

Department of Computer Engineering CSE4061 System Analysis and HCI Design Project Report

# IŞIĞI GÖR KARANLIĞI AYDINLAT

Due Date: 04.05.2015

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Teaching Asst.: Engineer Öznur ŞENGEL

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### Overview

|    |        | oject helps the children who stay the society for the protection of children with the help of students lying in universities. |    |
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### 1. PROJECT DESCRIPTION

#### Overview

This project helps the children who stay the society for the protection of children with the help of students that are studying in universities.

#### **Intended Results**

- helping the children in their education life
- supplying the children about their social life
- at the same time supplying the students about their social life
- doing an event for the children for their possible time

### 1. Scope of the Project

The system includes 4 main parts. The first one is Voluntary Students. The second one is about Chosen Voluntary Students, third is Children and the last one is Jury.

- Voluntary Students register the website and are examined related with the course that they want to give a lesson for children. If they pass the examination, they are now, called "Chosen Voluntary Student". If they are not, they should examine without without registration again.
- The Chosen Voluntary Students are ready for the giving a lesson for the children. According to course they want to teach, time, course and location are shown to them on the website.
- Time, location, the event times and also chosen voluntary students are shown to children on the website. Children can register the website and see all of them.
- Jury set the time, location, event, the exam question and result. S/he knows who is the chosen voluntary students or not. S/he is also has the opportunity to know all about the system.

## 2. Interview Question

| Do you use any system right now? (Open-Ended Interview Question)   |
|--|
| What are the elements for this system? (Open-Ended Interview Question)   |
| How many person do you need for this system? (Closed Interview Question)   |
| Do you have any hardware for this system? (Closed Interview Question)  |
| Which one is that you need to use on your system? (Closed Interview Question)  |
| A-) Web Site System B-) Smart Phone Application System C-) Desktop System D-) Non of them  |
| Do you want any person from our company for this system? (Bipolar Interview Question)  |
| Why do you need this system? (Probe)   |
| What do you need another thing on your system? (Open-Ended Interview Question)   |
| Do they need any education for this system? (Bipolar Interview Question)   |
| Is there any person that secures these information? If you don't have, do you need any staff? (Closed Interview Question)                    |
| If you want this system, do you also think of eliminating the activities according to the age of those children? (Closed Interview Question) |

## 3. FEASIBILITY STUDY

### 3.1. Technical Feasibility

- There is no current such a system.
- We should develop this system.
- We need to open a website for this.
- System is technically acceptable.

### 3.2. Economical Feasibility

• Estimation completed time: 4 months.

• Opening such a system: 60.000 TL

• Cost of system study: 12.000 TL

• Cost of designer: 6.000 TL

• Cost of developer: 8.000 TL

• Cost of tester: 2.500 TL

• Cost of Project Manager: 5.000 TL

- System is economically acceptable.

## 3.3. Organizational Feasibility

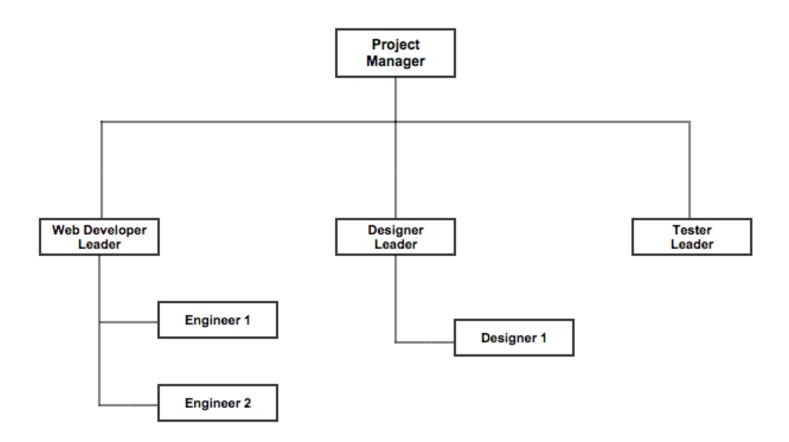
- Our team is consist of 6 people.
- Project Manager, 3xWeb Developer, 2xDesigner and Test Developer.
- System is operationally acceptable.

## 4. REQUIREMENT ANALYSIS

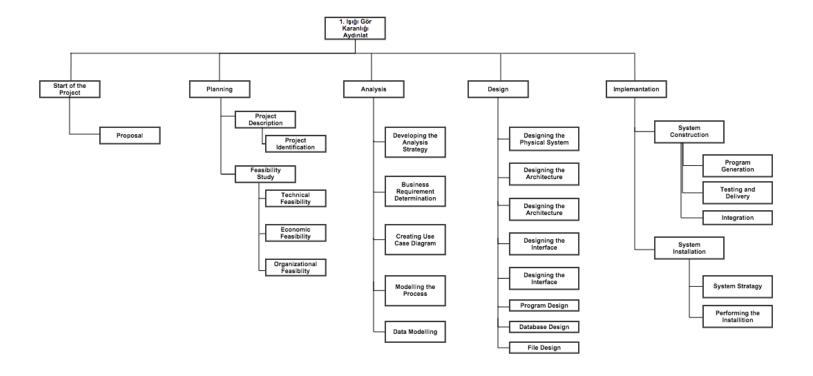
- Project Manager
- 3xWeb Developer
- 2xDesigner
- Test Developer

