


# Поектиране и реализация на система за кандидатстудентски прием


Данаил Пламенов Михайлов | Фак. № 23651231


Ръководител: Ас. Велислав Колесниченко

Технически университет – Варна

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## Мотивация за избор на темата

- Нарастваща нужда от дигитализация в образованието
  - Улесняване на административни и кандидатски процеси
  - Вдъхновено от анализ на реални системи (УНСС, ТУ-София и др.)
- 
- A series of purple dashed line segments in the bottom right corner, forming a curved shape.

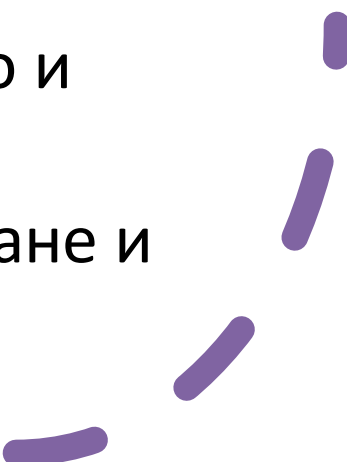


## Цели и задачи за реализация

### Цели:


- Създаване на модерна, сигурна и ефективна система
- Осигуряване на удобство за кандидатите и администрацията

### Задачи:

- Проектиране на архитектура и БД
  - Създаване на клиентско и сървърно приложение
  - Реализиране на класиране и отчетност
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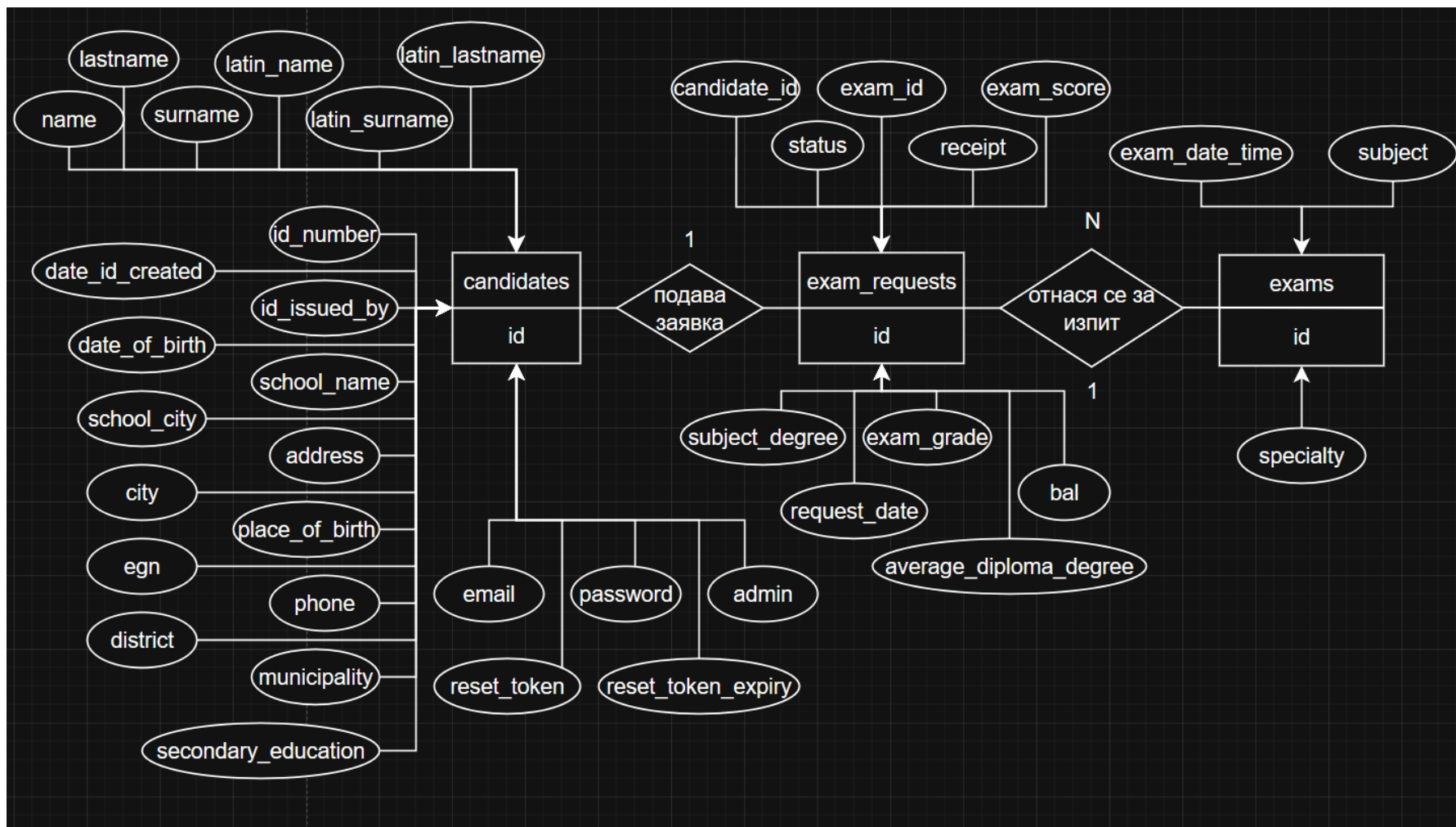
## Използвани технологии

