APPetite for Something New:
The Katona József Library's Mobile Application

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Abstract

The Katona József Library of Bács-Kiskun County has always placed great emphasis on reaching out to all age groups. In order to achieve our goal, we need to be informed and up-to-date with the latest trends and to be present on as many virtual platforms as possible. That's why, at the beginning of 2021, a few enthusiastic librarians of our institution thought that a library mobile app could be the next important milestone in our continuous development and renewal. All this experimentation and testing has finally paid off: the Katona József Library's mobile app is available on the Google Play Store from Autumn 2021. It's no secret that our primary goal with our entirely self-developed, in-house app was to target young people, perhaps the hardest-to-reach age group for libraries. So, in addition to creating content specifically for teens (book reviews, games), we also wanted the look and feel of the app to be coherent and dynamic. Of course, we did not want the app to replace our library's website, but to provide content that could be enjoyed on a smaller screen. As the application is easy to navigate and use, so that older people who are generally less familiar with the digital world will have no problems using it. For those who are a little apprehensive, one of our tutorials promoting the app will give them all the help they need to become a confident user. So what does our library app do? In addition to the Programme Guide, there is a dedicated menu with a regularly updated document guide. And with our ever-expanding thematic video selection, you can watch videos of our library programmes at any time. Of course, a library mobile app would be useless without a Catalogue menu, so webOPAC is also just a click away. With our Virtual Tour, which is unique among national library mobile apps, you can even take a look around our library from the comfort of your own home, sitting in your armchair. Games were also included in the app. We have thought of games for all ages, with four to four games for children, teens and adults. Puzzles are mainly related to the world of books, but there are also some puzzles on local history. We hope that our innovation will live up to our expectations and will appeal to a wider audience than just young people. Our aim is to ensure that our application remains a popular and constantly renewing service in the long term.

Keywords: public library, application, mobile app, library app, innovation

Introduction

Let us say, we were to take a poll on what we would see if we had to associate ourselves with teenagers in the 2020s! Presumably the smartphone would not be missing from the picture. It is less likely that we would think of young people with books in their hands. But many of today's teenagers love to read! And there is nothing wrong with smartphones – as long as they are not just used for gaming and chatting 24 hours a day... well, 25.

At the beginning of 2021, some members of the *Electronic Information Service (EISZ) working group* of the *Katona József Library of Bács-Kiskun County* thought, why not have a mobile app of their own for their

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library! This would allow us to keep up with the demands of the digital age, and thus provide another channel for reaching people – especially, but by no means exclusively, the younger generation.

As only four other libraries have their own library app on *Google Play* (*Android Apps on Google Play*, n.d.) in Hungary at the moment, our venture is relatively new. It is also unique in that it was not created by an external company, but was born 100% within the walls of the institution, thanks to a few enthusiastic colleagues.

1. What? With what? How? Why?

Thanks to the spread of the Internet, the previous difficulties caused by time and distance have disappeared, and we have – with a slight exaggeration – unlimited possibilities in many areas of our everyday life. Today's young people have already been born into this internet-based, ‚digital world'. For them, the use of the Internet is actually indispensable, unavoidable. Moreover, various smart devices are already a fundamental part of their everyday lives*,* they are natural for them (Kiss & Pikó, 2018). This is well supported by the survey of the National Media and Infocommunications Authority, according to which 83% of the Hungarian population using the Internet over the age of 16 already had a smartphone in 2018 (*Lakossági internethasználat – online piackutatás 2018*, 2018). And in November 2021, among the younger age group (18–29-year-olds), almost every third (30.1%) respondents considered themselves to be *more smartphone-addicted* (*Okostelefon-függőség a magyar társadalomban*, 2022). The popularity of smartphones and, as a result, of mobile applications seems to be consistent. There is already an app for almost everything... or if there is not one yet, there will be soon. So why cannot our library also have its own application? Thanks to the app, the library would be available anywhere and anytime. And this is exactly what Generation Y (that is, the Millennials) and the following generations expect: access to information around the clock (Jones, 2021).

Plans were followed by actions, and by the end of about nine months of experimentation and editing, we had our own designed and developed app for smart devices running Android (*Katona József Könyvtár – Apps on Google Play*, n.d.). It is true that our goal was achieved at the cost of a lot of work and quite a bit of nervousness, but this way we can say that our application is truly ours and was birthed from our ideas. Moreover, it cost even less than if its production had been outsourced to an outside company, based on its defined template. But how exactly did six enthusiastic librarians with no programming experience create a mobile app?

