

GymGuru

Gleb Bugaev Mariia Shmakova Anna Gromova Arina Goncharova
Nail Minnemullin Milana Sirozhova Liana Mardanova

· July 23nd 2024 ·

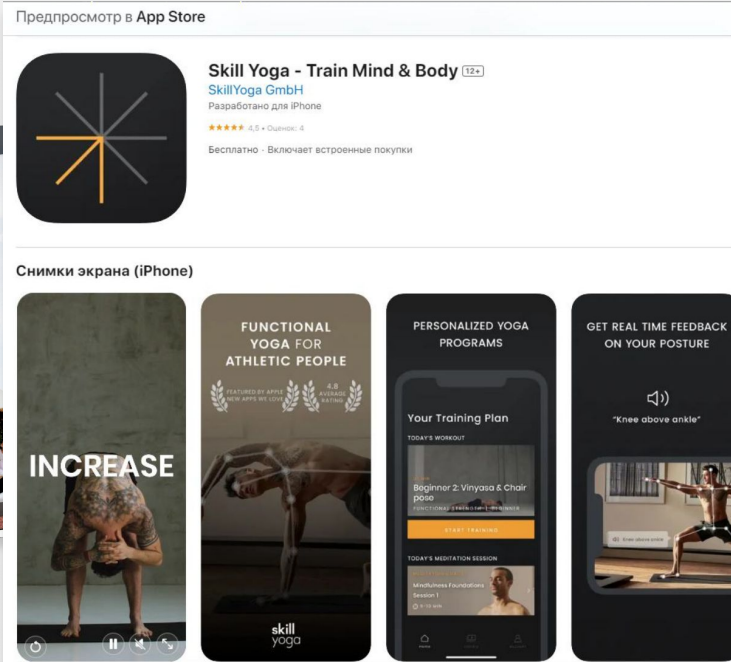
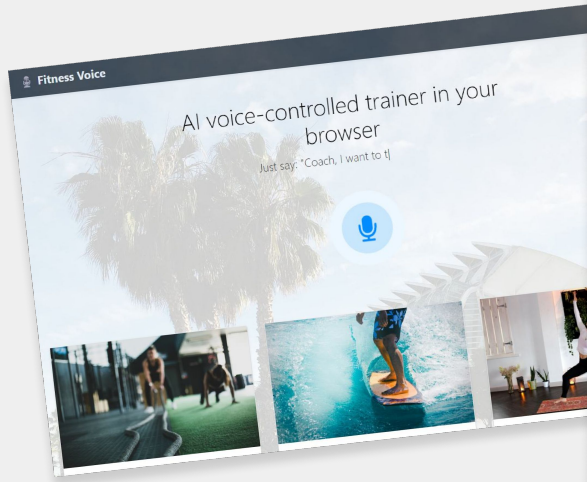
Domain

Training

- absence of accessible gym
- absence of sport coach
- wrong technique during self-training

Fitness Test

- only offline
- inconvenient time slots
- no trainers attention for everyone



Marketing Research

Skill Yoga, Fitness voice, BeOne Sports

The idea of the product

①

Improve the
correctness of physical
exercises performing

②

Train at home or in the
gym at a convenient
time without the need
for professional
supervision

③

Pass fitness test
remotely from any
device with camera

Product functionality

What you can do using GymGuru

- Register / Login / Logout
- Train different exercises with supervision and score counting
- Pass fitness test
- See the history of your results
- See the rating of all users
- Load the spreadsheet of fitness test results (only for sport trainers)



Team



Gleb Bugaev

ROLE:

Team leader

RESPONSIBILITIES:

GitHub Project,
Team Organization



Mariia Shmakova

ROLE:

Report writer

RESPONSIBILITIES:

Google Docs,
Figma



Milana Sirozhova

ROLE:

Report writer

RESPONSIBILITIES:

Google Docs,
Draw.io



Team



Liana Mardanova

ROLE:

Frontender

RESPONSIBILITIES:

HTML, Tailwind
CSS, JavaScript



Arina Goncharova

ROLE:

Frontender

RESPONSIBILITIES:

HTML, Tailwind
CSS, JavaScript



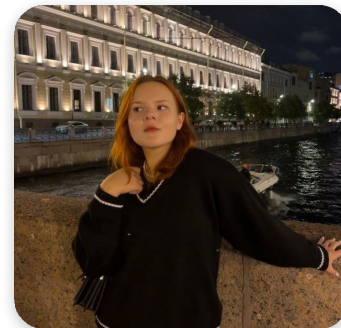
Nail Minnemullin

ROLE:

Backender

RESPONSIBILITIES:

Postgres, Docker,
GitHub Actions,
Flask



Anna Gromova

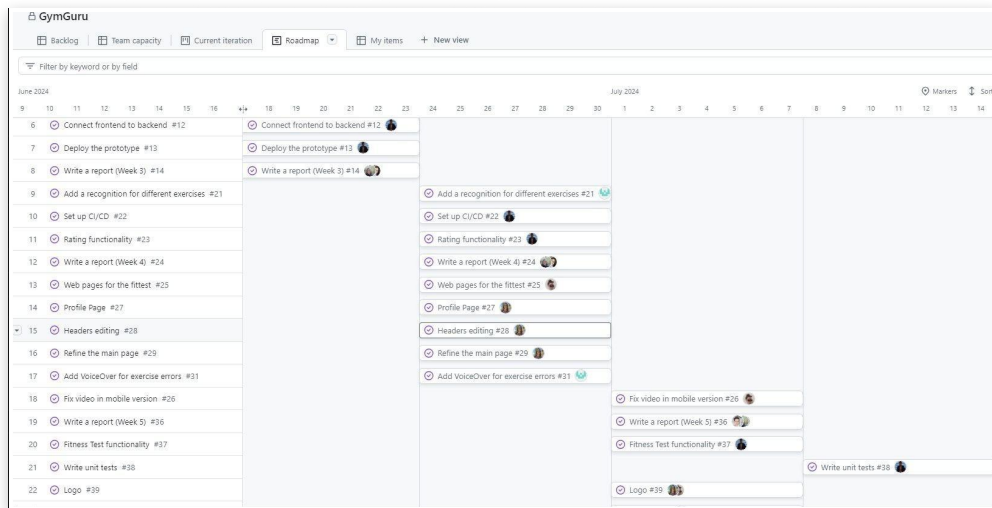
ROLE:

Backender

RESPONSIBILITIES:

JavaScript,
MoveNet,
MediaPipe

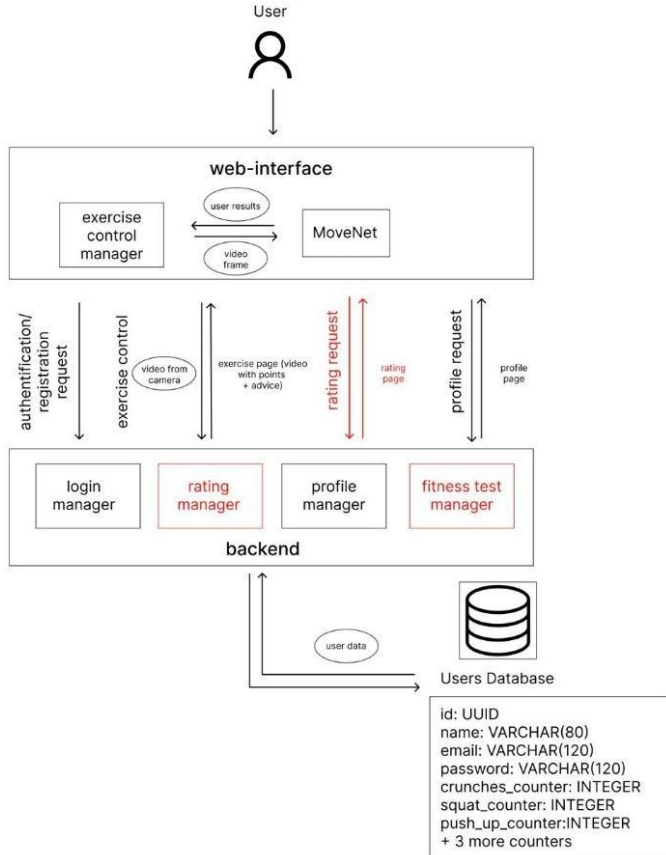
Team leading and product backlog



The screenshot shows a table view of the GymGuru backlog. The table has the following columns: Title, Assignees, Status, Priority, Size, Iteration, and Add status update. The tasks are listed in a table with the following data:

Title	Assignees	Status	Priority	Size	Iteration	Add status update
1. Create web pages (Arina) #7	arinagoncharova20...	Done	P1	M	Iteration 1	
2. Create web pages (Liana) #8	liaana	Done	P1	M	Iteration 1	
3. Create Postgres database #9	naika	Done	P2	S	Iteration 1	
4. Body recognition #10	naika	Done	P0	M	Iteration 1	
5. Rules for exercises #11	anngrosha	Done	P0	L	Iteration 1	
6. Connect frontend to backend #12	naika	Done	P1	L	Iteration 1	
7. Deploy the prototype #13	naishmak	Done	P2	L	Iteration 1	
8. Write a report (Week 3) #14	marishmak and Mil...	Done	P0	M	Iteration 1	
9. Add a recognition for different exercises #21	anngrosha	Done	P0	L	Iteration 2	
10. Set up CI/CD #22	naika	Done	P0	M	Iteration 2	
11. Rating functionality #23	naika	Done	P1	S	Iteration 2	
12. Write a report (Week 4) #24	marishmak and Mil...	Done	P0	M	Iteration 2	
13. Web pages for the fittest #25	liaana	Done	P1	M	Iteration 2	

Reports writing and Diagram Drawing



① Reports Structure

- WEEK'S FOCUS AND IMPORTANCE
- FEEDBACK FROM TA
- WEEK'S OBJECTIVES
- CHALLENGES & SOLUTIONS
- CONCLUSIONS & NEXT STEPS

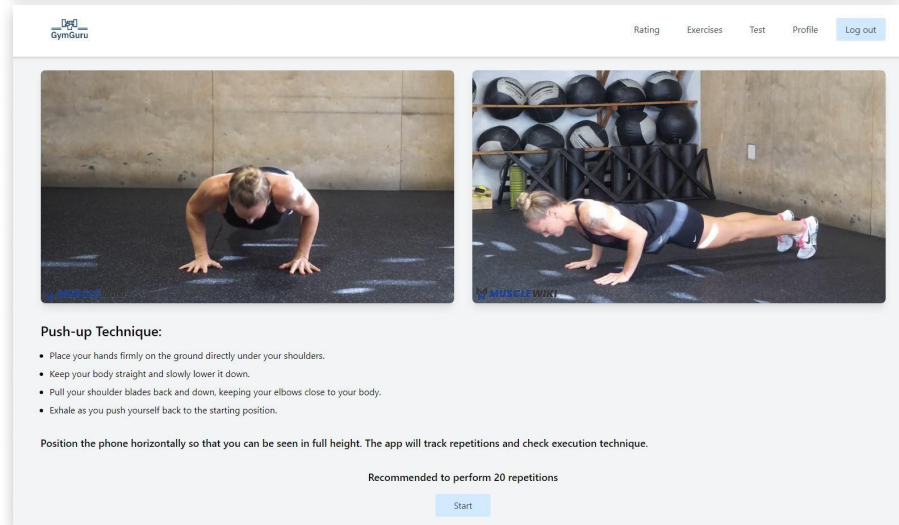
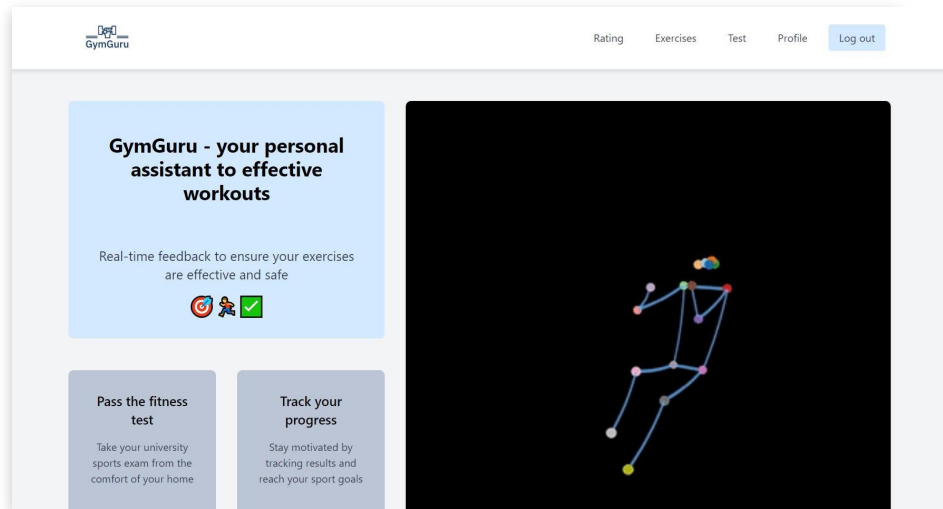
② Google Docs