## 5. PROJECT MANAGEMENT

## **5.1.** Project Organizational Schema:



## 5.2. Work Breakdown Structure (WBS)

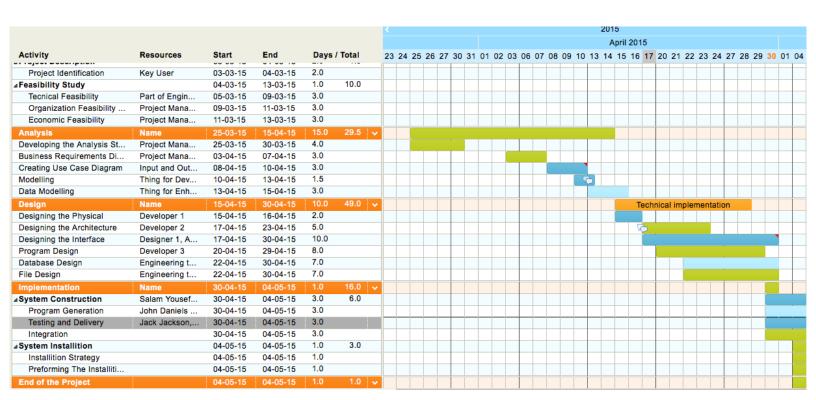


## **5.3.** Resources

| Level<br>1           | Project Stage   | Researchers  |
|----------------------|---|--|
| Start of the Project |   |  |
| 1.1                  | Proposal  | Project Manager<br>(M.Ali Tosuner - Mert Kaplan)   |
| 2<br>2.1             | Planning<br>Project Description                               | Key User   |
| 2.2<br>2.1.2         | Project Description<br>Feasibility Study                      | Key User, Project Manager<br>Project Manager       |
| 2.1.2.1<br>2.1.2.2   | Technical Feasibility<br>Economic Feasibility                 | Engineer 1,Engineer 2<br>Project Manager           |
| 2.1.2.3              | Organizational Feasibility                                    | Engineer 1 , Project                               |
| 3<br>3.1             | Analysis<br>Developing the Analysis<br>Stratagy               | Project Manager,<br>Engineer 2                     |
| 3.2<br>3.3           | Business Requirement Determination                            | Project Manager                                    |
| 3.4<br>3.5           | Creating U.Case Diagrams  Modeling the Process Data Modelling | Engineer 1,Engineer 2 Engineer 1                   |
| 4<br>4.1             | Design<br>Designing the Physical                              | Engineer 1, Engineer 2                             |
| 4.2<br>4.3           | Designing the Architecture<br>Designing the Interface         | Engineer 1<br>Designer 1                           |
| 4.4<br>4.5<br>4.6    | Program Design4<br>Database Design<br>File Design             | Engineer 2<br>Engineer 1, Engineer 2<br>Engineer 1 |
| 5<br>5.1             | Implementation<br>System Constructor                          | Engineer 1   |
| 5.1.1                | Program Generation  | Engineer 1   |
| 5.1.2<br>5.2         | Testing and Delivery<br>System Installation                   | Engineer 2<br>Engineer 1, Engineer 2               |
| 5.2.1<br>5.2.2       | Installation Stratagy<br>Performing the Installation          | Project Manager<br>Engineer 1                      |

