**Boyev Yaroslav 12 F (group I 1)**

**Definition, investigation and analysis**

**(1)**   **Definition – nature of the problem**

**Description of the organization:**

The owner of the organization is a child doctor, who is going to open a medical center, which will be situated in the new building on the right bank of Astana in Kazakhstan. The doctors are the best professionals in their field and they can use three languages to communicate with patients. The program will help the doctors to collect, store, analyze and represent the data on patients as well as make some prophylactically aimed advises.

**Methods currently in use:**

A computerized database contains the special table with the patients’ identification number, thus lowering the chance of the data to be faked. This data table is then linked with another one containing all the information about one’s current symptoms as well as basic data on health situation. The information is analyzed from the database and special graphs are presented then. What is more, the curing doctor will have the possibility to look for and modernize exact patient’s data.

**Origin of the data:**

The data comes from the clients. The doctors ask people to register and print in their personal information, which includes the full name, ID and symptoms’ grade.

The person’s identification is saved in a table that looks like this:

|  |  |  |
| --- | --- | --- |
| Unique # | Full name | ID number |
| 1 | Boyev Yaroslav | 000103550178 |
| 2 |  |  |
| 3 |  |  |

While symptoms will be presented in the next way:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Unique # | Symptom #1 | Symptom #2 | Symptom #3 | Symptom #4 |
| 1 |  |  |  |  |

**(2) Investigation and analysis**

**Investigation:**

To get the information on the current system, how it functions, its input and output data I decided to do the interview with the director of the company. By taking the interview, I will ask questions that will help me to identify the main problems of the system and make further research on the ways to overcome them.

Below are the details of the interview – the questions asked and responses.

**Analysis:**

Flow chart showing the steps of the current system:

User enters the ID number

Is the user a doctor or patient?

Is it a new patien?

Open admin window

Create a new patien

What action to perform?

Upload a patient and open user window

Show one patient’s data and maybe change it

Get all the information from the user and save it

Show all patient’s data

Perform the data as a graph

Finish session

**Data capture method**

**1)Processing**

Now doctors and their helpers collect and keep all the information about a patient and illness history in paper format, thus they need to ask, write and store it somewhere. What is more, they need to analyze everything on their own.

**2) What works well, what doesn’t?**

The data is collected permanently and the analysis is clear and full, as it is done by a human brain. There is no possibility to deal with large amount of information simultaneously and the precise graphs can’t be shown. Moreover, there is not enough space to keep all the papers as a well as time to search exact data among them.

**3) Inputs**

Full Name – Text

ID number – Text

Symptom – Text

Symptom - Boolean

Symptom - Integer

**4) Outputs**

Information on one person - text

Total collected date – graph picture

**5) Storage**

All of the data is saved in the database, special spreadsheet. I plan to have the database that could be available only to the workers of the restaurant

**Alternative approaches:**

**Requirements:**

Here is the list of requirements for the new system which have been discussed and agreed with the owner of the medical center:

**Software requirements:**

|  |  |
| --- | --- |
| Software required | Reason |
| Windows Operating System | To use software and hardware when making the project |
| JAVA IntelliJ IDEA | To write the code of the program and to realize the object-oriented programming |
| Adobe Photoshop | To make the design of the program. |
| SQLite | To make the local DataBase |
| MySQL | To create the server DataBase |

**Hardware requirements:**

|  |  |  |
| --- | --- | --- |
|  | Device | Function |
| Input | Qwerty keyboard | To type different types of data |
|  | Laser mouse | To navigate and manipulate code, it is requested for the program’s GUI |
| Output | Flat screen monitor | To see actions performed in the program |
|  | Printer | Needed to print various information |
| Storage | External hard drive | To make some copies in case the error might occur and data is lost |
|  | USB key | To transfer files from one computer to another |
|  | Cloud | To make the data being accessible from anywhere |
| Processing | Additional Processor | To make program’s performance faster and effective |