- TEXT WRITING
- SIMULTANEOUS EDITING
- COMMENTS FROM TEAM MEMBERS

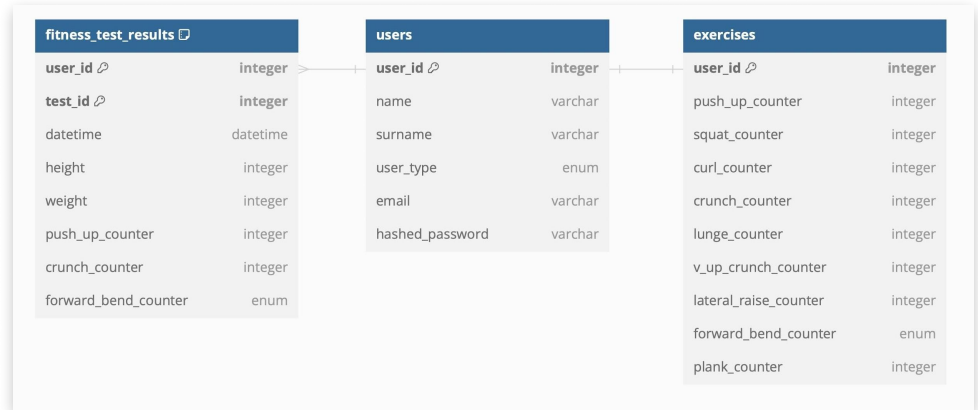
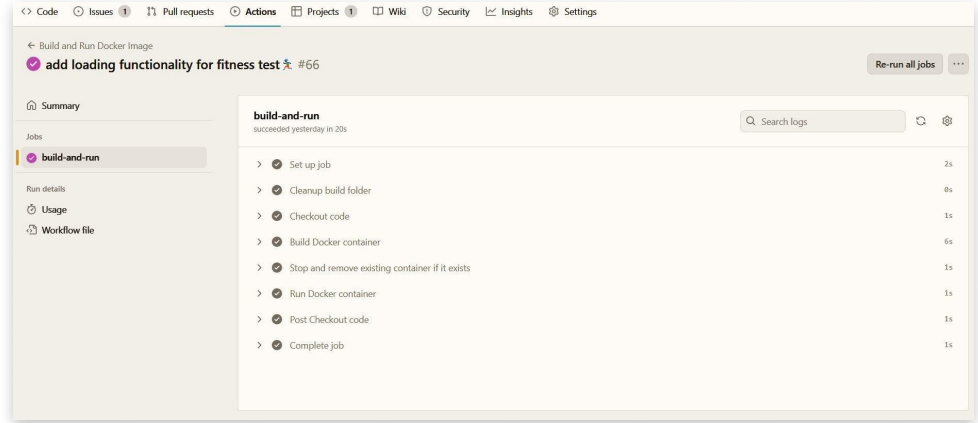
③ Visual Studio Code