- Frontend: ReactJS + NextJS
  - Backend: Java + Quarkus
  - База от данни: PostgreSQL
  - Контейнеризация: Docker
  - API: REST
  - Автентикация: JWT
- 
- A decorative purple dashed line in the bottom right corner, consisting of several curved segments.

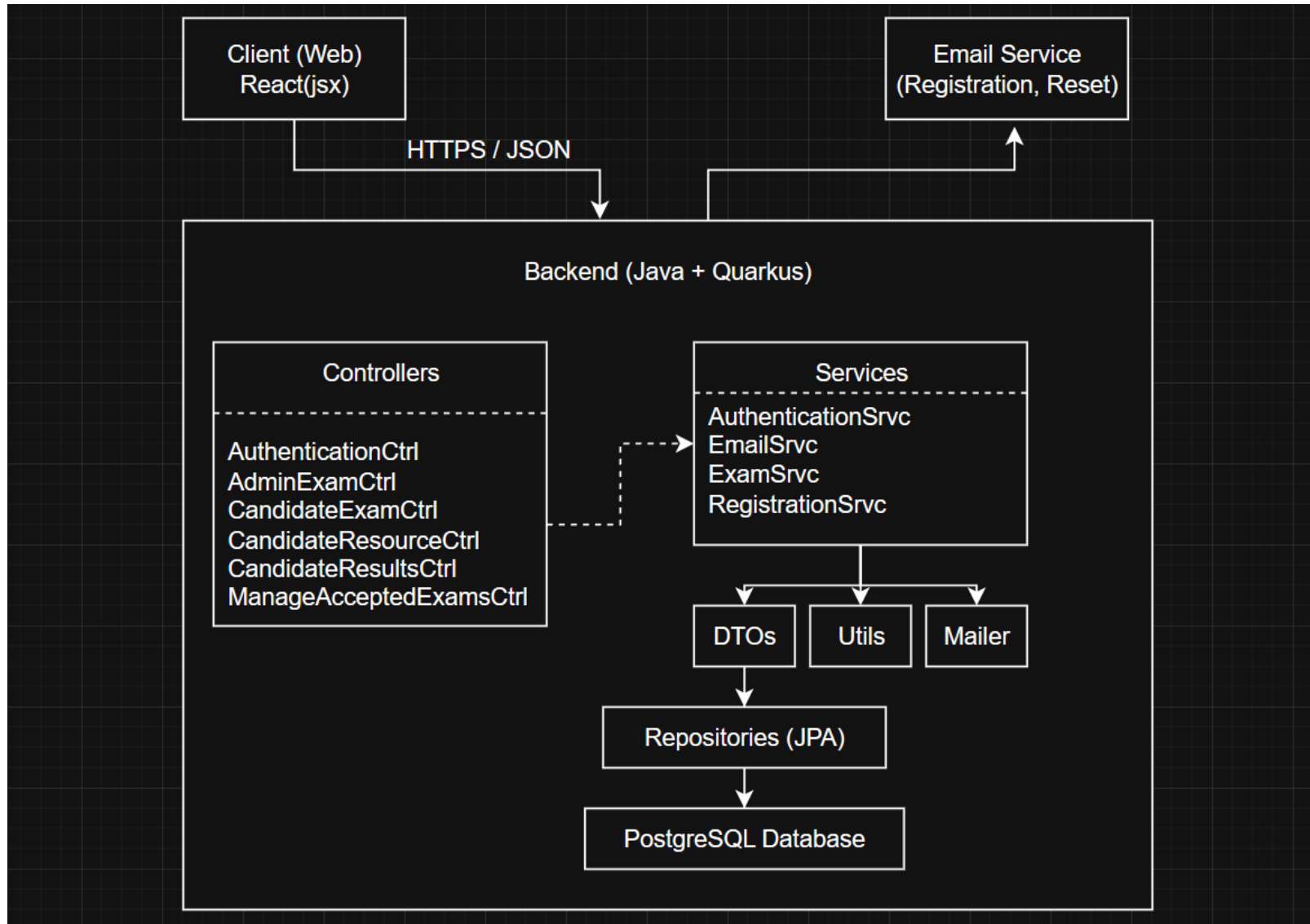
# Проектиране на системата



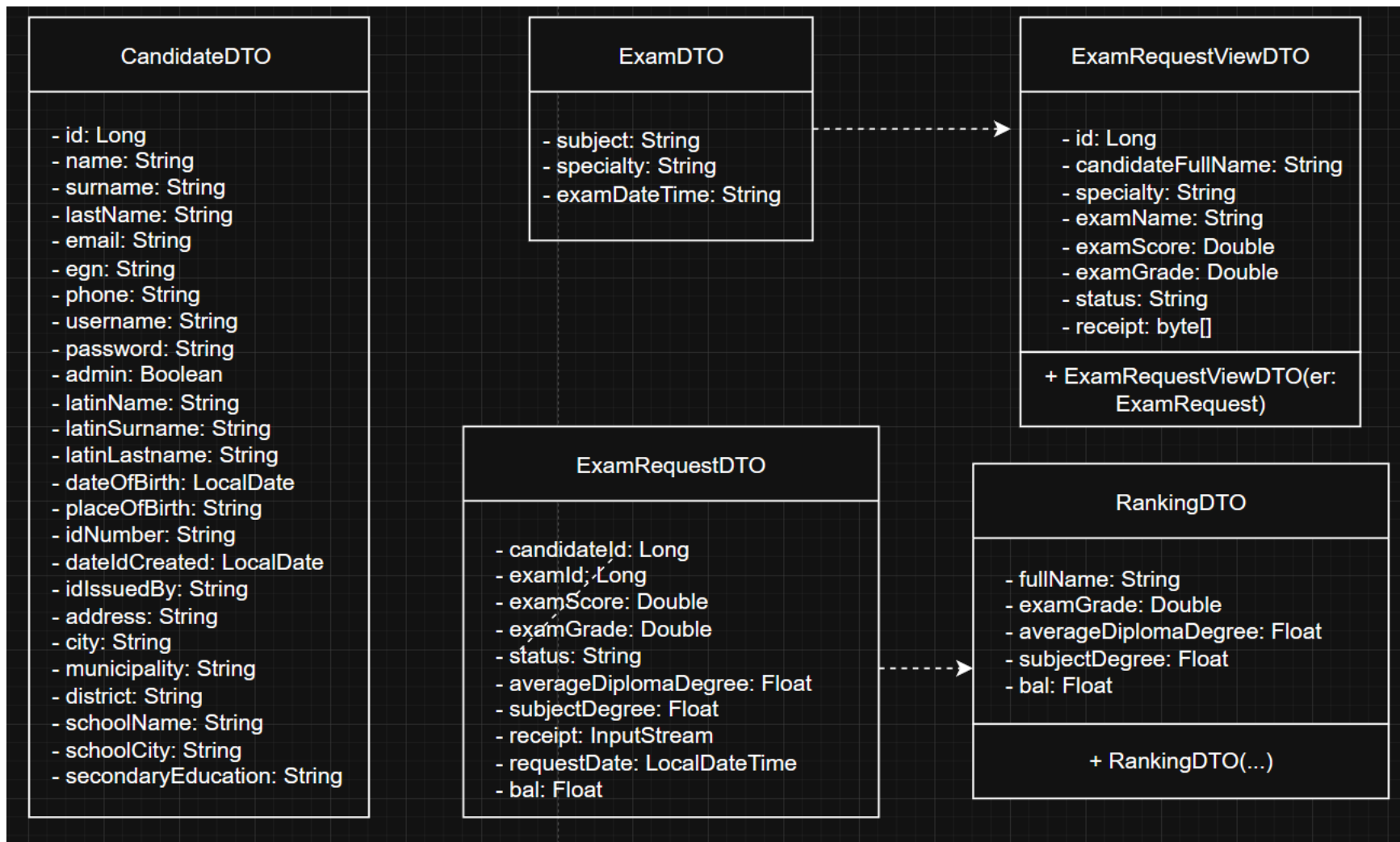
# Диаграма на Чен



# Архитектурна діаграма

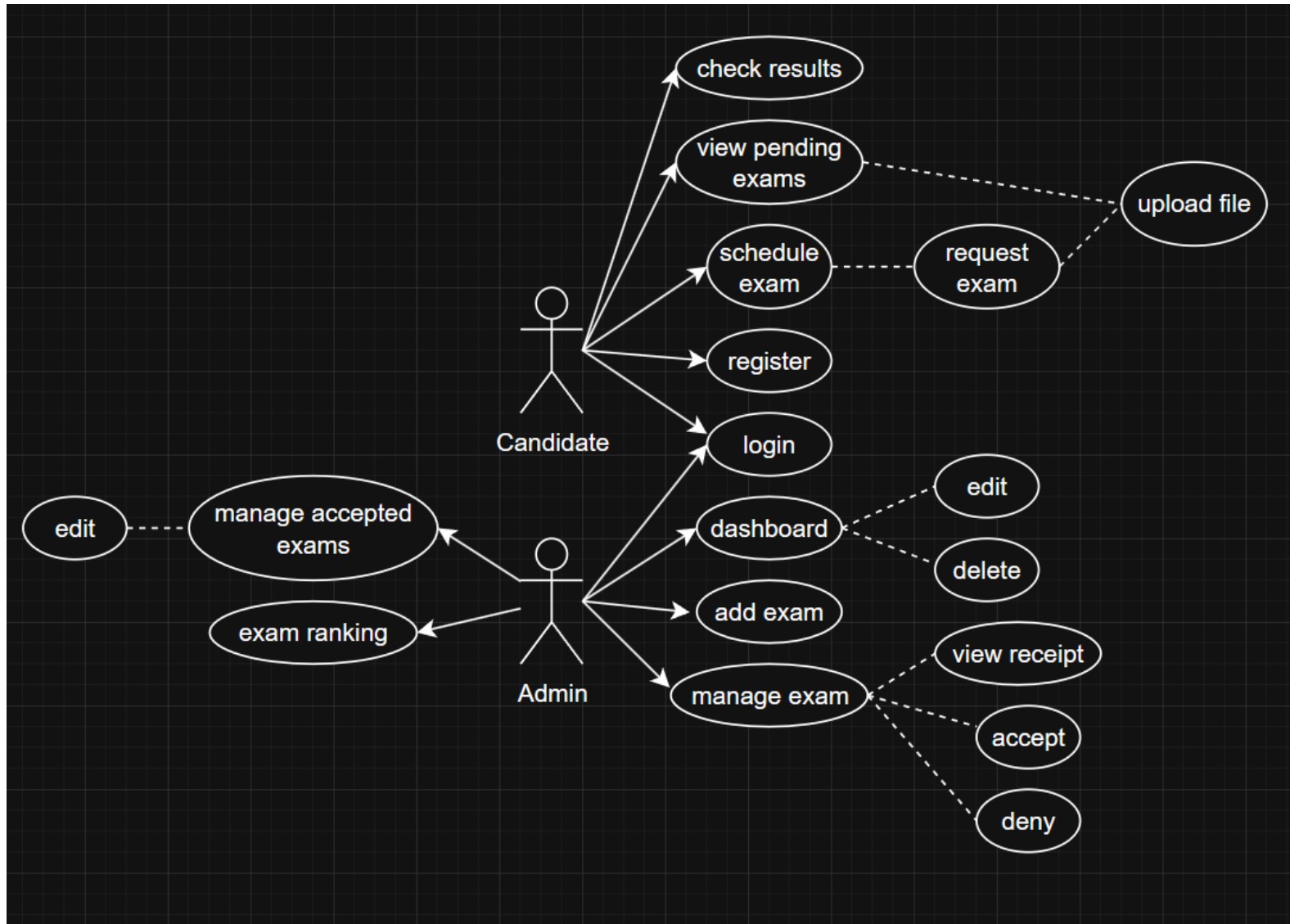


# UML Class диаграма





# UML Use Case диаграмма



# Реализация на системата



# Форма за регистрация

**Register**

Address:

City:

Municipality:

District:

School Name:

School City:

Secondary Education:

Register

# Форма за вход

## Log in

Username:

Password:

Register Here

Log in

Forgot Password?

# Забравена парола

## Reset Password

Send Email

Cancel

# Промяна на паролата

## Reset Your Password

New Password:

Confirm Password:

Submit

# Административен панел



# Създаване на изпит

## Admin Panel

Dashboard

Add an exam

Manage exams

Manage accepted exams

Exam Ranking

Logout

## Create Exam

Subject:

Specialty:

-- Select Specialty --



Exam Date and Time:

mm/dd/yyyy -- : -- --



Create Exam



# Административно табло за управление

Admin Panel

Dashboard

Add an exam

Manage exams

Manage accepted exams

Exam Ranking

Logout

Admin Dashboard

Manage exams


Specialty	Exam Subject	Exam Date & Time	Actions	
SIT	Math	Apr 17, 2025, 5:05 AM	Edit	Delete
KST	Math	Jun 5, 2025, 9:31 AM	Edit	Delete
KST	Bel	Apr 15, 2025, 10:30 PM	Edit	Delete
SIT	Math	Jun 28, 2025, 4:43 PM	Edit	Delete
SIT	Biology	Jun 24, 2025, 11:43 PM	Edit	Delete
SIT	Physics	Jun 28, 2025, 11:52 PM	Edit	Delete

## Edit Exam

Subject:

Math

Exam Date and Time:

04/17/2025 05:05 AM 

Save

Cancel

Subject:

Exam Date and Time:



Cancel

# Изпити чакащи потвърждение

## Admin Panel

Dashboard

Add an exam


Manage exams

Manage accepted exams

Exam Ranking

Logout

## Manage Exam Requests (Admin Panel)

Candidate Name	Exam Name	Status	Receipt	Actions
Ivan Dimitrov Ivanov	Math	PENDING	 <a href="#">View Receipt</a>	<a href="#">✔ Accept</a> <a href="#">✗ Deny</a>

# Одобрени заявки и нанасяне на оценки

## Admin Panel

[Dashboard](#)[Add an exam](#)[Manage exams](#)[Manage accepted exams](#)[Exam Ranking](#)[Logout](#)

## Manage Accepted Exams & Grades







Candidate Name	Specialty	Exam Name	Score	Grade	Actions
Ivan Dimitrov Ivanov	SIT	Math	90	6	<a href="#">Edit</a>
Borislav Dragomirov Mihaylov	SIT	Math	50	0	<a href="#">Edit</a>
Ivailo Plamenov Georgiev	KST	Bel	85	5	<a href="#">Edit</a>
Ivan Dimitrov Ivanov	SIT	Physics	90	5	<a href="#">Edit</a>
Ivan Dimitrov Ivanov	SIT	Math	89	5	<a href="#">Edit</a>