### 5.4. Gant Chart

|                            |               |          |          |      |       |   | <u> </u> |        |      |      |      |      |       |      |      |      |    | 2015 |      |     |      |    |    |       |      |    |      |      |       |
|----------------------------|---------------|----------|----------|------|-------|---|----------|--------|------|------|------|------|-------|------|------|------|----|------|------|-----|------|----|----|-------|------|----|------|------|-------|
|                            |               |          |          |      |       |   | Febru    | Jary : | 2015 |      |      |      |       |      |      |      |    |      |      |     |      |    | Ma | rch 2 | 015  |    |      |      |       |
| Activity                   | Resources     | Start 0  | End      | Days | Total |   | 11 12 1  | 3 16   | 6 17 | 18 1 | 9 20 | 23 2 | 24 25 | 26 2 | 7 02 | 2 03 | 04 | 05 ( | 06 0 | 9 1 | 0 11 | 12 | 13 | 16 1  | 7 18 | 19 | 20 2 | 3 24 | 25 26 |
| Start of the Project       |               | 11-02-15 | 04-03-15 | 14.0 | 30.0  | v |          |        |      |      |      |      |       |      |      |      |    |      | Т    |     |      |    |    |       |      |    |      |      |       |
| Proposal                   |               | 11-02-15 | 04-03-15 | 16.0 | ·     |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Planning                   | Name          | 02-03-15 | 13-03-15 | 1.0  | 15.0  | v |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
|                            |               | 03-03-15 | 04-03-15 | 2.0  | 4.0   |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Project Identification     | Key User      | 03-03-15 | 04-03-15 | 2.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| ⊿Feasibility Study         |               | 04-03-15 | 13-03-15 | 1.0  | 10.0  |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Tecnical Feasibility       | Part of Engin | 05-03-15 | 09-03-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Organization Feasibility   | Project Mana  | 09-03-15 | 11-03-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Economic Feasibility       | Project Mana  | 11-03-15 | 13-03-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Analysis                   | Name          | 25-03-15 | 15-04-15 | 15.0 | 29.5  | ¥ |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Developing the Analysis St | Project Mana  | 25-03-15 | 30-03-15 | 4.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Business Requirements Di   | Project Mana  | 03-04-15 | 07-04-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Creating Use Case Diagram  | Input and Out | 08-04-15 | 10-04-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Modelling                  | Thing for Dev | 10-04-15 | 13-04-15 | 1.5  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Data Modelling             | Thing for Enh | 13-04-15 | 15-04-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Design                     | Name          | 15-04-15 | 30-04-15 | 10.0 | 49.0  | ¥ |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Designing the Physical     | Developer 1   | 15-04-15 | 16-04-15 | 2.0  | i     |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Designing the Architecture | Developer 2   | 17-04-15 | 23-04-15 | 5.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Designing the Interface    | Designer 1, A | 17-04-15 | 30-04-15 | 10.0 |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Program Design             | Developer 3   | 20-04-15 | 29-04-15 | 8.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Database Design            | Engineering t | 22-04-15 | 30-04-15 | 7.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| File Design                | Engineering t | 22-04-15 | 30-04-15 | 7.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| implementation             | Name          | 30-04-15 | 04-05-15 | 1.0  | 16.0  | v |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| ⊿System Construction       | Salam Yousef  | 30-04-15 | 04-05-15 | 3.0  | 6.0   |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Program Generation         | John Daniels  | 30-04-15 | 04-05-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Testing and Delivery       | Jack Jackson, | 30-04-15 | 04-05-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      |     |      |    |    |       |      |    |      |      |       |
| Integration                |               | 30-04-15 | 04-05-15 | 3.0  |       |   |          |        |      |      |      |      |       |      |      |      |    |      |      | Т   |      |    |    |       |      |    |      |      |       |



#### Proposal

Start:2/11/15 End: 4/3/15 Duration:14

#### Project Description

Start:3/3/15 End: 4/3/15 Duration:2

### 5.5.Pert Chart

#### Technical Feasibility

Start:3/5/15 End: 4/9/15 Duration:3

#### Economic

Start:3/11/15 End: 4/15/15 Duration:3

#### Organization Feasbility

Start:3/9/15 End: 4/11/15 Duration:3

#### Developing Analysis

Start:3/25/15 End: 3/30/15 Duration:4

#### Business Requirement

Start:4/3/15 End: 4/7/15 Duration:3

#### Creating Use Case Diagram

Start:4/8/15 End: 4/10/15 Duration:2

#### Modelling

Start:4/10/15 End: 4/13/15 Duration:2

### Data Modelling

Start:4/13/15 End: 4/15/15 Duration:2

#### Designing the

Start:4/15/15 End: 4/16/15 Duration:1

#### Designing the Architecture

Start:4/17/15 End: 4/23/15 Duration:5

#### Designing Interface

Start:4/8/15 End: 4/10/15 Duration:2

#### Program Design

Start:4/20/15 End: 4/29/15 Duration:8

#### Database Design

Start:4/22/15 End: 4/30/15 Duration:7

#### File Design

Start:4/22/15 End: 4/30/15 Duration:7

### Program Generation

Start:4/30/15 End: 5/4/15 Duration:3

#### Testing and Delivery

Start:4/30/15 End: 5/4/15 Duration:3

#### Integration

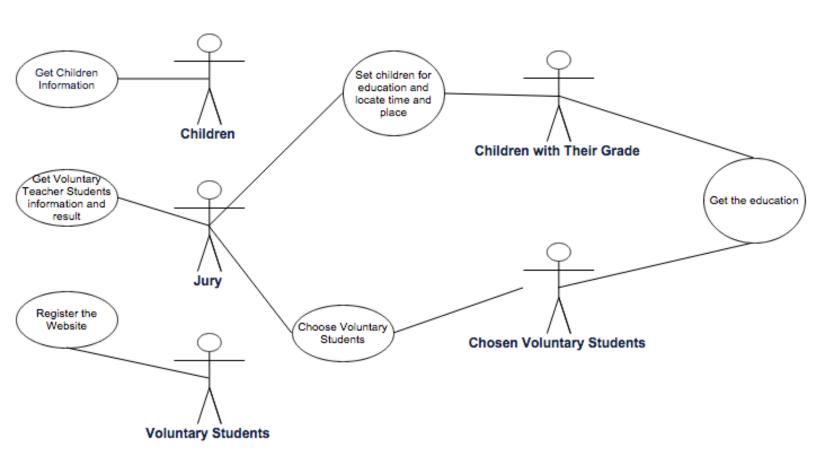
## Installition Strategy

Start:4/30/15 Signature Start:

#### Performing the Installition

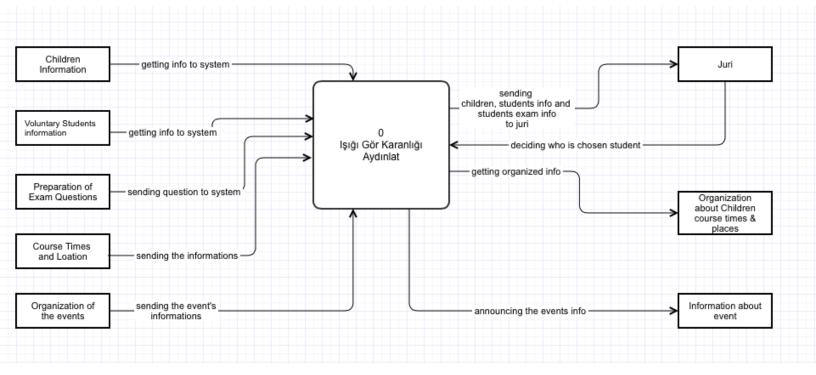
Start:4/30/15 End: 5/4/15 Duration:3

## 6. USE CASE DIAGRAM



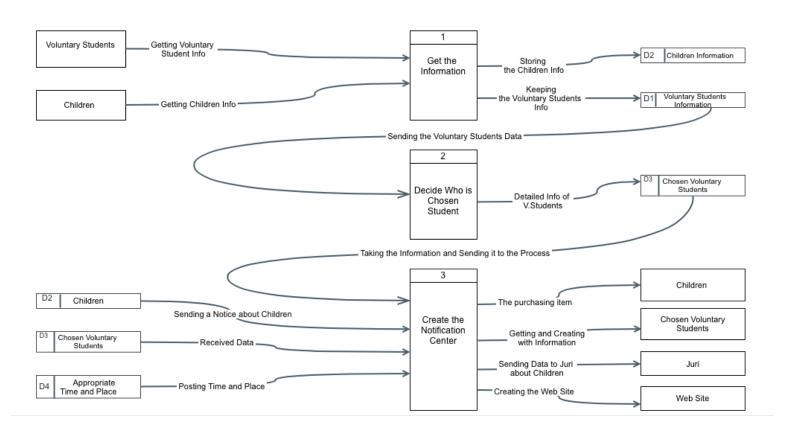
## 7. DATA FLOW DIAGRAM

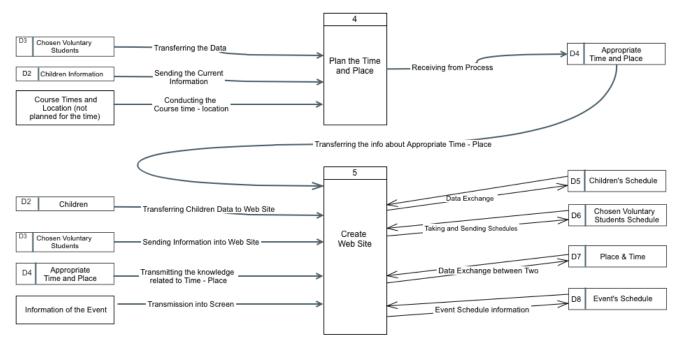
## 7.1. Context Diagram



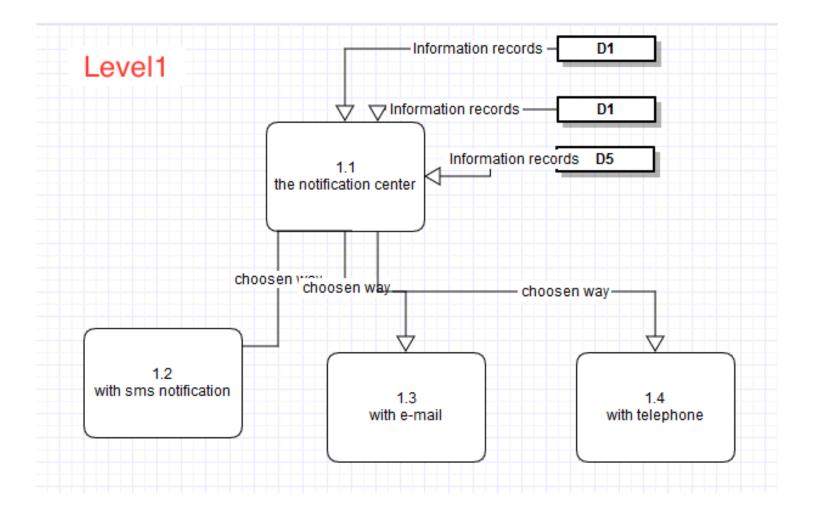
## 7.2. Level 0, Level 1, etc.