Thankfully, similarly to *WYSIWYG (What You See Is What You Get)* website builders, there are now a fair number of *app creators/builders*, who define themselves as *no-code* (and *drag-and-drop*). To find the best opportunity, we have taken several criteria into account. For example, in addition to cost-effectiveness, the ability to download the *APK* file (*Android Package Kit*) to test the application under development on a smartphone was an important factor. We knew from the very beginning of the design phase that we would have a few menu items that we would like to connect to one of our existing websites (e.g. clicking on the Catalogue menu item would load our webOPAC). Thus, only app builders with a component enabling to open a specific web page within the app could be considered. As we had not worked with any app builder before, we also took into account the level of detailed documentation available for the builder.

At the end of our fairly detailed ‚market research', we decided to try to build our app using *Thunkable* (*Thunkable*, n.d.). This platform was the one that had the most features that were important to us, even for the free account. Thunkable is a no-code, non-open source platform for mobile app development. No-code means that even users with no programming experience at all can easily design and develop native mobile apps – without writing a single line of code. All Thunkable creations can be used to generate apps that run on *Android* and *iOS* devices, and even web apps that can be viewed directly on the web (*Press Resources – Thunkable*, n.d.). Although Thunkable is a non-open source platform, it is possible to share a fully-editable copy of your app projects created on its interface. And of course, the shared project can be modified and customized according to the ideas of the people concerned (*Share – Thunkable Docs*, n.d.).

This app builder is only available in English and Mandarin Chinese, fortunately with a ‚basic' knowledge of English, and a good amount of patience and struggle, we were able to use it. Thunkable's interface can be divided into two main parts. In the *Design* ‚tab', as the name suggests, you will find options for the design. It is also where you can create the application's skeleton, the backbone. *(Figure 1)* The other ‚tab' is called *Blocks*. It is responsible for events, and in this interface we can specify what should happen when we click on a button, for example. Fortunately, using the graphical editing interface really does not require any serious programming skills. Although it is true that watching some YouTube tutorial videos helped a lot in figuring out how to put together blocks of different colours.

Figure 1. Interface of Thunkable Design
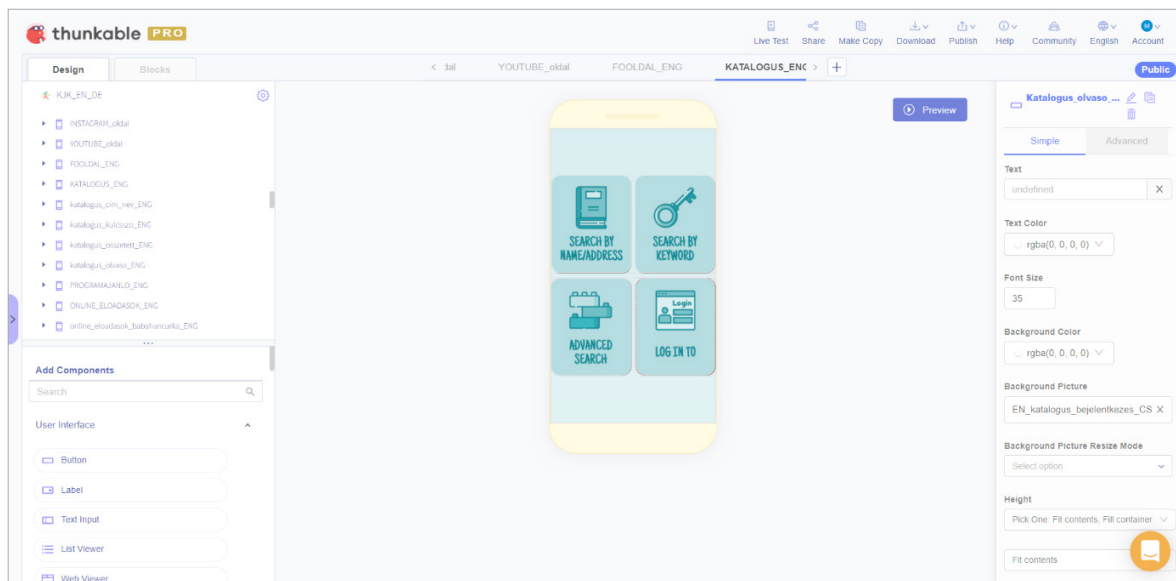
Even though apps are very popular nowadays, we never considered replacing our website (*Bácstudástár*, n.d.) with one. Instead, we wanted to include only old and new content that would ‚look' good on the smaller screens of smartphones and – we hope – be of greater interest. In the age of *Instagram* and *TikTok*, we have also tried to adapt to the expectations of ‚modern times'. Therefore we have tried to shift focus from text content to visual content and videos. We also created games for all ages. We are confident that, as our app is easy to navigate, not only young people but also older people will be able to learn how to use it easily and without problems.