# Нанасяне на оценки

## Admin Panel

[Dashboard](#)[Add an exam](#)[Manage exams](#)[Manage accepted exams](#)[Exam Ranking](#)[Logout](#)

## Manage Accepted Exams & Grades

Candidate Name	Specialty	Exam Name	Score	Grade	Actions
Ivan Dimitrov Ivanov	SIT	Math	<input type="text" value="90"/>	<input type="text" value="6"/>	<button> Save</button> <button> Cancel</button>
Borislav Dragomirov Mihaylov	SIT	Math	50	0	<button> Edit</button>
Ivailo Plamenov Georgiev	KST	Bel	85	5	<button> Edit</button>
Ivan Dimitrov Ivanov	SIT	Physics	90	5	<button> Edit</button>
Ivan Dimitrov Ivanov	SIT	Math	89	5	<button> Edit</button>

# Класиране

## Admin Panel

Dashboard

Add an exam

Manage exams

Manage accepted exams

Exam Ranking

Logout

## View Exam Rankings

Select Specialty: SIT

Select Exam: Math — 6/28/2025 at 04:43 PM

View Ranking

Name	Exam Grade	Diploma Degree	Subject Degree	BAL
Ivan Dimitrov Ivanov	5	5	6	26
Borislav Dragomirov Mihaylov	3	6	6	21

# Профил на кандидат студент

## User Profile

**Name:** Ivan Dimitrov

**Email:** [REDACTED]@gmail.com

**Username:** 250002

Schedule  
Exam

View  
Pending  
Exams

Check  
Results

Logout

Reset Password

# Кандидатсване за изпити

## Available Exams

Select Specialty:

KST



### Math

Scheduled for: 6/5/2025, 9:31:00 AM

Request Exam

### Bel

Scheduled for: 4/15/2025, 10:30:00 PM

Request Exam



# Заявка за изпит

## Exam Request

**Exam Name:** Math

**Date & Time:** 6/5/2025, 9:31:00 AM

**Average Diploma Degree**

**Subject Degree**

**Upload Payment Receipt**

No file chosen

# Заявени изпити чакащи одобрение

## Pending Exam Requests

**Subject:** Math  
**Date:** 6/5/2025, 9:31:00 AM  
**Status:** PENDING

Choose File

Upload Receipt

Back to Profile

# Преглед на резултати

## View Your Exam Results

Specialty	Subject	Date	Score	Grade	BAL
SIT	Math	4/17/2025, 5:05:00 AM	90	6	22
SIT	Physics	6/28/2025, 11:52:00 PM	90	5	25
SIT	Math	6/28/2025, 4:43:00 PM	89	5	26

# Тестове



# Заявка за вход

```
@Test
public void testLoginSuccess() {
    given()
        .contentType(ContentType.JSON)
        .body("{\"username\":\"250001\",\"password\":\"TPtp50$%\"}")
    .when()
        .post("/api/auth/login")
    .then()
        .statusCode(200)
        .body("token", notNullValue())
        .body("admin", equalTo(true));

    System.out.println(x:"Login successful, token received.");
}

@Test
public void testLoginFailure() {
    given()
        .contentType(ContentType.JSON)
        .body("{\"username\":\"250001\",\"password\":\"12345\"}")
    .when()
        .post("/api/auth/login")
    .then()
        .statusCode(401)
        .body(containsString("Invalid credentials"));

    System.out.println(x:"Login failed, invalid credentials.");
}
```

# Създаване на изпит

```
@Test
public void testCreateExamSuccess() {
    String formattedDate = LocalDateTime.now().plusDays(days:1).withSecond(second:0).withNano(nanoOfSecond:0)
        .format(DateTimeFormatter.ofPattern(pattern:"yyyy-MM-dd'T'HH:mm:ss"));

    String json = """
        {
            "subject": "Biology",
            "specialty": "SIT",
            "examDateTime": "%s"
        }
    """
    .formatted(formattedDate);

    given()
        .contentType(ContentType.JSON)
        .body(json)
    .when()
        .post("/api/exam/create")
}
```

