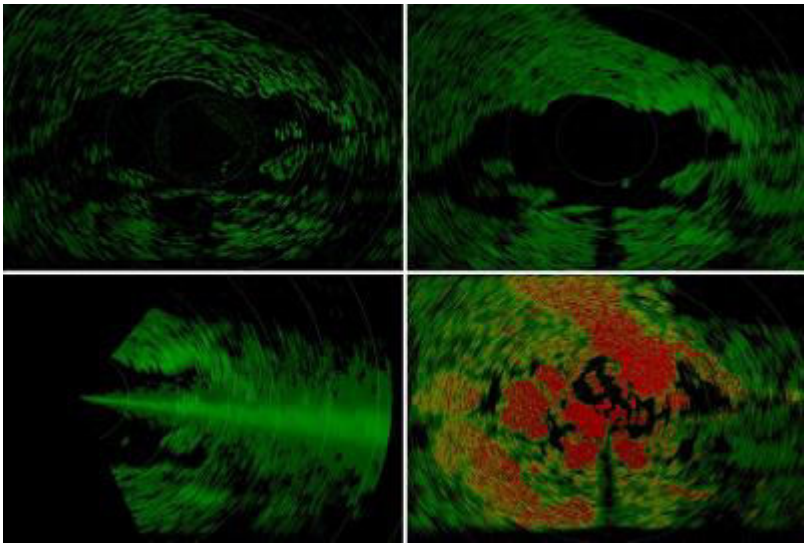
Phone: +90 (312) 210 10 96

KUASOFT Information Technologies Inc. is a R&D software company which focuses on Simulation Technologies, Embedded Systems Design, Custom Software Development Services and Software/Hardware Testing Services. It develops solutions by means of a disciplined and systematic approach with predefined and applied standards and quality system. Company has a total of more than 30 years of experience in the technical and functional areas in Turkish Defence Industry and that makes it proudly offer you the latest technology solutions for your requirements with great quality and satisfaction.

2.2 Corporation Works

Sımulations Technologies

Realism ensures training that fully prepares your personnel for radar operations as well as management and interpretation of radar data and scenarios they will experience on real systems. When your trainees can go smoothly from training mode to handling the tasks and challenges of their real-world roles, you'll know you've done training right. KUASOFT radar simulation solutions gives you everything you need for your most effective training for radar operators.



KUARADSIM

As a configurable and realistic simulation system, KUARadSim is easily modified to meet specific requirements of radar training professionals.

The entire system is based on a relational database containing the targets, jammers, chaffs and environmental data (geographical conditions, weather conditions, sea state, etc.) that comprise each training scenario. Graphical, simple-to use interfaces allow instructors to modify or create new data in any of these categories, making almost any scenario not only possible, but easy to create.

Embedded Systems

Embedded System means, software with a specific task running on some hardware. Today's embedded systems development ranges from microprocessor-based control systems, to System-on-Chip (SoC) design, and device software development. Many implementations can be found in almost all consumer electronics, medical devices, and energy, automotive and military applications.

Hardware Testing

Hardware Testing Services for your Hardware Design Prototype Validation or Serial Production Units using Customer specific Automatic Testing Equipment and/or Manual Testing Procedures in parallel with your Testing Process.

If you are developing a new hardware product, KUASOFT can exercise your product's functionality throughout the entire development cycle of development. They offer you our expertise in developing comprehensive test plans and detailed test methodologies based on industry's latest standards or they can apply your test process to report you if product can match the functional or performance requirements.

Software Testing

They provide an independent software verification and validation service beginning from requirements analysis phase to the end of acceptance tests of the project. We integrate ourselves to your development team as a test team. They guarantee an effective testing phase with our proven twelve years of know-how on tests in software industry.

Custom Software Development

When Commercial off-the-shelf (COTS) software packages no longer meet the increasingly complex industry requirements and IT needs of your growing business, it’s time to call the custom software development innovators at KUASOFT. Our experienced engineers will ignite their imaginations and draw on their problem-solving creativity to deliver custom software development initiatives that power and support sustainable business solutions.

