



**SCHOOL OF COMPUTING**  
Faculty of Engineering

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**SECD2523 – DATABASE**

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**PROJECT PHASE 3**

**CONCEPTUAL DESIGN**

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SECTION: 03 – 2SECR

COURSE NAME: BACHELOR OF COMPUTER SCIENCE – COMPUTER NETWORKS & SECURITY

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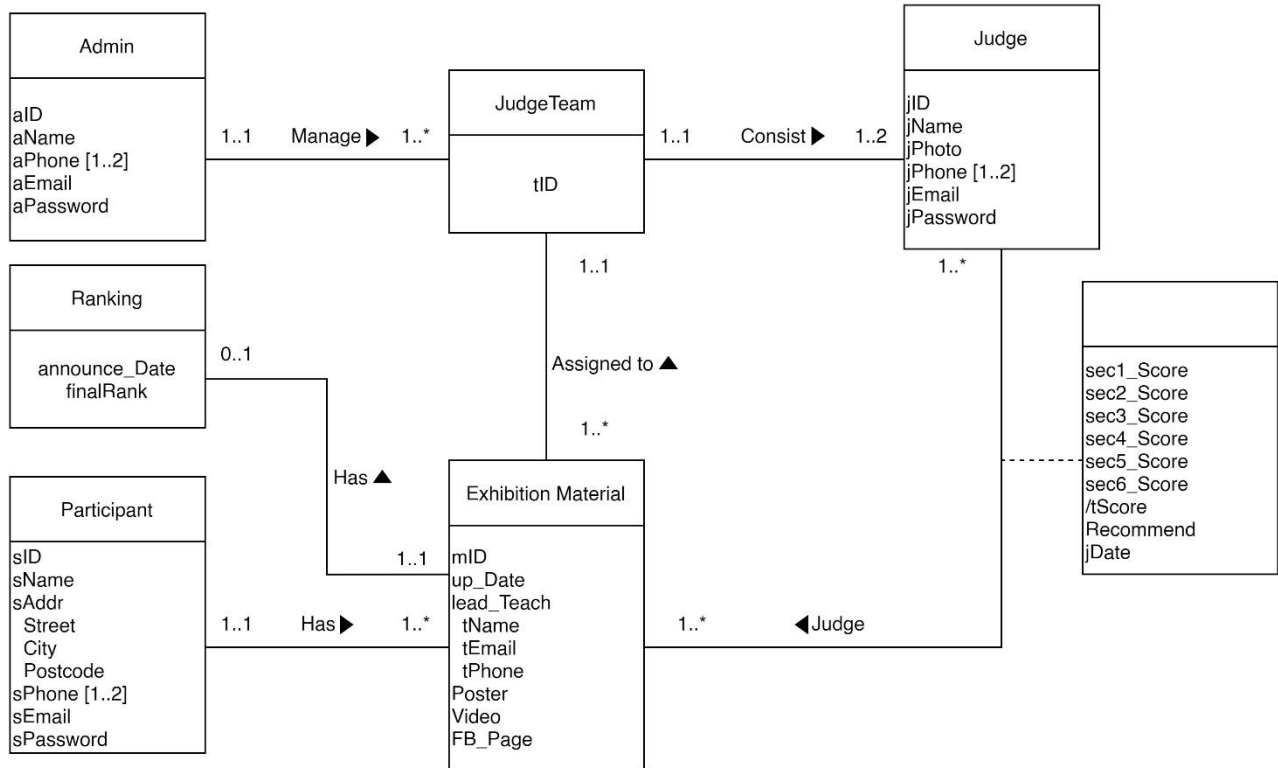
DATE OF SUBMISSION: 19<sup>th</sup> JANUARY 2021



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# ERD



Note: Participant has 1 or more exhibition material is due to the organizer want to keep participants' previous submission (if they participate again).

