

Technological Basics II: The Exam Project Report
MVP “Gym Girls”
Building an application to unite women in fitness

Module: Technological Basics II

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Anna Kröger
Baumkamp 15
22299 Hamburg
Anna.C.Kroeger@stud.leuphana.de

Digital Media
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Building upon TB I – Research, Social Impact, Uniqueness

“[Gym Girls] will provide a safe space to address concerns related to gym culture and inclusivity [...] [and] create an environment where women feel connected and supported in navigating their fitness journey”¹:

The ending paragraph of the report on my exam project for Tech Basics 1 already strongly implied the room for further enhancements that the GUI left. I was determined to keep working on this project, as I was still very much interested in building an application that was socially ameliorative and that I would personally make use of.

The MVP for Tech Basics 2 aims to move closer to the promise initially made.

I worked on TB 1 when I had just started going to the gym regularly. So, my research and application development focused on the challenges women face when struggling to settle in and adjusting to a new, male-dominated environment. The aim therefore was primarily to reduce discomfort, encourage women, and help them navigate the gym space more confidently by approaching it together, particularly for those just starting out.

After having gone for about a year now, I recognized the need for several adaptations. I wanted the application to support both newcomers and experienced gym-goers. These adaptations, which I will explain in more detail in the following section, are based on my personal experiences over the past year. I realized the effects my menstrual cycle had on my workout motivation, the intensity and strength of my training, and my anxiety levels when going out in public and being around people.

This was supported by additional research I conducted:

Most eumenorrheic women have an increase of body basal temperature throughout their luteal phase. “This elevated temperature, combined with possible changes in fluid regulation [...] [and] haematology, [can] affect prolonged exercise performance, particularly in a hot environment”, de Jonge (2003) asserts. Changes in estrogen and progesterone levels, depending on cycle phase, might also influence exercise performance. (cf. de Jonge et al. 2003, McNulty et. Al. 2020)

While research is conflicted on how great the effects of the menstrual cycle on athletic performance actually is, I felt it was crucial for the app to provide a supportive space where

¹ Please refer to my project report from TB1 if needed: <https://github.com/anna-tech-basics/exam-project-tech-basics-1>

women can share and discuss how their menstrual cycles influence their feelings and performance. This includes struggles with fluctuating body image, bodily strength, and mental health depending on their cycle.

I might have a personal proclivity towards this topic because of my PMDD, but felt inspired by content on social media, indicating a consensus and realizing other women have similar concerns:

<https://www.instagram.com/reel/C8ZZpLhoPex/?igsh=MW5ibW41cTVoZzUycw==>

<https://www.instagram.com/reel/CsthGonuZc7/?igsh=cnpkZXd6dXpqZWZz>

<https://www.instagram.com/reel/C8ZS-ZuoW8x/?igsh=djhhZG15MDNwOThr>

<https://www.instagram.com/reel/C0rEL04AtOh/?igsh=MXM4dmJpeXFiYWltdw==>

Keeping Old Features, Explaining New Features

The GUI offered a good basic framework for the application, so I decided to keep it:

A login frame for username and password and a frame in which each user can set up their profile and input more detailed information about themselves, which builds the foundation of the community-based platform I am trying to build upon.

I adjusted the code for the profile frame to be about membership status, since I wanted the profile set up to be on the main page, after finding inspiration on the other profiles that are already registered.

Once you have finished setting up you reach mentioned main page, the central hub of GymGirls.

This is where you can access the main functions that GymGirls offers. At this point, the GUI from TB1 only displayed functionless buttons as placeholders.

My MVP now four fully functioning features:

Under **“About GymGirls”**, users can read in more detail about what GymGirls’ philosophy and what it aims to do.

The **“Connect with GymGirls”**-Button opens up a map of Hamburg with three example Gym locations which contain the respective profiles of the users, in which they can share personal information, training plan or workout, what exactly they plan on using GymGirls for, and how experienced they are for more effective matchmaking.

In **“Your profile”** you can fill out your own GymGirl-form by entering your information. The Save-Button will automatically transfer your inputs onto the form.

“Share Experiences” provides the opportunity to come into exchange about possible uncomfortable situations, ask for advice or share their thoughts on what GymGirls can improve to become more inclusive, supportive and helpful.

I realize that this function in itself needs more improvement, since it does not seem like a community-based service or Forum. The successful implementation of a chatbot was really challenging.

I put emphasis on the app to be smoothly navigated. This is why each page offers an exit button, as well as a “Back-Button” that leads you to the page before. This way you can easily change your entries and switch between pages. Additionally, each page after GymGirls’ central Hub offers a Home-Button that leads you back to the main page.

Cleaning Up Code & Upgrading Design

I did a lot of cleaning up within the definitions because I realized they were way more complicated than they needed to be.

Substituting the grid geometry for the place geometry also helped me position my widgets way more precisely than before.

The helper functions provided really helped me to keep my code clear and finally smoothly integrate background pictures which I struggled with during TB1.

Immediately obvious was also that the Old GUI really lacked a good design. I designed the background pattern “women for women” using canva to make the MVP more visually pleasing while also representing GymGirls’ philosophy. I adjusted letterings and background colors accordingly, using the Tkinter color chart (see references).

Since I also wanted the user profiles to be appealing, I designed these with canva as well.

Overall, I am really content with the application and its design. I am happy about pursuing and completing something I was passionate about, even though this project was nervously anticipated by me.

The well-structured lecture material and examination criteria provided good support in managing this task.

References

Literature

de Jonge, X.A.K.J. Effects of the Menstrual Cycle on Exercise Performance. *Sports Med* **33**, 833–851 (2003). <https://doi.org/10.2165/00007256-200333110-00004>

McNulty, K.L., Elliott-Sale, K.J., Dolan, E. et al. The Effects of Menstrual Cycle Phase on Exercise Performance in Eumenorrheic Women: A Systematic Review and Meta-Analysis. *Sports Med* **50**, 1813–1827 (2020). <https://doi.org/10.1007/s40279-020-01319-3>

Code

Helpers

https://github.com/shaq31415926/python_tech_basics/tree/main/tech_basics_two/13Lecture

Share Experiences-Chat, line 440 (simple_chatbot.py)

https://github.com/shaq31415926/python_tech_basics/tree/main/tech_basics_two/11Lecture

Color Chart for Background Colors

https://cs111.wellesley.edu/archive/cs111_fall14/public_html/labs/lab12/tkintercolor.html

Place and Grid Geometry

<https://www.pythontutorial.net/tkinter>