# Design Document for «Almaty Today» project

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| Version | Date | Author | Change |
|---|---|---|---|
| 0.1 | 12.03.2016 | Almaty Today | Initial Document |
| 0.2 | 30.03.2016 | Almaty Today | Complete document |
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# 1. Introduction

## 1.1. PURPOSE

In this document, written description of the mobile application «Almaty Today».

## 1.2. SCOPE

Our program is mobile, it is associated with the server and a database.

## 1.3. DEFINITIONS, ACRONYMS, ABBREVIATIONS

| Term | Description |
|---|---|
| Client | The man who will be using our software. |
| Server | All data that are required by the user are stored here. |
| Database | All data is stored here. |
| Parsing algorithm | User requirement information from the database. |
| News | Enters all the latest news from the database. |
| Send a message | The user can send a message. |

## 1.4. DESIGN GOALS

1. Reliability. All the data on the database, and the server must be maintained and reliable.
2. Maintainability. If an error occurs on the server, it automatically has to report it and to repair.
3. Extensibility. Anyone who has a smart phone and the internet will be able to use our program.
4. Response Time. These should be immediately displayed to the user when he asks for news.

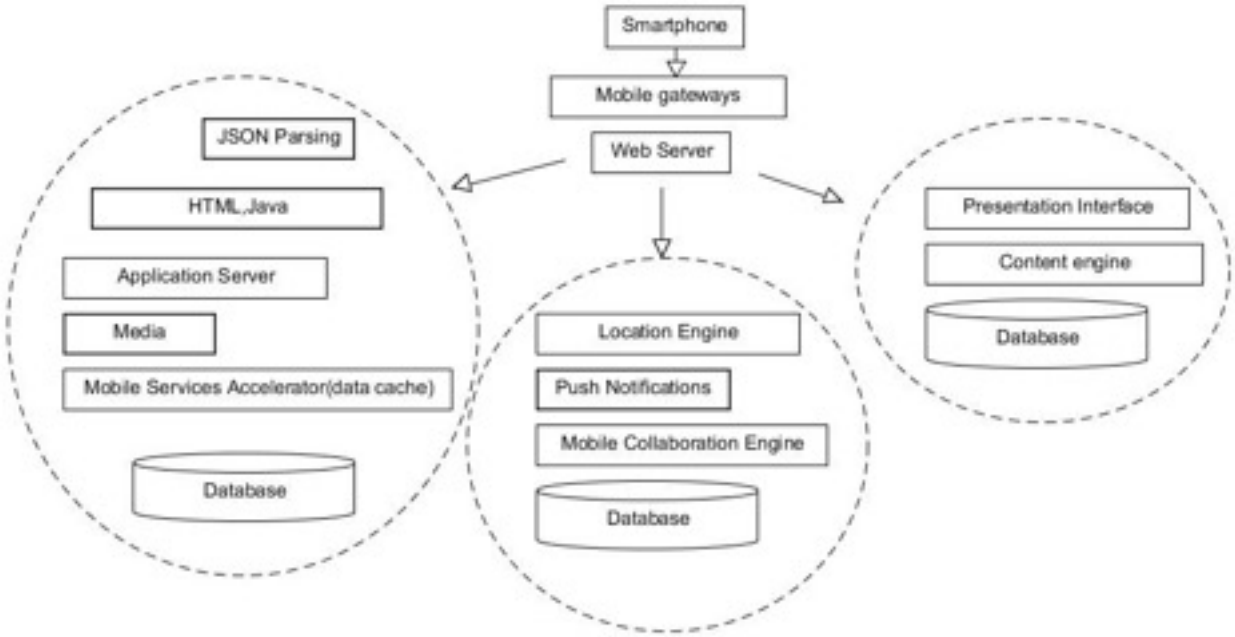
## 2. References

(If any)

# 3 Decomposition Description

## 3.1 MODULE DECOMPOSITION

Architectural diagram




### 3.1.1 Internet Users (Smartphone) Description.

Anyone who has an Internet connection on your phone. You can take any news that are on the server and on the data meringue.

### 3.1.2 Web Server Description.

All data will be placed not only in the mobile applications and online Almaty Today. There, the user can find the information he was looking for or that it became interesting.

### 3.1.3 JSON Parsing Description.

With this application we can all the data that shows on the site, show the same on a mobile application.

### 3.1.4 Database Description.

All data is stored in the database. Regarding the request to the server, the database provides data.