As a trusted custom software development firm, KUASOFT applies its vast industry knowledge and domain expertise to build landmark enterprise and quality applications for leading companies in the Aerospace & Defense industries.

KUASOFT carries out project development services in accordance with well-known life cycle models. Project development activities, starting with identification of customer needs and continue with updates in line with the changing needs and ends with the maintenance period

3. INTERNSHIP PROCESS

I worked on a Configuration File Adjustment Software, which is configure a file with extension ".ini"

What is an INI file?

The INI file format is an informal standard for configuration files for some platforms or software. INI files are simple text files with a basic structure composed of sections, subsections, and values.

```
[TestBilgileri]
TEUStokNo = 1290-0000-0004K
OpsiyonelStokNo = 1290-9111-0022
Tanim = GOREVSAYAR 412-Y
TEU_UDK = A
TEU1SeriNo = 1
TEU2SeriNo = 2
TEU3SeriNo = 3
TEU4SeriNo = 4
TestTipi = Sicaklik Cevrimi Testi 1. Cevrim Düsük Sicaklikta Elekt. Test
OperatorAdi = ASELSAN
261Revizyon = AA
IsTipiNo = 37PL91110100
```

Figure 1. Test.ini file

According to this example my section is “TestBilgileri” which is between these ‘[ ]’. Subsections are the left hand sides the equals mark and values are the right hand sides.

Section -> TestBilgileri

Sub Section -> Tanim

Value -> GOREVSAYAR 412-Y

We wanted that my program would be a Windows Desktop Application.

In this application my responsible engineer wanted me to:

- **Open File** button which opens the file and initialize the program.
- **Get Sections** button which displays the all sections in a list box.
- **Get Sub Sections** button with given section name which displays the sub sections corresponding to section name
- **Get Sub Section Value** button with given section name and sub section name, which displays the value corresponding to section name and sub section name.
- **Set Sub Section Value** button with given section name and sub section name, which updates the value corresponding to section name and sub section name.
- **Exit** button for ending the program.

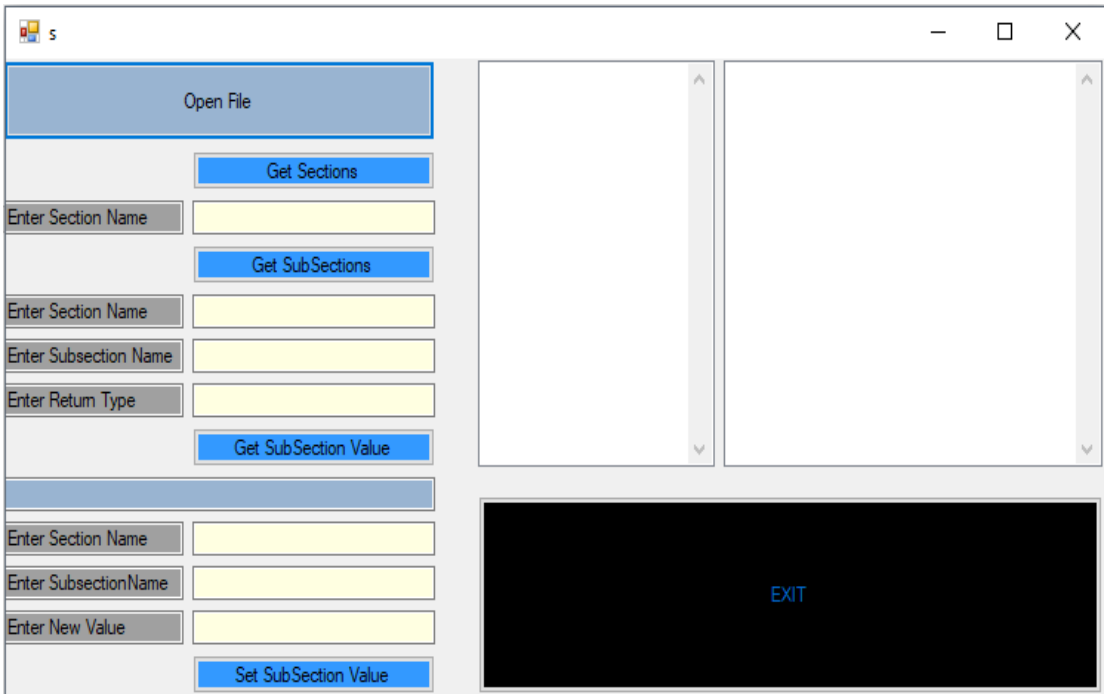


Figure 2. Application Interface

Open File Button:

