Course:	**INFO-6128** – Mobile Web Development
Professor:	Marcelo Hespanhol
Project:	Final Project
Due Date:	Saturday, Aug 12, 2023, 11:59 PM
Submitting:	FOL Submission Folders, Final Project
Weight:	35% of the final grade

Document Last Update: Monday, May 1, 2023

Overview:

In this project, you will use your learned PWA skills to build a project of **your own design**. This is a very open-ended assignment in that you are allowed to choose a custom topic and create any application you see fit!

You can work alone on this project or in a group of up to **3** students. **It's up to you**. Just be sure your project reflects the number of students in it: the more students, the more polished your project is expected to be.

Important: even if you are working alone on this project, you MUST be assigned to a group in FOL to see the submission folder. You can be the only student in a group. To join a group, go to FOL, menu Communications / Groups. You have until **July 22nd** to join a group. After that, you will automatically be put alone in a group.

The project will consist of 3 parts:

1. Planning
2. Development
3. Presentation

1. Planning

Using any prototyping tool of your choice (or even a simple text editor like Microsoft Word) you will create a visual prototype of your application and create a short vision document outlining:

- What your use case is for your project.
    - What will it do? How many pages will I need, and what will be displayed on each one? What data will I need to store? How will my app handle being offline?
- Which Web APIs your project will utilize.
    - See the requirements below for reference.
- Possible risks for your implementation.
    - Maybe you will need to learn functionality outside of the content taught in class in order to see your vision come to life.
    - The project may be risky because it could be very large for the amount of time you have to implement, etc.

IMPORTANT:

- **Your app MUST have a purpose,** so do not submit a bunch of code without any reason for existing. It should be something the users might be interested in using.
    - It is not because you can choose to develop any app that you will get a good grade for submitting anything. Make sure to create something you would be proud to show other people, possible employers, potential clients, etc.
- **Your app MUST be original**, meaning that no app submitted for labs will be accepted as a final project.
    - It will also not be accepted those apps repurposed for a different use, like a list of games, a list of groceries, a Todo list, etc.

This planning must be converted into a PDF file to be submitted for evaluation.

2. DEVELOPMENT

Build your application following your plan. Your implementation must also follow the guidelines below:

- Google Chrome DevTools must recognize the app as a PWA, and it must be installable.
- The **app shell** must be well-styled. You may use any CSS Framework, but it must be responsive and provide a good UI/UX.
- The app must contain a **Web App Manifest** file including all required properties to make the app a PWA.
- The app must have a registered **Service Worker** that properly manages the events 'install', 'activate', and 'fetch'.
- The app must handle one of the following **cache** strategies learned in class: Cache with Network fallback, Network with Cache fallback, or Stale while Revalidate. The app must work both **online** and **offline**, therefore the strategies Cache Only and Network Only will **not** be accepted.
- The app must use Firebase for **data management** (you can use either Firestore or Realtime Database). However, since the app is expected to work office, you must also use **IndexedDB** to temporarily save the data locally when the app is offline, and then use **Background Sync** to save the data online once the connection is restored.
    - For Firebase, it is your responsibility to make sure your database will be active until you receive the final grade for this project.
- Besides the ones mentioned above, the app must also use at least 3 other Web APIs discussed in class (Notification API, Push API, Geolocation API, Sensors API, etc).
- The DevTools console must display **no critical warnings or fatal errors** related to your app.

3. Presentation

You must also record and provide a link to a video where you walk through each requirement above and the associated code.

- You should give a brief demo of how the application works.

- Also, like a code review, I want to know how you solved each requirement.
    - Show the app functionality and the snip of code used for it.
- The demonstrated app must match the submitted code.
- Be objective: videos should be 5 minutes long, or less.

Note: It is your responsibility to ensure that I will have access to the submitted video (I will not create an account with a service provider nor pay for subscriptions to watch your video).

SUBMISSION REQUIREMENTS:

Once done, go to FOL > Evaluation > Submissions and submit the following to the appropriate folder in FOL:

- Your prototype document outlining what you had planned to build.
    - It must be in PDF format (after exporting to PDF, ensure it is possible to read every piece of information in the document).
- Your zipped application.
    - Using any method to generate a **zip** file, compress all folders and files included in your project.
- A link to your video.
    - The link can be included in the submission **comments**.
    - The video can be hosted on Loom, Vidyard, YouTube, or a similar streaming service (as long as I don't need to log in to watch it).

Important: it is your responsibility to ensure that the submitted file was correctly uploaded and contains the project you intended to submit. For that:

- Go back to the submission folder and check that the submission is there.
- Download and extract your zip file to ensure it was not corrupted during the upload.

- Check the extracted files to see if those are indeed the ones you intended to submit.

Wrong submissions will result in 0 marks awarded for this assignment.

EVALUATION:

- You are expected to properly submit your assignment by the deadline specified in this document. In doing so, this project will be evaluated based on this requirement, your delivered code, your delivered presentation, and the final functionality of your app. **You can find a detailed rubric attached to this lab's submission folder in FOL.**
- Only **working codes** will be evaluated. The code needs to match the purpose described in this document, and grades will only be granted if the intention of this assignment is fulfilled. **Students will not receive a partial mark for code that does not run as intended**.
- Write clear code and avoid making a mess. The professor is entitled to deduct makes if the code is too confusing or part of the code is unnecessary for the running application. Remember that when working for a company, other developers need to understand your code.
- Submit **your own** work and **keep it to yourself**! Submitting work from another source, or done by another student, is considered cheating, and it will be penalized with a grade of 0 for all shared projects. This will also be reported to the college, and a more severe penalty may be applied.
- For video submissions, it is your responsibility to ensure I have access to the submitted video. I will not create an account with a service provider nor pay for subscriptions to watch your video.
- Do not leave this assignment to the last minute. If you have any issues at the last minute, your professor may not have enough time to read and answer your questions. Not receiving a reply from the professor will **NOT** be an acceptable excuse not to deliver the assignment on time.

- Late submissions will be penalized according to the following criteria:

Until 24 hours late	30% deduction
Until 48 hours late	40% deduction
Until 72 hours late	50% deduction
After 72 hours late	**Grade of 0**

- If any corrections or changes to these instructions are necessary, they will be posted to FOL, and you will be notified. It is your responsibility to check the course page periodically for notifications and changes to the assignment.