## 3.2 CONCURRENT PROCESS

### 3.2.1 Internet Users (Smartphone) Description.

1. When you open the app the user can see the main page.
2. The user selects which wants to see the news.
3. The user can send a message to the administrator.
4. The user can see the weather and get a notification to the account of the latest news.
5. You can buy online tickets for a concert, theater, etc.

### 3.2.2 Web Server Description.

All data will be placed not only in the mobile applications and online Almaty Today. There, the user can find the information he was looking for or that it became interesting.

### 3.2.3 JSON Parsing Description.

With this application we can all the data that shows on the site, show the same on a mobile application.

### 3.2.4 Database Description.

All data is stored in the database. Regarding the request to the server, the database provides data. Then sent to the server and further to the mobile application.

### 3.3 DATA DECOMPOSITION

3.3.1 <Class 1> Description

3.3.2 <Class 2> Description

### 3.4 STATES

3.4.1 <State/System 1 > Description

3.4.2 <State/System 2> Description

# 4 Dependency Description

## 4.1 INTERMODULE DEPENDENCIES

## 4.2 INTERPROCESS DEPENDENCIES

## 4.3 DATA DEPENDENCIES

# 5 Interface Description

## 5.1 MODULE INTERFACE

5.1.1 Android studio code interface

5.1.1.1 Interface between Android studio code and Database connection libriary

1) public function createUser(var id:Integer,var name:String, var surname:String,):Boolean;

is used to create new user in database,
Parameters:
id = the unique id of user, it will be gived automatically unique number,
name = the name of the user,
surname = surname of the user,.

Return type: Boolean, in case of error returns false. 2)public function deleteUser(var id:Integer): Boolean; is used to delete the user from database,
Parameters:
id = the unique id of each user,
Return type: Boolean, in case of error returns false.

3)public function getGeneralInfo(var id:Integer):ResultSet; is used to get all importan user's informations from database, Parameters:
id = the unique id of each user,
Return Type: ResultSet – result from given query,

4)public function getConditions(var id:Integer) :ResultSet;
is used to get user's all conditios(like illness history) from database Parameters:
id = the unique id of each user,

Return Type: ResultSet – result from given query,

5)public function setConditions(var id:Integer, var date:String, var status: String, var str: String ): Boolean;
is used to set user's all conditios(like illness history) to database
Parameters:

id = the unique id of each user,
date = the date of illness period,
status = the status of condition,
str = the condition (all about illness)
Return type: Boolean, in case of error returns false.

6)public function getReciepts(var id:Integer) :ResultSet;
is used to get user's Reciepts(list od drugs, which needs user) Parameters:

id = the unique id of each user,
Return Type: ResultSet – result from given query,

7)public function setReciepts(var id:Integer): Boolean;
is used to set user's Reciepts(list od drugs, which will need user) Parameters:
id = the unique id of each user,
Return type: Boolean, in case of error returns false.

8)public function getAllergies(var id:Integer) :ResultSet;
is used to get user's Allergies(list od drugs or procedures which acts negatively to user)
from database
Parameters:
id = the unique id of each user,
Return Type: ResultSet – result from given query,

9)public function setAllergies(var id:Integer, var type: String, var des: String): Boolean;
is used to set user's Allergies(list od drugs or procedures which acts negatively to user)
to database
Parameters:
id = the unique id of each user,
type = the name of allergy or drug,
des = the description of allergy, how it acts to user
Return type: Boolean, in case of error returns false.

10)public function getProcedures(var id:Integer) :ResultSet; is used to get user's
Procedures(medical treatment) Parameters:
id = the unique id of each user,

Return Type: ResultSet – result from given query,

11)public function setProcedures(var id:Integer, date: String, str: String): Boolean; is used to set user's Procedures(medical treatment) to database
Parameters:
id = the unique id of each user,

date = date of illness period,
str = the condition (the procedure)
status = it will be gives automatically (present) Return type: Boolean, in case of error returns false.

12)public function getTestResults(var id:Integer) :ResultSet; is used to get user's test results(any medical tests) Parameters:
id = the unique id of each user,

Return Type: ResultSet – result from given query,

13)public function setTestResults(var id:Integer, date:String, type :String, res: String): Boolean;
is used to set user's test results(any medical tests)
Parameters:

id = the unique id of each user, date = the date of tests,
type = the type of any tests(IELTs), res = the result ot test.

Return type: Boolean, in case of error returns false.

14)public function getImmunization(var id:Integer, date:String, type:String): ResultSet;
is used to set user's Immunizations from database,
Parameters:

id = the unique id of each user,
date = the date of immunization process,
type = the type of immunizations,
Return Type: ResultSet – result from given query,

15)public function getNotices(var id:Integer) :ResultSet; is used to get user's Notices from database,
Parameters:
id = the unique id of each user.

