***Planner 5D* on Peculiarities of Releasing *Android* Application**

It has been some time since Lithuania started making its name as startups’ paradise with this getting in *Forbes* recently where *Planner 5D*, an interior design app with more than 3,5M users worldwide has been said to be one of the startups getting most traction in the country. Thus being a fastly developing tool *Planner 5D* has some learnings to share on the release of its *Android* application.

**How it all started**

*Planner 5D* was founded in 2011. From the very beginning the app was based on open source technologies as at that time we believed in an idea for the web version of the app to work on devices such as a desktop computer, *iPad, iPhone* and *Android* flawlessly one day. Though after some time it hit us upon that our vision is not going to become a common practice soon. Therefore, even though *Planner 5D* works on devices that support *webGL,* the goal to create the best user experience has encouraged us to create applications for separate platforms, working on *Android* lately.

Since users of *Planner 5D* are able to build their interiors in 2D and 3D HD, a decision was reached to employ *LibGDX* as a 3D engine. *Unity* has also deserved our careful consideration, though being an extensive and powerful platform it did not suit our needs for a lack of flexibility in our case. Therefore as it is for now we consider *Planner 5D* *Android* app as one of the most solid floor planning application ever done on *LibGDX* platform.

After choosing a 3D engine we started the development process by creating communication with the web back-end. Then a 2D graphics engine was done to create an editor using *Android* canvas entirely and then a 3D view followed, as well as reflecting other parts of the application such as an ability to make snapshots, purchases, users’ settings and similar. As it should be, finally, we have spent quite some time for optimization and bug hunting.

The development process started December 2014 and took five months with the release of *Planner 5D* on *Google Play* in April 2015. Also, a major update was released a month later enabling the application to support mobile devices.

**How we built it**

*Planner 5D* application for *Android* has been developed putting several unique solutions into practice. For instance, there is a really big number of images to display on our app. As a rule, majority apps on *Android* hiccup when loading images which is especially visible scrolling lists of them. Though with our solution, the pictures load without lagging even if scrolling fast.

Also, we have been following the best practices by all means. These include *Dependency Injection* with *Dagger*, *Reactive Extensions* with *RxJava*, *Event Bus* with *Otto*. Similarly, we watch *Android* itself closely, therefore, *Planner 5D* already works on *Android M* and we have also used the latest components from *Google* such as *RecyclerView* and *TabLayout*. In addition, the app supports all possible processor architectures *Arm, x86, x64* and does not support *Mips*.

To add, even though this is a minor detail, it is worth mentioning that this *Android* app has only been built using computers on *Linux* operating system. This is because *Android* itself is based on *Linux* and as has been mentioned before we are keen on supporting open-source software.

**How we tested it**

We have made a soft launch of the application in the Lithuanian market. By that time *Planner 5D* has also participated in *LOGIN 2015* internet and tech community conference where we have gathered feedback from both our target audiences as well as people in tech. At first the app was done to a design of the web version. Though during the conference we have been told that this version is no good for the users and we have changed it to *Material* design in accordance with *Google Guidelines* strictly.

At this point we noticed a big difference between *Android* and *iOS* platforms. The former allows for improvements and fixes for an unlimited period of time any time. Whereas in order to make changes on *iOS* platform we would have to wait for two weeks which is costly in terms of bugs. Therefore we appreciate the functionality of *Android* which shows care and orientation towards customers in practice.

**What difficulties we faced**

No surprise, we had ups, but we had downs. In the process of development we have experienced a number of minor issues of *Android* as a platform that have drawn our attention. On the other hand, we are glad *Android* is an open source platform, therefore it is possible to find and fix bugs even within the platform itself which is impossible on *iOS* and *Windows*. For instance, *LocalSocket* in *Android* has a bug leaking its memory on devices older than *Android Lollipop.* Fortunately, it has only taken us to analyse *Android* source code to work around the problem in pre-*Lollipop* versions.

Though any major issues have not been noticed. “Technically development of *Planner 5D Android* application has interested me as a developer from the very beginnings and it still does as we’ve applied the latest technologies and unconventional solutions. To add, there haven’t been any limitations from older versions as these simply do not exist, so it’s been a pure pleasure to develop everything from scratch trying to put the best and latest practices in one place. Therefore as for now, we consider there is no competition for *Planner 5D* in *Android* market since the existing apps are far from this one in terms of functionality and even the current usability”- said Tautvydas Andrikys, *Android* developer at *Planner 5D*.

Future plans aim at further improvements of the app in terms of usability, performance, new features and new items added to catalogs. While looking at a bigger picture currently we are focusing on how to grow client retention on other platforms besides *Android* and as for now the only way we see it is applying *Gamification* to *Planner 5D.*

**Additional information**

*Planner 5D is an interior design app that has more than 3,5M registered users worldwide. It enables anyone to create floor plans of their own or build on a project from an existing gallery. That doesn't require any prior knowledge or skills. Users are able to choose and customize furniture, accessories and décor elements from regularly re-stored catalogs applying hundreds of textures and colors in different combinations. It works simply, by dragging and dropping items to any place on a layout. Users can build on 2D or realistic 3D HD modes and make super realistic screenshots of their designs.*

*In our vision Planner 5D is an easy to use tool that allow ordinary people around the world to create interior designs and floor plans. Most importantly the designs of Planner 5D distinguish for high quality which in other cases today is only possible unless using professional interior design apps as well as this service is inexpensive.*

***Links***

Forbes - <http://www.forbes.com/sites/alisoncoleman/2015/06/21/five-entrepreneurial-places-in-europe-where-hub-things-are-happening/>

Planner 5D - <https://www.planner5d.com>

Planner 5D on Google Play Store - <https://play.google.com/store/apps/details?id=com.planner5d.planner5d&hl=lt>

LOGIN 2015- <http://www.login.lt/conference>