



SIRIUS
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Sirius
Educational Center



Sirius
University of Science
and Technology



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YOUNG SCIENTISTS HACKATHON

2025



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CASE - 3

Background

The Sirius Federal Territory hosts scientific conferences, educational programs, and sports competitions.

Each event concludes by summarizing results and presenting diplomas, certificates, and letters of appreciation. As many guests return regularly, their information accumulates in local databases, creating a need to automate the generation of these reporting documents.



About the Case

Sirius GlobalCertHub: Certificate Generation Service

Goal:

Develop a service to automate the generation of digital certificates for participants of educational programs, scientific conferences, and sporting events by importing participant lists from CSV or XLSX files.

Core Functional Requirements

1. Provide a Function for uploading participant data in .CSV (**required**) or .XLSX (**optional**) format. Required data fields:

- Full name
- Email
- Role (e.g., participant, speaker, winner)
- Award place (e.g., 1, 2, 3)

2. Provide Users with an Interface to add and select certificate templates. Supported template formats: SVG or HTML+CSS with placeholder variables.

Template variables should include:
issue_date, event_name, certificate_id.

3. Generate Personalized Certificates in PDF format containing individual participant data.

4*. Integrate with an Email Service for automatic distribution of generated certificates to participants.

5.* Ensure Secure Data Storage and maintain information confidentiality.

Plan

Checkpoint 1: Certificate Rendering

Ensure the template-to-PDF generation pipeline works

Expected Outcome:

- ★ A script generates a PDF from the command line.
- ★ At least one placeholder is properly substituted.
- ★ Correct display of Cyrillic characters and Russian fonts.

Checkpoint 2: UI + CSV Import + Single/Several Certificate Generation

Connect data input to the template via a simple interface

Expected Outcome:

- ★ Ability to upload a template and a valid CSV/XLSX file.
- ★ The system generates a document from the data.

Checkpoint 3: Email Integration + UI Polishing + Docker

Create a production-ready certificate issuance system

Expected Outcome:

- ★ User-friendly UI for data entry.
- ★ Batch PDF generation (e.g., in a ZIP archive).
- ★ Optional email delivery.
- ★ User authentication (login/password).