Exam created successfully with subject: Biology, specialty: Sit, date: 2025-06-24T23:45:00

# Създаване на изпит с невалидни данни

```
@Test
public void testCreateExamMissingFields() {
    given()
        .contentType(ContentType.JSON)
        .body("{\"subject\": null, \"examDateTime\": null, \"specialty\": null}")
    .when()
        .post("/api/exam/create")
    .then()
        .statusCode(400)
        .body(containsString("Subject, Exam Date Time, and Specialty are required.));

    System.out.println(x:"Failed to create exam due to missing fields: subject, examDateTime, specialty.");
}
```

Failed to create exam due to missing fields: subject, examDateTime, specialty.

# Редактиране на изпит

```
@Test
public void testUpdateExam() {
    String updatedDate = LocalDateTime.now().plusDays(days:5).withSecond(second:0).withNano(nanoOfSecond:0)
        .format(DateTimeFormatter.ofPattern(pattern:"yyyy-MM-dd'T'HH:mm:ss"));

    String json = """
        {
            "subject": "Updated Biology",
            "examDateTime": "%s"
        }
    """ .formatted(updatedDate);

    given()
        .contentType(ContentType.JSON)
        .body(json)
        .log().all()
    .when()
        .put("/api/exam/10/update")
}
```

```
}
Exam updated successfully with new subject: Updated Biology and date: 2025-06-28T23:49:00
```



# Редактиране на несъществуващ изпит

```
@Test
public void testUpdateExamNotFound() {
    String json = ""
        {
            "subject": "Nonexistent Exam",
            "examDateTime": "2023-12-31T10:00:00"
        }
        "";

    given()
        .contentType(ContentType.JSON)
        .body(json)
    .when()
        .put("/api/exam/99999/update")
    then()
```

Attempted to update a non-existent exam, received 404 Not Found response.

# Оценяване на изпит

```
@Test
public void testGradeExamRequest() {

    String json = ""
        {
            "examScore": 90,
            "examGrade": 5,
            "status": "COMPLETED",
            "averageDiplomaDegree": 5,
            "subjectDegree": 5.0
        }
        "";

    float expectedBal = (float)(5 * 3 + 5 + 5); // = 25

    given()
        .contentType(ContentType.JSON)
        .accept(ContentType.JSON)
        .body(json)
    .when()
        .put("/api/exam/manage/25/grade")
    .then()
        .statusCode(200)
```

Expected BAL: 25.0

# Оценяване на несъществуващ изпит

```
given()  
  .contentType(ContentType.JSON)  
  .accept(ContentType.JSON)  
  .body(json)  
.when()  
  .put("/api/exam/manage/99999/grade")  
.then()  
  .statusCode(404)  
  .body(containsString("Exam request not found with ID: " + 99999));
```

Test for non-existing exam request passed.

# Проверка на завършени изпити от кандидат

```
@Test
public void testGetCandidateResults_Success() {
    given()
        .accept(ContentType.JSON)
    .when()
        .get("/api/exam/result/1")
    .then()
        .statusCode(200)
        .body("$", hasSize(greaterThanOrEqualTo(1)))
        .body("[0].status", equalTo("COMPLETED"));
}
```

```
Candidate results retrieved successfully for candidate ID 1.
```

# Проверка на завършени изпити от несътществуващ кандидат

```
@Test
public void testGetCandidateResults_CandidateNotFound() {
    given()
        .accept(ContentType.JSON)
    .when()
        .get("/api/exam/result/99999")
    .then()
        .statusCode(404)
        .body(containsString("Candidate not found with ID: 99999"));

    System.out.println(x:"Candidate not found with ID 99999, as expected.");
}
```

Candidate not found with ID 99999

# Благодаря за вниманието

## Поектиране и реализация на система за кандидатстудентски прием

Данаил Пламенов Михайлов | Фак. № 23651231

Ръководител: Ас. Велислав Колесниченко

Технически университет – Варна