Content available through the app includes existing content and new content created specifically for the app. Existing content includes our virtual walk and our webOPAC. In their case, we only needed to provide Thunkable with the access URL. However, there was a lot of work to be done on the content we have created: the games, as well as the book review and the programme guide. The latter two and a large part of the games were created with *Genially* (*Genially*, n.d.), an online platform for creating interactive animated content. In addition to Genially, platforms like *Educandy* (*Educandy*, n.d.), *Interacty* (*Interacty*, n.d.), *Jigsaw Planet* (*Jigsaw Planet*, n.d.) and *LearningApps* (*LearningApps.org*, n.d.) also helped in creating games.

In addition to content, we also aimed for a ‚trendy' design. Each button – in addition to the name of the (sub)menu item – has an icon that matches the theme. These icons, similar in style, not only give the app a more cheerful and less serious feel, but also play a big part in creating a consistent image. *(Figure 2)* Contributing to the unified look, it is a fact, that our mark of turquoise colour (or shades of it) is represented in the Book Review and the Programme Guide, in addition to the main page and sub-pages. We have also taken several factors into account when choosing the font for the button lettering. On the one hand, we wanted the font to include the more ‚special' characters *ö-ő* and *ü-ű*. It was just as important to find a modern, youthful font. So we finally chose the font *Just Another Hand* (*Just Another Hand Font*, n.d.).

The question may arise as to whether it would not have been simpler to adapt our library's own website to the application. In this way, the content behind each menu item would not have to be created out of thin air, for example on Genially's interface. The answer is clear: no. During the development of the app, our library's website was a portal based on an older version of *Liferay* (*Liferay*, n.d.). Unfortunately, this did not allow responsive design – that is, the content does not adapt flexibly to displays of different sizes. In addition, we did not want to cram all the content found on our website into the application. After all, this would have condemned the mobile app's ‚app nature' (transparency, simple interface and practicality) to death. In addition, our website did not include games; if we had stayed with our website as the baseline, we would have had to create new content with the help of the above-mentioned platforms anyway.

Figure 2. Samples for unified visuals (main page of the app and two sub-pages, the Catalogue and the Online Presentations)
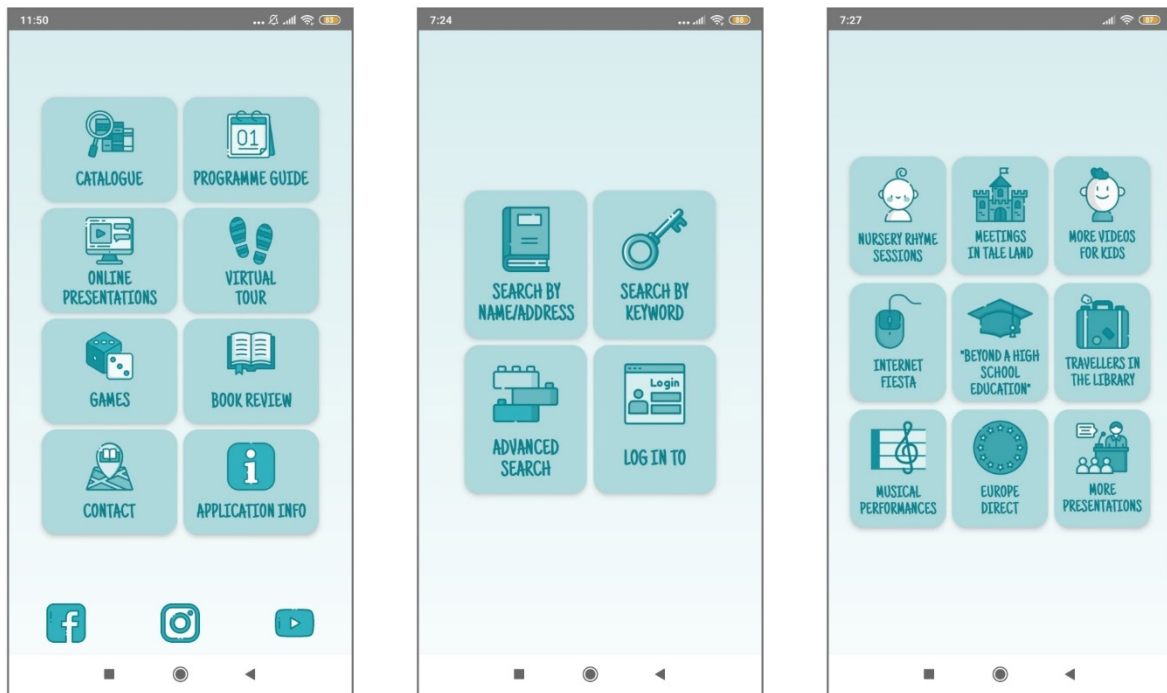
2. Menu Items Of The App