#### 7.2.1.Level 0





### 7.2.2.Level 1



## 7.3. Data Dictionary

## 7.3.1.Data Flow Specification Form

**Table 1: Data Flow 1 Specification Form** 

| Name        | Getting Voluntary Students Info   |
|-------------|---|
| Description | It sends the student information to the system of get information process                     |
| Location    | Process Name (ProcessNumber)  Source: Voluntary Student  Destination: Get the information (1) |

### **Table 2: Data Flow 2 Specification Form**

| Name        | Getting Children Info  |
|-------------|--|
| Description | It sends the childrens information to the system of get information process    |
| Location    | Process Name (ProcessNumber) Source: Children Destination: Get the information |

## 7.3.2.External Entity Specification Form

**Table 3: External Entity 1 Specification Form** 

| Name        | Voluntary Students  |
|-------------|---|
| Description | This is a part of the system that students register that system |
| Location    | Input Flows: -  |
|             | Output Flows: Getting Voluntary Students Info                   |

**Table 4: External Entity 1 Specification Form** 

| Name        | Children  |
|-------------|---|
| Description | This is another part of the system that children take the course and their information are registered |
| Location    | Input Flows: The Purchasing Item Output Flows: Geting Children Info                                   |

## 7.3.3.Data Store Specification Form

**Table 5: Data Store 1 Specification Form** 

| Number      | D1   |
|-------------|--|
| Name        | Voluntary Students   |
| Description | It stores the information about Voluntary Students   |
| Location    | Level Number Input Flows: Keeping the Voluntary Info Output Flows: Sending the Voluntary students data |
| Composition | Attribute: Student Name: Char<br>Student Surname: Char   |

**Table 6: Data Store 2 Specification Form** 

| Number      | D2  |
|-------------|---|
| Name        | Children Information  |
| Description | It stores the information about children  |
| Location    | Level Number Input Flows: Storing the Children Info Output Flows: Sending a Notice about Children |
| Composition | Attribute: Data type Children Name: Char Children Surname: Char                                   |

## 7.3.4. Process Specification Form (Structured English or Decision Table or Decision Tree)

## **Table 7: Process 1 Specification Form**

| Number<br>Name<br>Description    | . •••• | informatio<br>he informa |                  | External Entity to Data Store |
|----------------------------------|--------|--------------------------|------------------|-------------------------------|
| <b>Input Data</b><br>Getting Vol |        | dent Info 8              | ι Getting Childr | en Info                       |
| <b>Output Dat</b> Storing the    |        | nfo & Keep               | ing the Volunta  | ary Students Info             |
| Type of Pro                      |        | Batch                    | Manual           | Subprogram/Function Name      |

### **Process Logic:**

IF the information comes to system DO check information student or not.

THEN

IF the information about student,

DO check their user account is it already registered or not.

IF the student already has registered

DO check students information correct or not.

**ELSE** 

the system require new create account and store the database.

IF the information about the children,

DO check their user account is user account is it already registered or not.

IF the children already has registered

DO check students information correct or not.

**ELSE** 

the system require new create account and store the database.

**ENDIF** 

Refer to: Name:

