Mobile Application for Local News - *"TimisoaraAzi"*

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Abstract

Mobile applications are one of the best ways to bring people closer to a certain product or service. An application for local news is a very helpful and easy method of finding out what's going near you or of looking up new events happening in the city.
In this report I am going to present some of the key aspects related to this project, as well as future ideas I want to implement.

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1) Introduction

My application is called *TimisoaraAzi* and as the name suggests, it is made to bring people closer to what is happening in the city of Timisoara.

This is a project I've been working on for a few years. It started as a website and with the opportunity of having to create a project consisting of a mobile application for this subject, I decided to transform the website into an application.

TimisoaraAzi consists of local news in Timisoara, more specifically events, concerts, festivals, theater and opera programs, art exhibitions, cultural and historical objectives, natural attractions, gastronomy and shopping.

The mobile application maintains the same structure that is already on the website - a homepage where all the recent articles are, a calendar where the events appear in chronological order by their date and other subcategories, like Shopping, Attractions, Leisure, History and English (where the most important articles are translated in English for foreigners).

2) Goals and users

Anyone who owns a smartphone with Android as operating system is able to access this application. People don't need programming or computer knowledge in order to use it. It has a user-friendly interface and the navigation through the application is intuitive.

My goal is to get people closer to the city than they already are and I think this is the best way to do it - through an application containing the articles that the viewers expect.

The users will not only be the daily viewers that already access the website in the present, but also new viewers who I think will be curious to have a quick way of looking up what is new in Timisoara. These users may be people living in Timisoara or travelers who want to find useful information when they arrive in the city.

3) <u>State of art</u>

There are several apps who present daily news from a certain city.

I attached two examples below; these are popular among Romanians because they present various news happening in our country.

Biziday is used especially in this period of time, because it shows reliable information about the Covid situation in our country.

DCNews.ro is also preferable by people because it has a variety of news, like politics, technology, health, lifestyle and sports.

- Biziday

- DCNews.ro
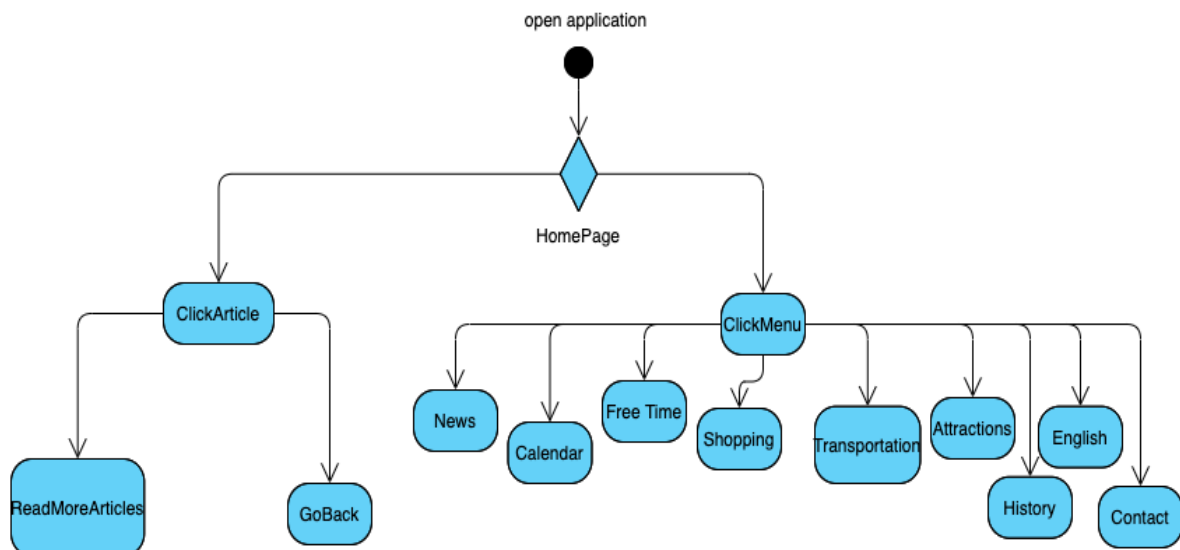
4) Original contribution

Even though this application is not among the first ones of its type, what I bring new to it is that it has a focus on cultural news and events from the city.

There aren't any applications in the App Store or Google Play which only post news about culture, but they also add political news, weather news or news about the covid situation.