Our application contains eight menu items. This is not a small number, but we felt that each one has its place in the app. Some of them are – unstatedly, but unavoidably – a must for a library mobile app. These include the Catalogue, the Book Review and the Programme Guide. We did not want to leave out the Contact and the Application Info menu. Although these may seem less important at first glance, the information behind them (e.g. copyright information) is important to be included in a mobile app. Finally, the three menu items that were left out (Virtual Tour, Games, Online Presentations) are the ones that we would like to add a little extra, a little uniqueness to our app.

2.1 Catalogue

So it was clear that the Catalogue menu was an essential part of our application. However, clicking on this button does not immediately load our web catalogue, but four sub-menu items instead. In addition to logging in to webOPAC, for ease of use, there are three search methods – the three most commonly used by users, we think: search by address and/or name, keyword search and complex search – all with their own menus. Thanks to Thunkable's *Web Viewer* component (*Web Viewer – Thunkable Docs*, n.d.), webOPAC loads within the mobile app without the need to open an additional browser. This means that the browser's jump forward/jump back functions cannot be used. That's why, when the web catalogue is loaded, two buttons appear at the bottom of the display to ensure proper navigation – one to move back and one to move forward.

2.2 Book Review

There was also went without saying that the book recommendation was essential. *(Figure 3)* However, unlike other libraries, our application allows you to browse the new items (the newcomers) by collections. We have six sections: Literature, Fiction, Children's World, Teenage World, Europe Collection, and Music Collection. Regarding music, in the app, we draw your attention to our CD and DVD releases, rather than to books. We thought it important to do this in order to better target the different age groups. In a way, it is a more ‚personalised' recommendation for everyone than ‚just' a bulk list of new acquisitions. After all, why should users interested in new releases in English, have to 'wade through' the flood of children's and teenagers' books when they can simply select the Europe Collection recommendation?

Each unit contains ten new items, with a bottom page number displaying the number of the item. We designed an easy-to-read, clean interface, so only the ‚most vital' information is displayed. And, what information

is shown? Below the inevitable cover image, you can always find the title of the document. This is followed by the name of the author(s) (in the case of CD/DVDs, the name of the artist/director), the shelfmark and the physical characteristics (page number, size). We also found important to include a blurb: this can be read by clicking on the ‚i’ icon in the lower right corner. Clicking on this button also displays a short recommendation for DVDs and a tracklist for CDs. The Europe Collection, which is the depository of foreign language books also includes a flag icon in the recommendation to indicate the language of the document, in addition to the title. The date of publication is not indicated for ‚recent’ editions. However, in the case of the Europe and Music Collections, documents published a few years ago may be included. Therefore, for these two collections we always indicate the year of publication. We have not forgotten to mention the source: at the end of each recommendation, we indicate the source website of the blurbs and covers.

Of course, the content of the recommendations is regularly updated. However, the update requires quite a lot of human resources, as it is done manually. Of course, the date of the last update is also always indicated. However, as the proportion of new acquisitions in each collection varies over a given time interval, we can update the units at different intervals. How soon do changes appear on the devices of the audience with the app? Immediately! If we save our changes in the already mentioned Genially interface and then open the Book Review, we can browse the updated version. So we do not need to upload a new version of the app to Google Play, nor do users need to update the app.