Structured English Decision Table Decision Tree

Unresolved Issues: -

#### **Table 8: Process 2 Specification Form**

Number : 2

Name : Decide Who is Teacher

**Description**: It chooses the teacher who will give the course to the children

**Input Data Flow** 

Sending the Voluntary Students data

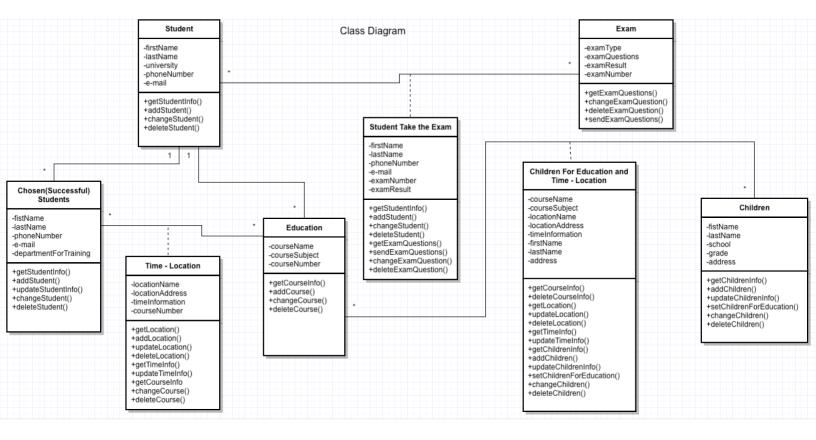
**Output Data Flow** 

**Detailed Info of Voluntary Students** 

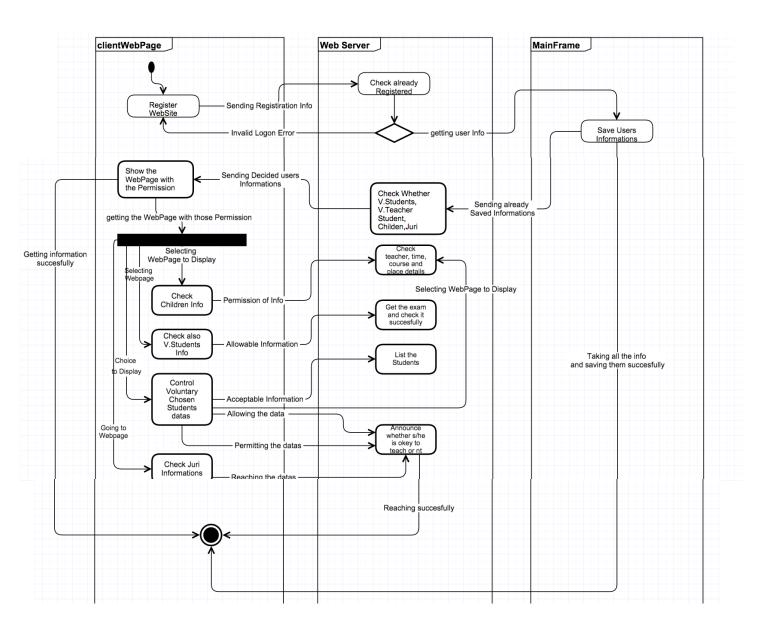
Type of Process
Online Batch Manual
Subprogram/Function Name

## **Process Logic:** IF The student successful DO Check the student already gave education check process and show their before details DO Send informations to data AND Give teacher degree to student THEN Give details to student-teacher. AND Store the data **ELSE** Notice the student cannot get student-teacher degree **ENDIF** Refer to: Name: **Structured English Decision Table Decision Tree** Unresolved Issues: -