I think that it's important to bring cultural events, festivals and concerts near people through an application focused only on these type of articles. This way, the visitors who access it are consequent and they know they can rely on my app for more information about the events happening in the city.
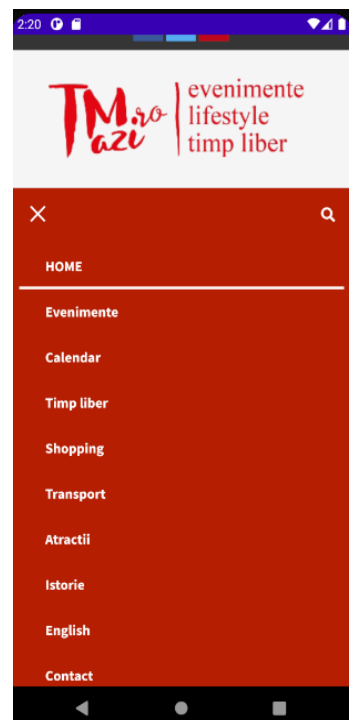
5) Development plan
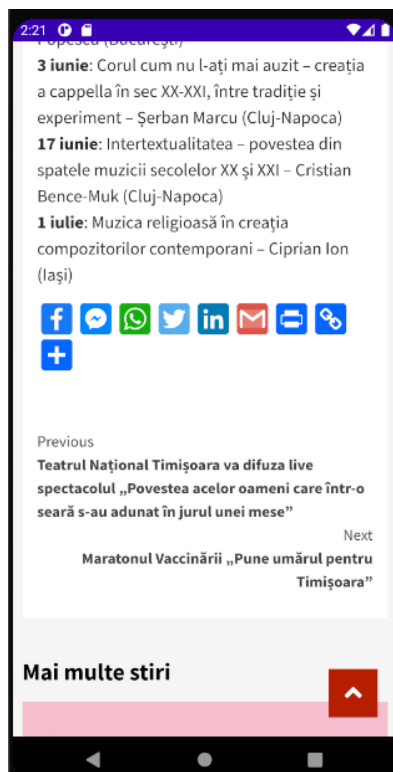
5.1) Implementation Diagram

5.2) <u>User's Manual</u>

The app starts after clicking the representative icon. It opens up with the homepage and from there the user can choose what he wants to do. He can either click on an article and read it or he can click on the Menu bar and choose other section of the website.

If he chose to read it, this is how an article looks like:

The articles have the following structure: the title, the date of the article right below the title, a representative image, text and a module that enables people to share the article on social media (e.g. Facebook, Twitter, Gmail, etc.).

These are taken from the **phpmyadmin** database hosted on cPanel. The articles are written and updated in WordPress.

5.3) Technical documentation

Development environment: Android Studio

Language: Java

Emulator: Pixel 3 API 30 R - Android 11

Used concepts:
- Design of the layout
- Icon definition
- Populating the application with text
- Extension between classes
- Sending the user to the browser if pressing certain buttons
- Redefining XML files
- Webview
- Database connection

The layout of the app is done in *activity_main.xml*. I used a *RelativeLayout* which gives me a lot of flexibility to position my view based on a relative or a sibling, as the name suggests. The layout width and height have as attributes the *match_parent,* in order to cover the entire screen. I also gave

a unique id to for my webview, id which I'm going to use in my Java code.

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <WebView
        android:id="@+id/webView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>


</RelativeLayout>
```

To get the design of my app I used *WebView*, which is an extension of Android's View class. This allows me to display the content and the web pages that are hosted online.

Because I also wrote Java Script elements in my website, I had to allow my webview to accept scripts. That's what the `webView.getSettings().setJavaScriptEnabled(true);` line is for.

```java
public class MainActivity extends AppCompatActivity {

    private WebView webView;
    public String url;

    @SuppressLint("SetJavaScriptEnabled")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        webView = findViewById(R.id.webView);
        webView.getSettings().setJavaScriptEnabled(true);
        webView.loadUrl("https://timisoaraazi.ro/");
        webView.setWebViewClient(shouldOverrideUrlLoading(webView, url) → {

            webView.loadUrl(url);
            return false;
        });
    }
```
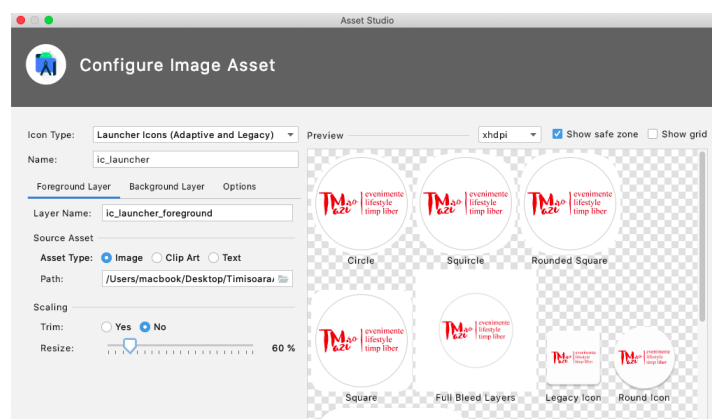
In order to navigate properly through the application, I created an *onKeyDown* function which makes sure that the user doesn't get thrown out of the app unless he presses the correct button, which is the *GoBack* button.

```java
public boolean onKeyDown(int keyCode, KeyEvent event){
    if(keyCode == KeyEvent.KEYCODE_BACK && this.webView.canGoBack()){
        this.webView.goBack();
        return true;
    }
    return super.onKeyDown(keyCode, event);
}
}
```

Permissions are being handled in the *AndroidManifest.xml* file. I used *<uses-permission>* in which I specify the system permission that the user must grant in order for the app to run correctly. In my case, the application requires internet permission to load, otherwise it will fail to load all its components and to remain up to date with the latest articles posted.

```xml
<uses-permission android:name="android.permission.INTERNET"/>
```

Finally, the icon of the app is defined in *app->new->Image Asset*. I chose the icon located in the TimisoaraAzi directory and added a white background to it.

6) Future ideas

Even though it is fully developed, I still consider that the application is in an early phase now. The next step is to launch the application on Google Play. After this, I would like to create a Sign Up/Log In page so that users can create their own account and receive notifications based on their usual reading.

7) References

https://developer.android.com/docs
https://datalogic.github.io/android/overview/
https://www.dcnews.ro/
https://www.biziday.ro/