Return Type: ResultSet – result from given query,

17)public function setNotices(var id:Integer, date: String, str: String) : Boolean; is used to get user's Notices (Analize of illness and hospital or doctor name)from database,
Parameters:

id = the unique id of each user,
date = the date of notice(when it gived),
str = the description (maybe illness type, the hospital which responsible this user) Return type: Boolean, in case of error returns false.

**5.1.1.2 Interface between Android studio code and Server code**

5.1.1.2.1 public databaseListener();

In Android studio we call constructors of server class which extends from thread
It listens for database changes , in case if changed call panelUpdater() Method

Parameters: None

Return Type: None

Return type:String – Name of panel which should be updated

5.1.1.2.2 public String panelUpdater();
Finds out which table changed, then sends string which says which panel should be updated
Parameters:None

### 5.1.2 Android studio code interface

5.1.2.1 Interface between server code and Android studio code a

5.1.2.1.1 See section 5.1.1.2

5.1.2.2 Interface between Android studio code and Database connection libriary

5.1.2.2.1 public String checkDatabase();
This method checks for each table for its change
Parameters: None
Return type: String – returns name of table that was updated, returned string is null if nothing changed

### 5.1.3 Database interface

5.1.3.1 See sections 5.1.1.1 and 5.1.2.2

## 5.2 PROCESS INTERFACE

### 5.2.1 Android studio Main process

Description: This process shows all graphical interface of the system

5.2.1.1 Process is created when the application started

5.2.1.2 Terminated when applications close button is pressed

5.2.1.3 All other threads will be killed if this main thread stops

### 5.2.2 Database Listener process

5.2.2.1 This thread is created after Main process acquires all information from Database

5.2.2.2 Database listener process interacts with panel Server process

5.2.2.3 This process will be terminated automatically if Main thread of process is killed

### 5.2.3 Server process

5.2.2.1 This thread is created after Database Listener process

5.2.2.2 Mainly this thread interacts between Main thread and Database listener tread

5.2.2.3 Thread is terminated when one of other two threads terminates

# 6 Detailed Design

[NOT REQUIRED]

# 7 Design Rationale

## 7.1 News

### 7.1.1 Description

You can see the latest news in the Application

7.1.2.1 Read news choose interesting.
7.1.2.1 Request to site.
7.1.3 Request to text, image, video.
7.1.3.1 Save in Database.
7.1.3.2 Algorithm give answer.

7.1.3.3 Web sites compares request with answer.
7.1.3.4 Display the results.
7.1.3.5 Interface add to favorites in database.
7.1.3.6 Database returned in interface.

7.1.4 Resolution of Issue

We decided to create separate database connection class in case to improve maintainability.

## 7.2 Notification

### 7.2.1 Description

The user receives the latest news in the form of a notification.

7.2.2 Actor opens the application and read news.

7.2.2.1 Application sends request in the server.

7.2.3 Wich the help of the algorithm learns what kind of news the user wants to see, and sends to the database.

7.2.3.1 The algorithm implementation.

7.2.3.1.1 All data are sent to the algorithm.

7.2.3.2 Since the algorithm is executed successfully, it sends data to the server.

7.2.3.2.1 The server sends the data in mobile application.

7.2.3.2.2 The algorithm works automatically when the user should see the main news today.

7.2.4 The user will automatically receive notification.

7.2.4 Resolution of the Issue
We decided to create one single connection object using Singleton Pattern.

**7.3 Internet Users (Smartphone) Description.**
**7.3.1 Description**
The user can make registration and every day to read the latest news, articles, can buy tickets to the concert.

7.3.2 When you open the app the user can see the main page.

7.3.2.1 The user selects which wants to see the news.

7.3.2.2 The user can send a message to the administrator.

7.3.3.1The user can see the weather and get a notification to the account of the latest news.

7.3.3.1.1 You can buy online tickets for a concert, theater, etc.

7.3.4 Resolution of the issue

We decided to change users table structure to reduce the work.

**7.4 Currency**
7.4.1 Description
Users should be able to share files.

7.4.2 Open the application, choose the currency.

7.4.2.1 Select the type of currency that converts from one to another.

7.4.2.2 Request about exchange rates.

7.4.3.1 Sever get information about exchange rates.

7.4.3.1.1 Algorithm calculate the request and send the result

7.4.3.1.2 The user receive the outcome.

7.4.4 Resolution of the Issue
We chose to upload files to the server because it is easier to increase server‟s storage, then loose time waiting user online.