## 8. CLASS DIAGRAM

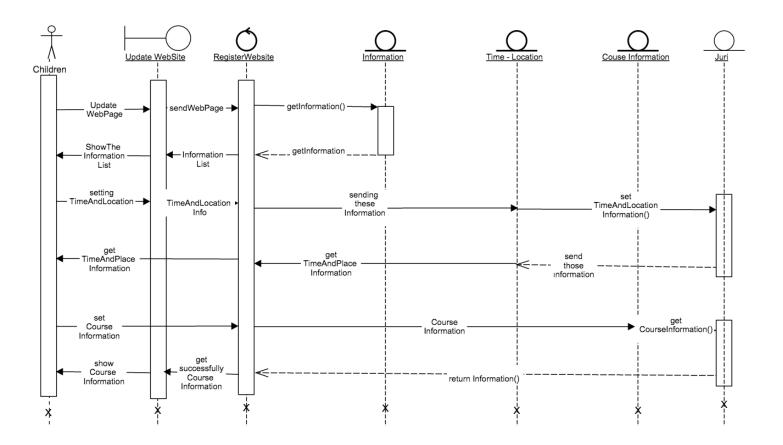


## 9. ACTIVITY DIAGRAM

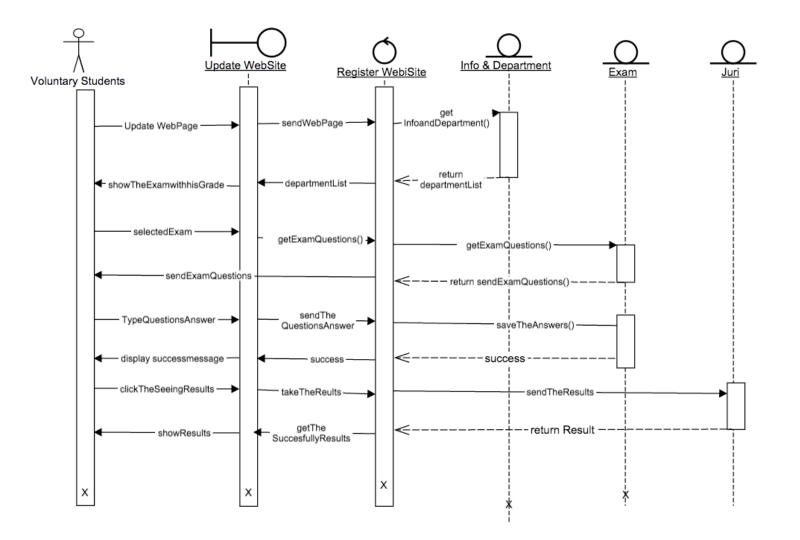


## **10.SEQUENCE DIAGRAM**

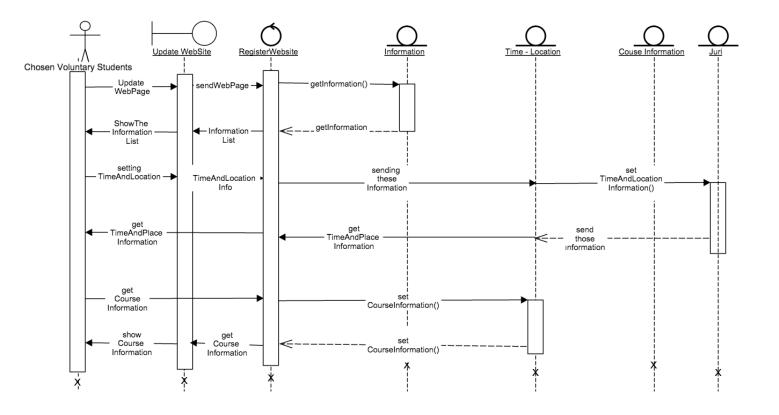
### **Sequence Diagram For Children:**



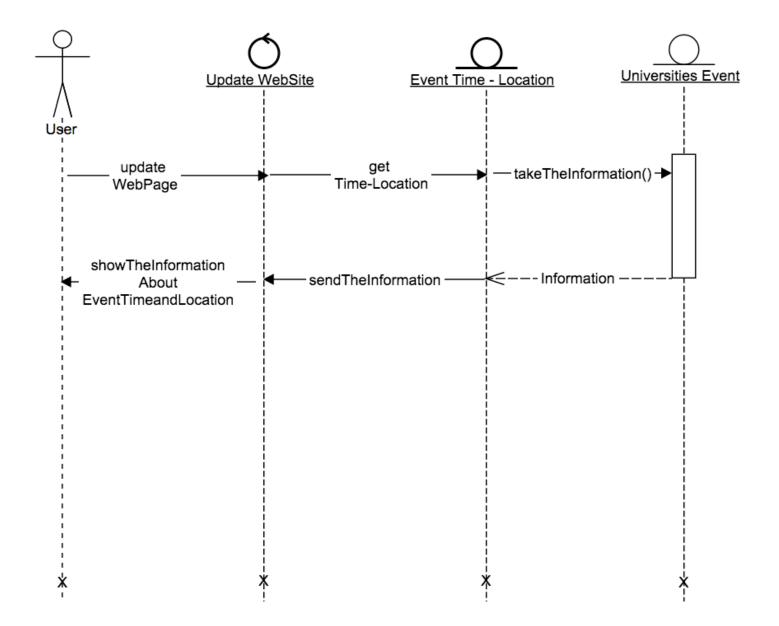
### **Sequence Diagram For Voluntary Students:**



### **Sequence Diagram For Chosen Voluntary Students:**



### **Sequence Diagram For Event:**



## 11. HUMAN COMPUTER INTERACTION

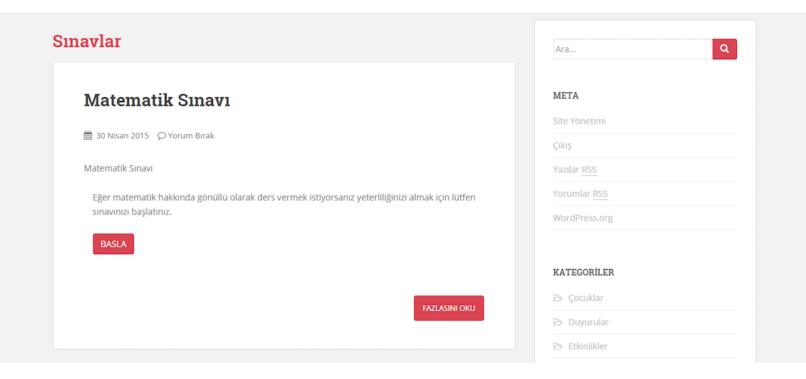
## 11.1. Non-Operational Prototype (User Interfaces)

#### Işığı Gör Karanlığı Aydınlat





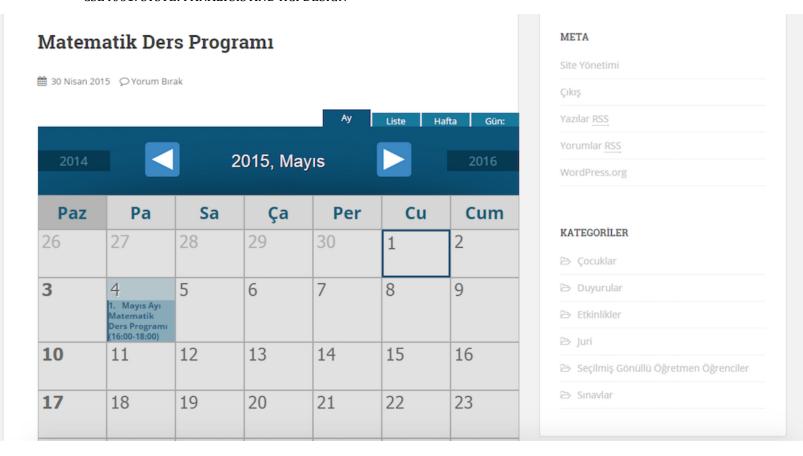
This screen is the home page of the web site



This screen is for the voluntary students. The stage of being examine of the students.