**Figure 3.** Screenshots from the Book Review
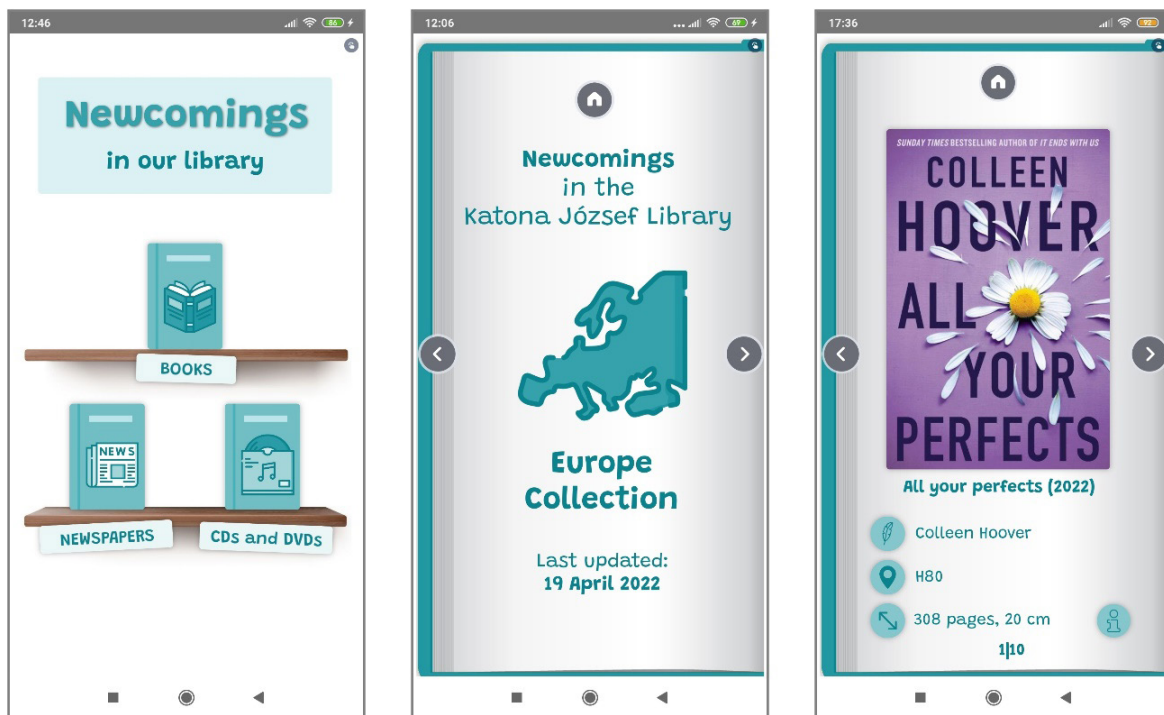
2.3 Programme Guide

In the case of the Programme Guide, we have vacillated between a weekly and a monthly display. In the end, we opted for the latter so that the calendar for the current month is always displayed when you open this menu item. *(Figure 4)* The days on which a library event is due are marked in turquoise. Clicking on one of these days will usually display the poster(s) of the event(s) for that day, with all the relevant information. If you find the text too small, you can of course enlarge it. As the Programme Guide was also created with Genially, updating and keeping the events up to date is no problem.

