## **Online Exam Monitoring System: “Hell App”**

## **Overview**

Hell App is an examination platform that covers the entire exam lifecycle. Students can register, verify their accounts, see upcoming and active exams, take timed assessments, and review their results. Teachers can build question collections, assemble exams, assign them to specific students, and monitor progress in real time. The system also offers secure authentication, account management (password changes, reset, deletion), email notifications, and transparent privacy controls.

## **Key Features**

* **Account lifecycle** – Email registration & verification, secure login, password change/reset, optional account deletion
* **Exam creation & scheduling** – Teachers create exams, define dates, basic info, randomise questions/answers, and configure security options (e.g., prevent tab‑switching)
* **Question bank** – Collections of reusable questions with support for multiple question types and inline validation
* **Results & analytics** – Students review attempts; teachers get aggregated performance insights
* **Privacy & data‑protection** – Clear privacy policy, transparent data usage, user control over notifications and account data

## **Technology Stack**

* **Backend**: Python · FastAPI
* **Frontend**: JavaScript · React
* **Databases**: MongoDB
* **Infrastructure**: Docker, Nginx

## **Team**

* Denys Shevchenko – dshevchenko@student.agh.edu.pl
* Yehor Karabanov – yehorkarabanov@student.agh.edu.pl
* Valerii Matviiv – vmatviiv@student.agh.edu.pl
* Iana‑Iuliana Nastasiu – iananastasiu@student.agh.edu.pl
* Andrei‑Alexandru Marcu – amarcu@student.agh.edu.pl

## **User Stories**

## **Must‑be (1)**

1. As a user, I want to register using my email address so that I can access the platform easily.
2. As a user, I want to verify my email address so that I can activate my account and access the platform.
3. As a user, I want to securely reset my password through a link sent to my email when I forget it.
4. As a user, I want to log in securely so that I can access the platform and my exams.
5. As a user, I want to change my password from the settings page so that I can keep my account secure.
6. As a student, I want to see a list of upcoming exams so that I know what I need to prepare for.
7. As a student, I want to view details about an exam before starting it so that I know what to expect.
8. As a student, I want to have a calendar with marked exams on it, so I can view exam/s details for specific dates.
9. As a student, I want to answer and save my responses during an exam so that I don’t lose progress if something goes wrong.
10. As a student, I want to have a navigation panel to comfortably navigate between the questions, and understand my current progress.
11. As a student, I want to submit my exam when ready or have it auto submitted when time is up so that I can finish the process securely.
12. As a student, I want to resume an in progress exam so that I can finish it if I get disconnected.
13. As a teacher, I want to be able to create a reusable question collection so that I can use it in multiple exams.
14. As a teacher, I want to add a new question, of supported types, to the question collection so that I can build rich assessments.
15. As a teacher, I want to create a new exam and set its details so that I can quickly begin the setup process and assign it to students on time.
16. As a teacher, I want to pick which students should take an exam so that only they receive access and the exam parameters are properly set.

### **Should‑be (2)**

1. As a user, I want to update my first and last name so that my profile reflects my real identity.
2. As a user, I want to delete my account and confirm the deletion so that I can permanently remove my presence and data from the platform.
3. As a user, I want to understand how my personal data will be used so that I can make informed decisions about my privacy.
4. As a student, I want to view and manage the full list of my exams with filtering, sorting, and pagination so that I can easily organize, search, and navigate my upcoming and past assessments.
5. As a student, I want to see the score and feedback for my selected exam attempt so that I can evaluate my performance.
6. As a student, I want to switch between multiple exam attempts so that I can compare my past results.
7. As a student, I want to review all my previous attempts for a given exam so that I can understand my progress.
8. As a student, I want the dashboard to update exam status in real time so that I always see the correct start or end state without refreshing.
9. As a teacher, I want to adjust the position of questions so that they appear in the desired sequence for students.
10. As a teacher, I want to permanently delete a collection I no longer need so that my workspace stays uncluttered.
11. As a teacher, I want to enable shuffled questions so that cheating is discouraged.
12. As a teacher, I want to filter collections by draft, published, or archived state so that only relevant items are shown.
13. As a teacher, I want to sort collections so that I can organize them by relevance.
14. As a teacher, I need a dashboard that welcomes me and provides quick access to core sections like Question Collections, Exams, and Exams Database so that I can access them easily.
15. As a teacher, I want the dashboard to display a Recent Activity section with lists of added collections, upcoming exams, and ended exams so that I can quickly review my most recent actions and scheduled items.

### **Could‑be (3)**

1. As a visitor, I want to understand what the platform offers and how it works so that I can decide to register or not.
2. As a user, I want to toggle email notifications so that I can control whether I receive reminders.
3. As a user, I want to see a clear message when I access a nonexistent page so that I understand that the page is not available and can return to the home page.
4. As a teacher, I want to search collections by title or description so that I can instantly find the one I need.
5. As a teacher, I want to make a copy of an existing collection so that I can tweak it without changing the original.
6. As a teacher, I want to view a detailed summary of an exam in a popup when I click it from the dashboard so that I can quickly understand its schedule and assignment without leaving the page.
7. As a teacher, I want to configure and download a PDF report of an exam so that I can export relevant results in a filtered and visual format.
8. As a teacher, I want to set reminders to be sent via email to the students about the time before an exam starts so that I make sure all the students will be present.