- CONVERTING TO MARKDOWN
- PREVIEW WATCHING

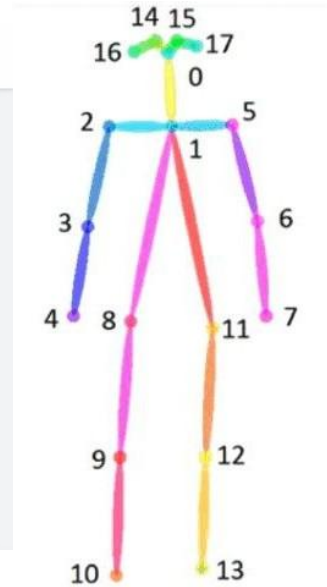
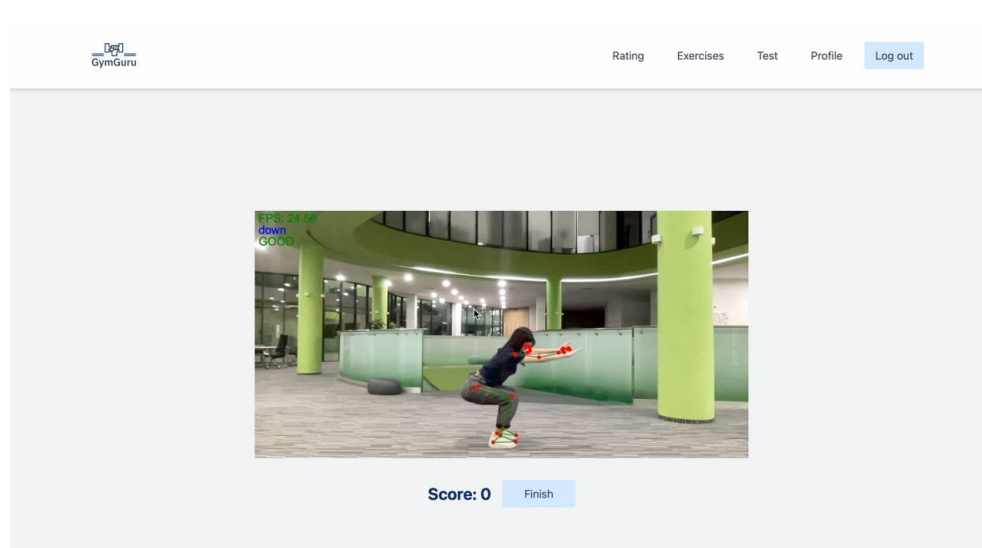
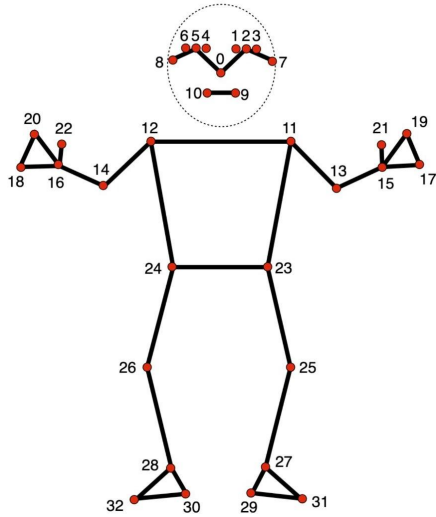
User Interface



Database, backend functionality



Pose recognition, ML models and rules of checking the correctness



GymGuru - your personal assistant to effective workouts

Real-time feedback to ensure your exercises are effective and safe



Pass the fitness test

Take your university sports exam from the comfort of your home

Track your progress

Stay motivated by tracking results and reach your sport goals



Demo



<https://gog.su/0cVh>

GYMGURU

Evaluation and Discussion

① GymGuru solved problems with

- UNSUPERVISED TRAININGS
- ONLY OFFLINE FITNESS TEST

② By creating an ML-powered web application with

- DIFFERENT ML-SUPERVISED EXERCISES
- IN-TIME VOICE ADVICE
- HISTORY OF TRAINING SESSIONS
- RATING AMONG ALL USERS
- FITNESS TEST PASSING ABILITY

Testing and Feedback

We tested

- USER INTERFACE
- AVAILABILITY OF WEB SERVICES
- EXERCISES CHECKING

Users' and expert's feedback

- UI & MAIN IDEA – GREAT
- ONLINE FITNESS TEST – CONVENIENT
- SEVERAL EXERCISES NEED TO BE SLIGHTLY RECONFIGURED

Challenges and troubles

①

ML model choice

②

**Tricks to deceive
the checking
system**

③

**Where to process
the video**

ROADMAP

Future development

Upcoming features

- VERIFICATION OF PERSON BY FACE
- MORE EXERCISES
- ONLINE COMPETITIONS

Marketing Strategies

- INTEGRATION INTO UNIVERSITY SPORT SYSTEM
- DIGITAL MARKETING

Define structure
and develop first
prototype

July

Complete deployment
and introduction to
mass usage

September

Expand and integrate
new hardware

June

Process user
feedback, testing,
finalize MVP

August

Expand functionality,
improve existing solutions
in human body recognition

October

WHAT WE LEARNED

Reflection

- ① **GitHub Project organization and Actions (CI/CD and Runners)**
- ② **Integration of ML tool into client side of the application**
- ③ **Planning meetings with a large team (of 7 members)**

Thanks from us

We are grateful to all the students of Innopolis University who gave us feedback during the product development process.

And we are grateful to our teacher assistant Karim ElDakroury, for his helpful advice and guidance.

Also, special thanks to Innopolis University sport coach Yana Bogdanovich for her professional opinion and valuable advice.



Web application link

[HTTPS://GYMGU.RU/](https://GYMGU.RU/)

Thanks!

GYMGURU