When users press this button she/he will see ;

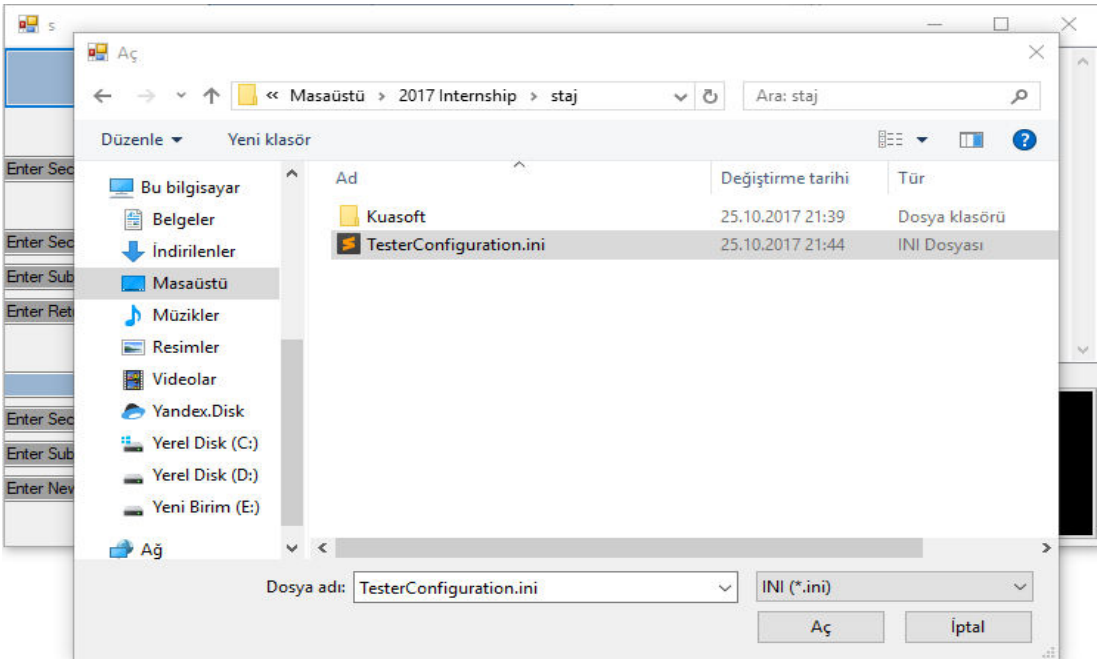


Figure 3. Open File button

When user pick the file with .ini extension my program initialized. I thought every section as an object. My program has a list of all the sections which name is “sections”. And every section has their own dictionary which name is “subsections”. With the dictionary structure I kept the subsections as a **key** and subsection’s value as a **value**.

In this code fragment I categorized them;

```
string[] tokens = line.Split('=');
char c = tokens[0].FirstOrDefault();
if (c == '[')
{
    sections.Add(new Sections());
    sections[secCounter].name = tokens[0].Substring(1, tokens[0].Length - 2);
    secCounter++;
}
else
{
    sections[secCounter - 1].subsections.Add(tokens[0].Trim(), tokens[1].Trim());
}
```

Figure 4. Creating lists and dictionaries.

So my program is ready to start.