### Seçilmiş Gönüllü Öğretmen Öğrenciler Q Ara... Mayıs Ayı Öğretmenlerin Ders Programları META Çıkış Ogretmenlerin Detaylı Program Bilgileri Yazılar RSS Adı: Öznur Şengel Yorumlar RSS Ders: Matematik Yer: İstanbul Kültür Universitesi - Ataköy Kampüsü, 2-B-4 13:00 WordPress.org Tarih: 01.05.2015 Adı: Akhan Akbulut Ders: Sosyal Bilgiler KATEGORİLER Yer: İstanbul Kültür Universitesi - Ataköy Kampüsü, 2-B-3, 07:00 Tarih: 05.05.2015 Duyurular FAZLASINI OKU Juri

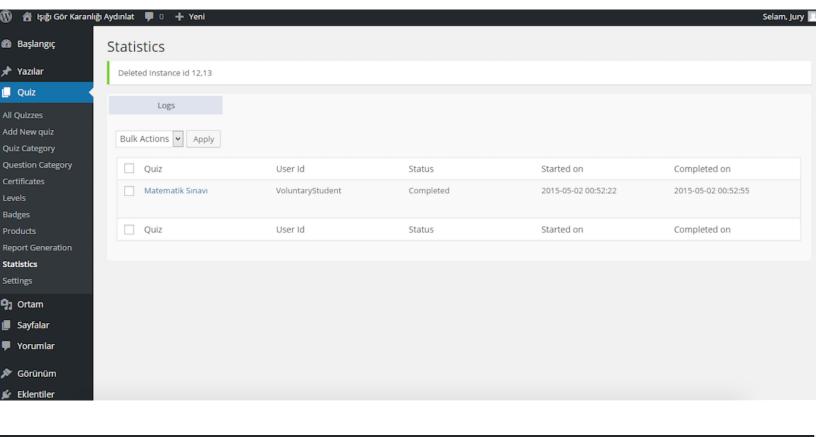
When Voluntary student passes the exam successfully, this display comes to his/her screen. It is related to course which is about where, by whom, and date.

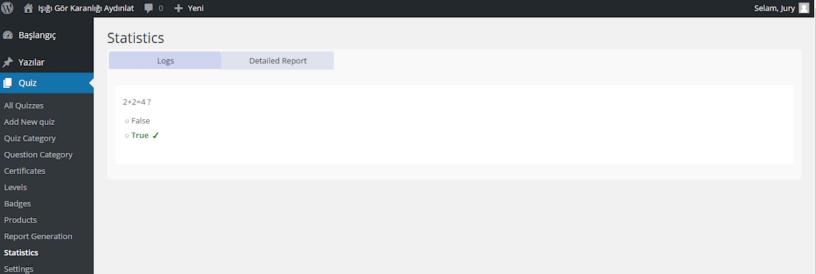


That page is about children.

Children can see the course time on the calendar while they enter the website.

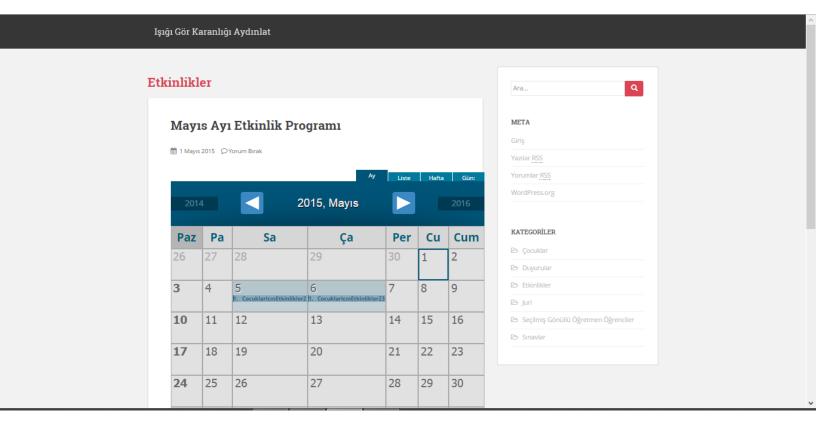
#### CSE4061: SYSTEM ANALYSIS AND HCI DESIGN

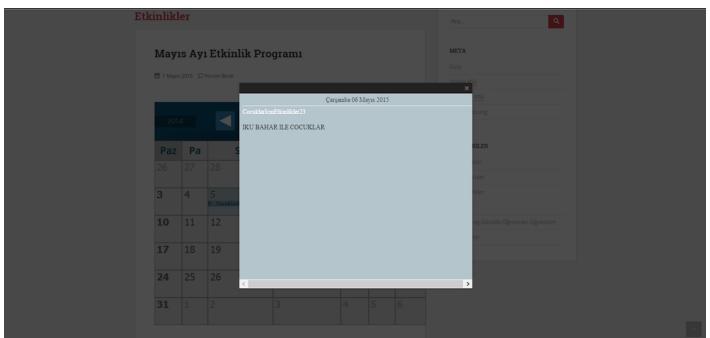




This is Juri Panel.

S/he can see the examination result and also person that had an examination.





This is event part of the web site.

When there is an event in a university, children can see the event on the website.