**Figure 4.** Screenshots from the Programme Guide
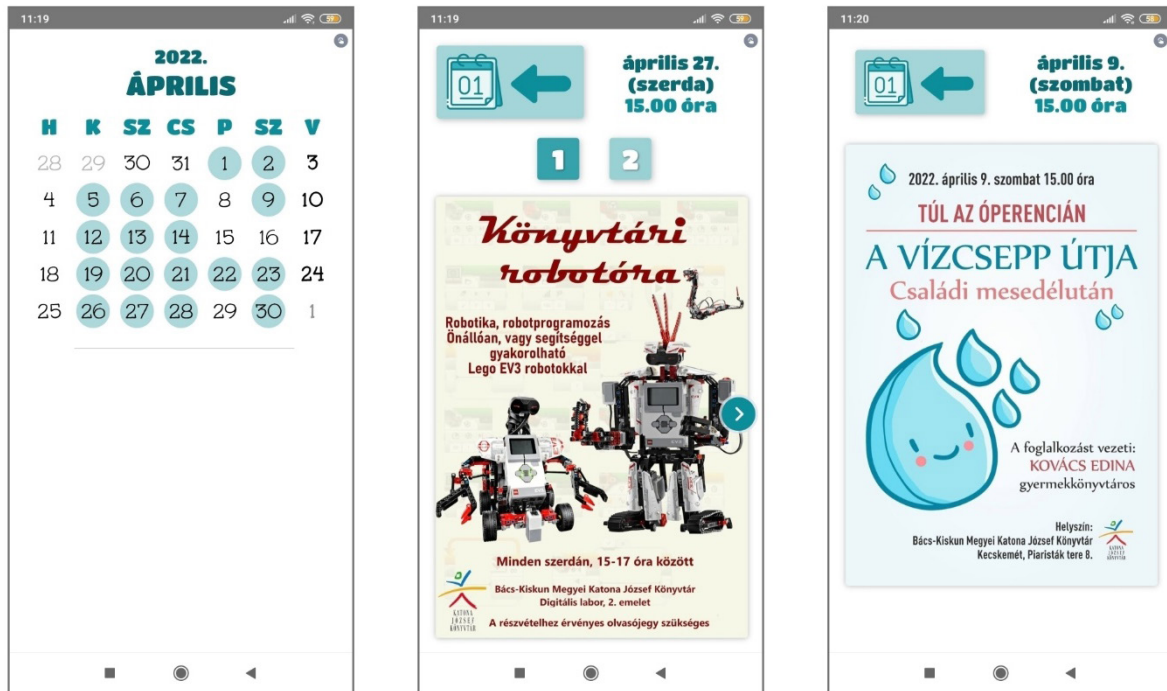
2.4 Online Presentations

Closely linked to the Programme Guide is a menu item called Online Presentations, where you can view recordings of our library's programmes. Nine groups have been created and we are confident that people of all ages, adults and children alike, will find content to their liking. And we have even thought of the little ones (and their parents): our popular baby activity, the Nursery Rhyme Sessions, has been given a special sub-menu. Each sub-menu leads to a *YouTube* playlist where you can browse through all the videos in that group. The back and forward buttons mentioned in the Catalogue also appear in the bottom row of the display for this menu item. Their role here is similar, as they allow you to navigate the YouTube playlist. Of course the content available under each sub-menu is constantly updated and enriched, as new videos are uploaded to the appropriate playlist. And because these lists have a constant URL, they are also synchronised automatically on the devices of those with the app.

2.5 Virtual Tour

The most visible menu item in the app is definitely the Virtual Tour. *(Figure 5)* Moreover, it can be considered a novelty, since this kind of content is only available in our library's application. The walk was created for the 25th anniversary of our institution's building in 2021 and could not have been realized without the support of the Municipality Kecskemét. Unlike the rest of the app's design, we did not do the technical capability to make this possible. Thus, we turned to experts for help, *Belsőtérfotó360* (*Belsőtérfotó360*, n.d.). The 360° panoramic images are linked together to create a walkthrough of the public spaces on the three floors of our library, similar to the *Google Maps Street View*. As an added experience, you can also listen to audio-guide-like information and curiosities about each point. Users can choose to follow the pre-set route automatically or ,jump' between the different sections/levels as they wish.

Figure 5. Screenshots from the Virtual Tour
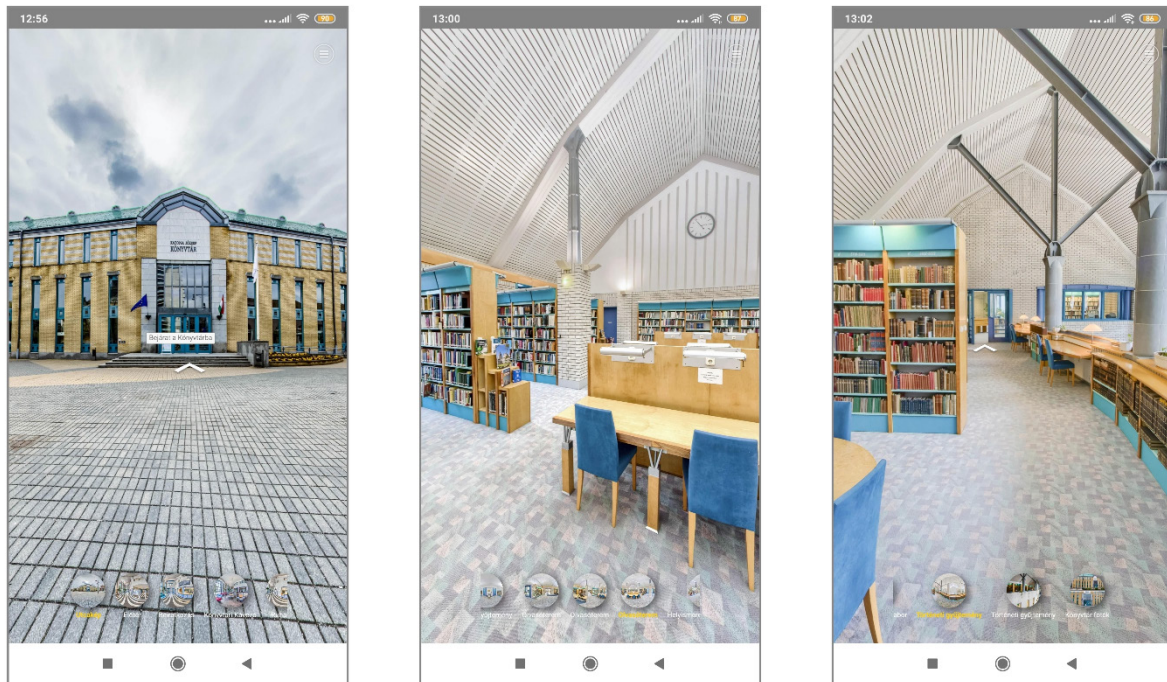
2.6 Games