Get Sections Button:

When user press this button she/he will see all of the sections in list box

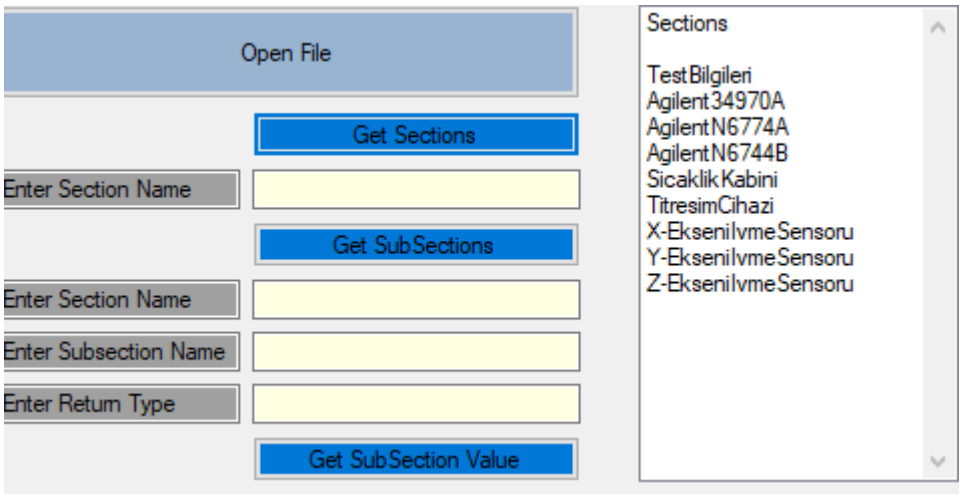


Figure 5. Get Sections Button

Get Sub Sections Button:

When user write the section name and press the button she/he will see all of the sub sections in list box which belongs to given section.

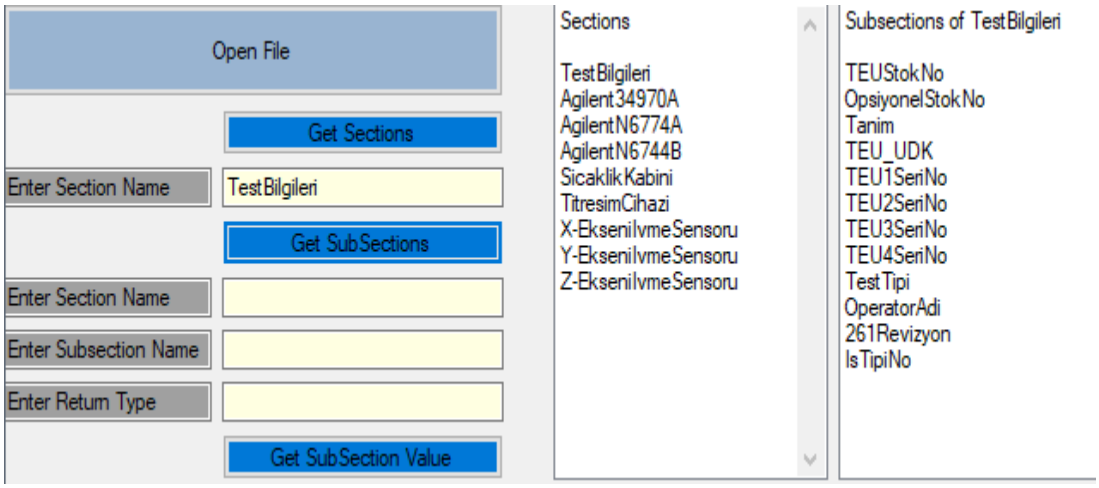


Figure 6. Get Sub Sections Button

Get Sub Section Value Button:

When user enter a section name and one of the section's subsection name and she/he must specify the return type of desired value. There are four type of return value which are "integer", "string", "double" and "Boolean".

For integer user write "i", for string "s", for double "d" and for Boolean "b"

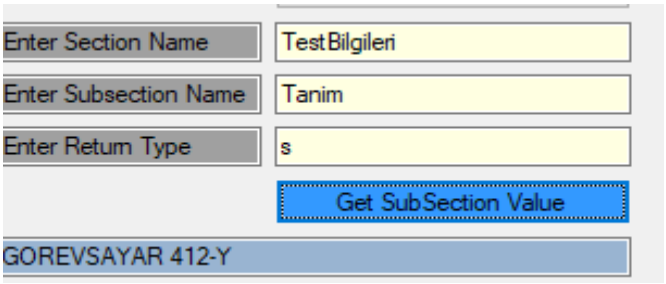


Figure 7. Get Sub Section's Value Button

Set Sub Section Value Button

When user wants to change the specific value in the file she/he will use that button with writing section name , section's subsection name and new value which is stored as strings.

