My Institution   **Courses**   Community   Emma Kjergaard Rolsted

F19 - ITSMAP-01 Smartphone applikationer [24007PU042]   App Project

App Project

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IMPORTANT NOTE ON PLAGIARIZING

For all documentation in ITSMAP, that is:

- Synopsis
- Hand-ins / assignments
- App project report
- Source code

Carefully specify all references to sources you have used in the different areas of development for your apps. The references may be a link and a comment or a more formal reference to a article and/or a book or similar. Referencing style depends on the context. If it is arguments or design decisions for your app, they most likely belonging the app project report where these are discussed. If it is more code specific, or you have been inspired by a tutorial/stack overflow answer etc make sure to put clear comments in your code

This requirement comes from the official AU regulations on plagiarizing, and if there is the slightest doubt about plagiarism the further procedure will be run by AU's legal office.

App Project Requirements

To ensure that the The App Project is aligned with the learning goals of the course, there is a number of requirements for specific components, techniques, etc. that you must use in your project. When you are writing your Synopsis (see details below), it is important that your think these elements into your app from the beginning. Sometimes you need to add a little more complexity than might be needed for your app idea - but remember that the goal is to learn about mobile application development. You are free to develop your future apps in whatever way you best see fit.

Your application MUST include the following:

- At least two Activities
- Use of Intents to send data between components
- Persisting data through SharedPreferences and/or an SQLite database. Using Firebase is also permitted.
- Some element of communication using internet, Bluetooth and/or WIFI
- Use at least one Service
- Use Asynchronous processing
- Use proper resource externalization
- Support at least two languages including English
- Use Layouts that adapt to at least two different screen sizes (phones and tablets)
- Have a custom app icon
- Have app specific color scheme

The following are other important aspects to consider and should be included as needed and as it makes sense to your app:

- Use Fragments when applicable
- Use AppBar and/or MenuDrawer
- Use BroadcastReceivers either internal/local or external
- Use Managers from the framework as needed
  - Location
  - Sensors
  - SMS
  - WIFI
  - …
- Manage your network connections, i.e. the connectivity state of your chosen network like Bluetooth, WIFI/WIFI Direct and/or mobile broadband.
- Use functionality from Google Play Services or other libraries

- Create a map based interface using Google Maps
- Use system Notifications

Consider these

- Create custom views / UI elements
- Create a Content Provider to make your app data available to other apps
- Use Widgets
- Native code (Android NDK)
- ...

Synopsis

The Synopsis is a very short document describing the app your intend to build as your App Project. In many ways it will eventually form the basis for your App Project Report as well, so spending the time to draw a diagram of how your system should work is well spent here. It is not a binding document, and things can change as your learn through your app project - but it is a great way to visualize how your project will conform to the requirements. And a good tool for you to get feedback on your idea.

The following elements must be described, in short, in a synopsis of one to three pages:

- Front page (project/app title, names of participants with study numbers and study direction (e.g. "IKT")
- Table of contents with page numbers. All pages of the document must be numbered.
- App vision: What does you app do - which problem does it solve and for who, and where?
- Personal vision: What do you want to achieve while build it? (What you hope to get out of working on this task?)
- Context: A rich picture is a great way to illustrate the intended features of your app.
- Define the requirements for you app through Use Cases / Cases / User Stories.
- Early design overview:
    - Make a diagram of what major components your app will have and how they should communicate
    - What will be the main risks in your proposed app and design
    - Other considerations that can help you, like e simple time schedule

App Project report

The report must include:

- The "official" name of the App developed in the Theme Project. App Name must be part of the report title!
- Front page (App title, names of participants with study number and direction, delivery date)
- Table of contents with page numbers. All pages of the report must be numbered.
- App vision, personal vision and context for the app (as in synopsis)
- Requirements specification (task formulation supplemented with comments and appropriate sketches (e.g. GUI)
- Assumptions for and explanations to the chosen design.
- Appropriate diagrams to an extent that it covers to the most important parts of the code for the App and the most important part of use cases in the App
- Conclusion
- List of known bugs and problems
- **Work plan showing who was responsible for which part in the project.**
- Number of pages: approx. **10 pages** depending on the extent of the use of diagrams and no. of group members
- Language: English (or Danish).

Submission must include:

- The complete **Android Studio** project or projects if libraries are used or more than one project are in the complete solution.
- Remember to invite all group members to Theme Project Hand in at BlackBoard. It is mandatory to be a group member.
- The necessary **signed Application/Applications** ready to be installed and run on a Smartphone or tablet. (Use the Android Studio wizard, that will guide you through the job of making the signed APK file)
- The report in PDF format
- A **short video showing the App in action.**

What to hand in at the BlackBoard Theme Project assignment:

Four+ (4+) individual artifacts must be uploaded

1. **The Android Studio Project zipped in ONE file. You must 'clean project' first.**
    - **If more than one Android Studio Projects are needed they must be included in the zip file.**
2. **The signed App Project Android App APK file.**

- If more than one APK file is needed, they must be uploaded individually.
3. **The App Project Report in PDF format.**
4. **The App Video (Try to keep file size below 100 mb!).**
   - **If more than one video is needed, they must be uploaded individually.**

Sign up for App Project Groups 2019 Spring

Groups for your app projects - sign up!

Synopsis

Synopsis for your app project

Must be approved in class

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