Since we wanted to target especially the young(ish) age group with the app, it was obvious that – like other libraries – we could not do it without games. There are four sub-menu items, of which the *Book of the Month Prize Game* is a very peculiar item. It leads to the monthly *Europe Direct Bács-Kiskun* prize draw. We also wanted to appeal to both the playful younger and the older generations, so the other three sub-menu items contain four games each, grouped by age: children, teens and adults. Themes are mainly related to the world of books and reading and with one exception they are specifically designed for the app.

For the little ones we made a fairytale puzzle and a memory game with animals. They can also test their observational skills with our *Find the Difference!* game, where they can look for the seven differences on the covers of children's books. And children who can already read can try a 'child-friendly' version of the *Hangman's Tree*, where they have to guess the names of typical story characters. (This game is classified as 'child-friendly' because if you give the wrong answer, the hangman's tree is not drawn but the chocolate bar blinking in the lower right corner becomes less and less.)

Games for teens were the most challenging and the puzzles for them took the longest to design and edit. *(Figure 6)* It is no secret, that as far as the editing options allowed we generally tried to put a lot of emphasis on the look and feel of each game. However, in the case of teenagers this need was even more pronounced as we knew that we had to 'get' a very critical age group to try out our carefully crafted games. And what puzzles can teens expect? We have created what we think is an interesting *True or False?* game in which we have collected *Guinness World Records* related to the world of books. Whether we guessed right or wrong we get a slightly more detailed description of the record illustrated with a picture. We have also thought of *Harry Potter* fans with a 13-question quiz. Our Memory 2.0 game is also related to the books. Hereby you have to memorise four to four book covers, which – once they are gone – are then asked questions. The Detective Game is perhaps one of the most visually exciting games. It is basically a three-choice quiz where you have to guess which book the quoted passage is from. However, the three possible answers do not appear at once, as we have to guess them.

Figure 6. Screenshots from games intended for teens

The adults were not without their puzzles. *(Figure 7)* They can test their knowledge for example with our *True or False?* game made on the occasion of the *Sándor Petőfi Memorial Year* or our quiz on local history. We also have a local history themed matchmaking game, where you have to identify the pictures of photographer Sándor Tóth, a former photojournalist of the *Petőfi Népe* newspaper. We also created a Memory 2.0 game for adults. Here, however, you have to observe and memorise DVD covers carefully instead of book covers.

In a not too far-fetched way, we tried to promote our collections in both teen and adult versions of Memory 2.0 game. Only the covers of books and DVDs that we have in our library are included in the questions. This fact is of course brought to the attention of the players. As with the book recommendations, we have also taken care to acknowledge the source of the games: the original ,provenance' of the content used is indicated for both the images and the texts.