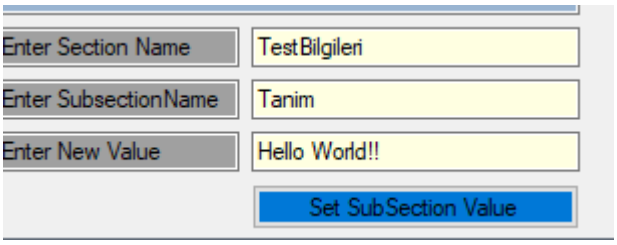


Figure 8. Set Sub Section's Value Button

Then when user press the get sub section value with requirements she/he will see the new value.

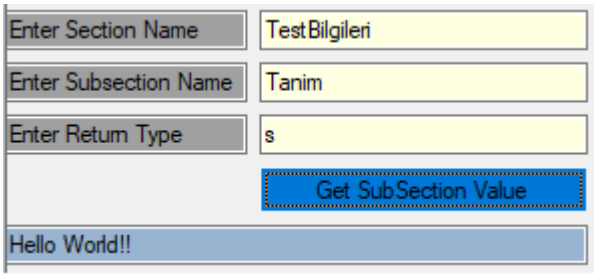


Figure 9. Observing the changing value

Exceptions:

My program also has exceptions such as:

If user didn't click the open file button and wants to do something on program. She/he get an error message like this.

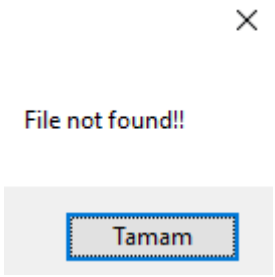


Figure 10. No file exception

When user write wrong section name ,which is not in the sections list, to get sub sections list. She/he get an error message like this.

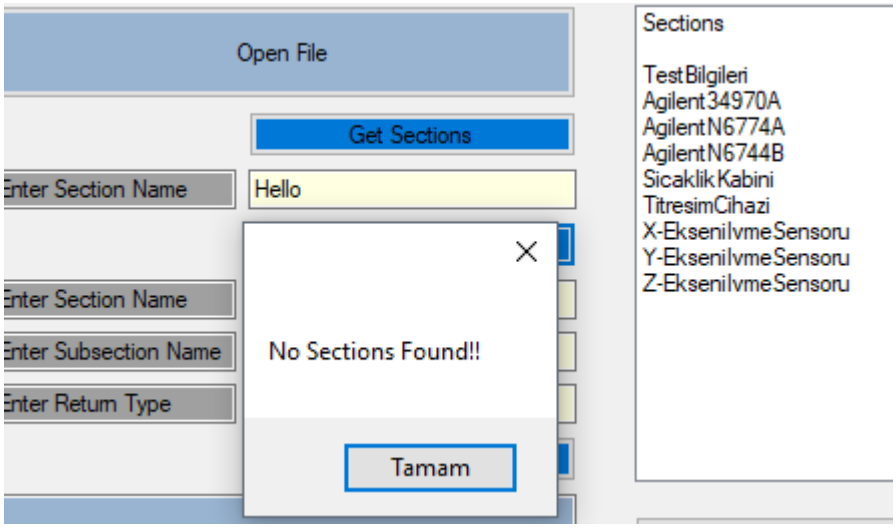


Figure 11. Wrong section name exception

To get a sub section's value and set subsection's value, when user write wrong section name she/he get the same exception. (Figure11) when user write wrong sub section name, which is not in the given section's subsections list, she/he get an error like this.

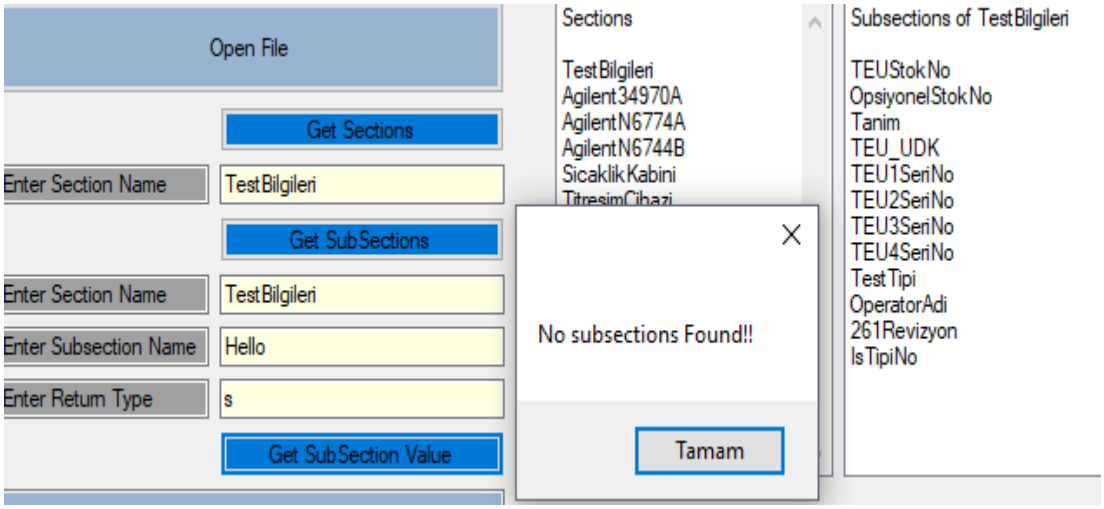


Figure 12. Wrong sub section name exception

To get a sub section's value and set subsection's value, when user write wrong return type she/he get an error like this.

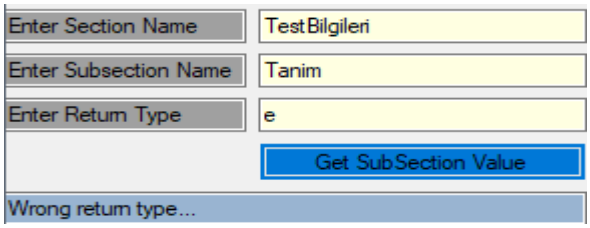


Figure 13. Wrong return type exception

Or the value can't convert to given return type also get an error message like this.

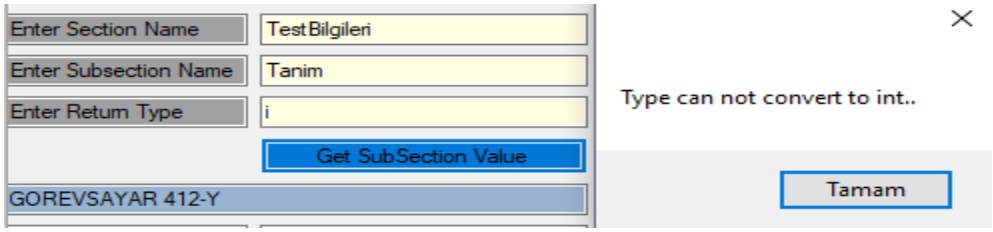


Figure 14. Cast exception

4. CORALLARY

My second internship in the summer of 2017 provided my technical training, as well as the internal dynamics of a company, making a detailed observation of the scheme, and gaining insight into the probable situations I might face when I started working. The social environment I wanted to be in an office surely provided me with no time to focus on my internship and to have a pleasant time. The warm relationships and tolerance that employees have established with each other reflected on the intern students and we worked very efficiently as a team.

As a result, this internship, which gives me a lot of knowledge and experience in business life, will be at the forefront of my experience in shaping my future

5.RESOURCES

http://www.kuasoft.com/

https://en.wikipedia.org/wiki/INI_file

http://www.google.com.tr/