Figure 7. Screenshots from games intended for adults
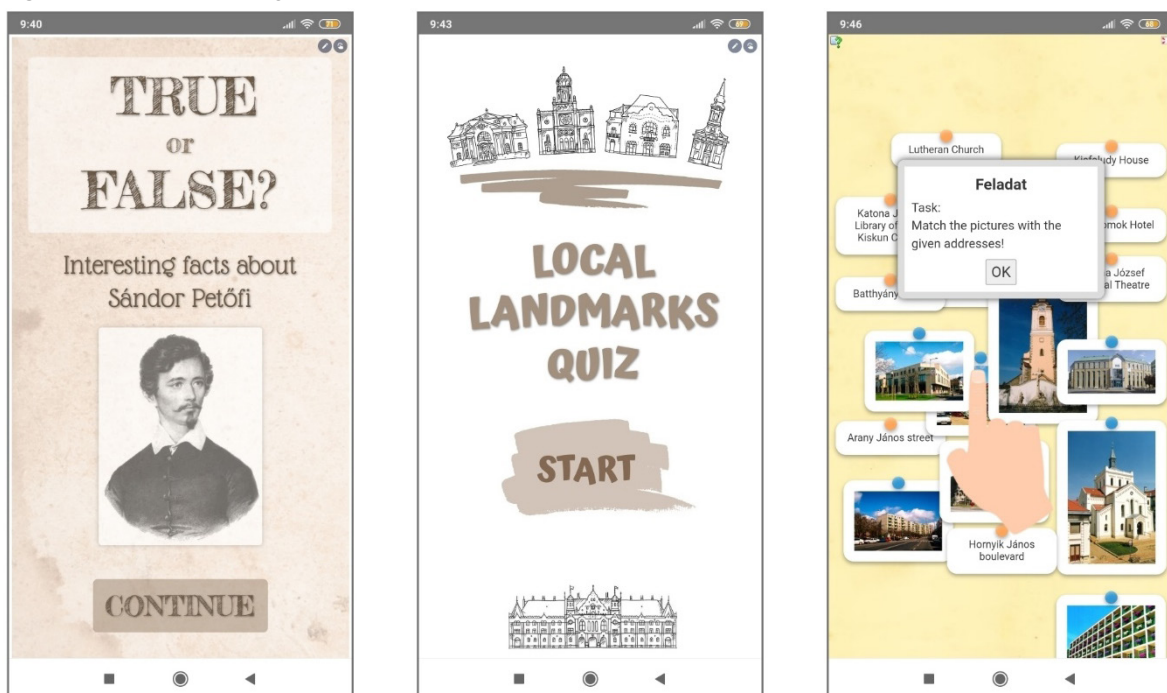
2.7 Contact

The Contact menu contains the contact details (phone number, e-mail address, address, opening hours) of our central library and our six branch libraries. These are displayed as PNG files using a very simple solution. Thus, although the style of this menu item matches the visual and colour scheme of the application, the texts that can be read here are unfortunately not selectable/copyable or clickable. However, it is hoped that this will not be an inconvenience for users. For each library there is a *Map* button that will take you to the *Google Maps* page of the selected institution. Here you will also find some photos of the given library.

2.8 Application Info

The least exciting – but not irrelevant – menu item in the app is called the Application Info. Here in addition to the version number of the app and the last update, the names of the editors used to create the games and the names of the creators of the icons on the menu items are listed. As with the Contact menu, a PNG file is loaded here.

3. Statistics

You can track the ‚popularity' of our app in the *Google Play Console* (*Google Play Console*, n.d.). under the *Statistics* menu. We can get an accurate picture of the number of users, for example, new users, returning users and users who may have deleted the app. In terms of devices, we can also see how many active devices currently have our app installed. And the statistics that focus specifically on the Google Play Store are so detailed that they have been given a separate menu item: they can be found under *Store Performance*.

However, as detailed as the Play Console interface provides statistics on the app as a whole, the use of individual menu items in the app is no longer something Google can address. So we cannot see how many people are viewing our book recommendations, for example, or which is our most popular game. This is why the statistics provided by Google Play Console unfortunately do not give us a clear indication of the direction in which we should take our app. We also believe that after only a few months of use, we cannot draw any relevant conclusions for future development – too little time has passed. However, it seems that we are on the right track: with a few hundred installs, we have already caught up with the other four older library apps available on the Google Play Store. Google ranks our app in the *100+* group for the number of installs. In fact, this puts us in the lead in our home country, with only two other libraries having reached this level. The other two institutions are still in the *10+* and *50+* categories.

However, the number of *Newly Acquired Users* on the Google Play Console clearly shows that we cannot leave our app as it is. If we do not regularly update our content (Book Review, Programme Guide, Online Presentations), if we do not make some improvements from time to time and if we do not make people aware of the existence of the app with sufficient frequency, we will certainly not easily attract new users. If we put ourselves in the shoes of the consumer, we would probably not even give an app that is not regularly developed and tended to a second thought. It is unprofessional and makes the app appear to have no owner or designer.

4. Reaching out

However, ongoing maintenance is essential not only to attract users, but also to retain them. That is why we will continue to take great care to keep it up to date. We also planned to create an English and German interface for the application. We have already finished this successfully, the app's new 3.01 version including this innovation, is now available on Google Play. We also plan to update and replace our existing games over time. And of course we will continue to monitor the app – we will continue to track its ‚trajectory' on the Google Play Console.

We hope that, with time, our enthusiastic work will bear good fruit and that our application will be on the phones of more and more Kecsemét residents. We would like our app to remain a popular service for years to come, so, we will do our best to make that happen.

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