# DATA DICTIONARY

## DATA DICTIONARY – ATTRIBUTES

| Entity Name         | Attributes   | Description  | Data Type & Length | Nullity |
|---------------------|--|--|--------------------|---------|
| Admin               | aID {PK}   | Unique ID for admin login                              | varchar(8)         | No      |
|                     | aName  | Name of admin  | varchar(50)        | No      |
|                     | aPhone[1..2]                                       | Phone number   | number(11)         | No      |
|                     | aEmail   | Email  | varchar(50)        | No      |
|                     | aPassword  | Login password of admin                                | varchar(15)        | No      |
| Ranking             | announce_Date                                      | Announce date of winner                                | Date               | No      |
|                     | finalRank  | Provide number ranking                                 | number(2)          | No      |
| Participant         | sID {PK}   | Unique ID for student login                            | varchar(8)         | No      |
|                     | sName  | Name of student  | varchar(50)        | No      |
|                     | sAddr  | Address of student                                     |                    |         |
|                     | Street   | Address of student                                     | varchar(20)        | Yes     |
|                     | City   | Address of student                                     | varchar(15)        | Yes     |
|                     | Postcode   | Address of student                                     | varchar(5)         | Yes     |
|                     | sPhone[1..2]                                       | Phone number   | number(11)         | No      |
|                     | sEmail   | Email  | varchar(50)        | No      |
| sPassword           | Login password of student                          | varchar(15)  | No                 |         |
| Judge               | jID {PK}   | Unique ID for judge login                              | varchar(8)         | No      |
|                     | jName  | Name of judge  | varchar(50)        | No      |
|                     | jPhoto   | Photo of judge   |                    | No      |
|                     | jPhone[1..2]                                       | Phone number   | number(11)         | No      |
|                     | jEmail   | Email  | varchar(50)        | No      |
|                     | jPassword  | Login password for judge                               | varchar(15)        | No      |
| JudgeTeam           | tID {PK}   | ID of assigned judge team to evaluate which materials  | varchar(10)        | No      |
| Exhibition Material | mID  | Unique ID assigned to material(s) of exhibition        | varchar(5)         | No      |
|                     | up_Date  | Upload date that the material was sent into the system | Date               | No      |
|                     | lead_Teach   | Information of the teacher that lead their students    |                    |         |
|                     | tName  | Teacher's name   | varchar(50)        | No      |
|                     | tEmail   | Teacher's email  | varchar(50)        | No      |
|                     | tPhone[1..2]                                       | Teacher's phone number                                 | number(11)         | No      |
|                     | Poster   | Link of poster to be judged                            | varchar(200)       | No      |
|                     | Video  | Link of video to be judged                             | varchar(200)       | No      |
| FB_Page             | Link of social media page-to judge number of likes | varchar(200)   | No                 |         |

|  |            |                  |           |    |
|--|------------|------------------|-----------|----|
|  | sec1_Score | Individual score | number(3) | No |
|  | sec2_Score | Individual score | number(3) | No |
|  | sec3_Score | Individual score | number(3) | No |
|  | sec4_Score | Individual score | number(3) | No |
|  | sec5_Score | Individual score | number(3) | No |
|  | sec6_Score | Individual score | number(3) | No |
|  | /tScore    | Total score      | int(2)    | No |
|  | Recommend  | Recommendation   | char(1)   | No |
|  | jDate      | Judging date     | Date      | No |

### DATA DICTIONARY – ENTITY RELATIONSHIP

| Entity Name        | Multiplicity | Relationship | Entity Name 2      | Multiplicity |
|--------------------|--------------|--------------|--------------------|--------------|
| Admin              | 1..1         | Manage       | JudgeTeam          | 1..*         |
| JudgeTeam          | 1..1         | Consist      | Judge              | 1..2         |
| JudgeTeam          | 1..1         | Assigned to  | ExhibitionMaterial | 1..*         |
| Judge              | 1..*         | Judge        | ExhibitionMaterial | 1..*         |
| Participant        | 1..1         | Has          | ExhibitionMaterial | 1..*         |
| ExhibitionMaterial | 1..1         | Has          | Ranking            | 0..1         |

# SYSTEM'S FUNCTIONAL REQUIREMENT

## User Requirements

### Admin

#### Data Requirement

- **Admin**

Admin in the judging system is the organizer of the event. Admin will have the access to all Participant and Judge data. The Admin data includes unique Admin number, their name (first name, last name), phone number (up to 2), email and password. The admin will also assign selected participants' exhibition materials to each judge team which consists of maximum 2 judges.

- **Score**

The score from Judge is required by the Admin to rank the participant. The data stored includes school number, score for each judging criterion, total score, recommendation for winner of "Best of the Best" award, judge number and judging date.

- **User Information**

User information consists of both Participant data and Judge data stored in the system. Participant data is required for Judge to provide the score for each school participated. The data required are unique judge number, their name (first name, last name), their passport size photo, phone number (up to 2) and email (for Judge), and unique school number, school name, address (street, city, and postcode), phone number (up to 2) and email (for Participant).

- **Ranking**

After the score is generated by the Judge, the Admin will rank the score to provide the winner. The stored data is school number, ranking and announcement date.

## Data Entry

- a) Enter the ranking of each school
- b) Enter the details of an admin

## Data Update/Delete

- a) Update/delete the details of school ranking
- b) Update/delete the details of an admin

## Data Query

- a) List the details of a school.
- b) Identify the total number of participating schools.
- c) Identify the total number of judging materials.
- d) List the school number, school name ordered by score for each judging criterion.
- e) List the school number, school name that is recommended for winning the “Best of the Best” award.
- f) List the school number, school name ordered by total score.
- g) List the details of a judge.
- h) Identify the details of schools that have a total score higher than 80 marks.
- i) List the details of judging scores.
- j) Identify the judging scores that are still NULL for score for each judging criterion, recommendation for winner of the “Best of the Best” award and total score.
- k) List the school number, school name ordered by the ranking

## Judges

### Data Requirement

- **Judge**

Every judge participating in the RCE Iskandar needs to register themselves and provide data that describes them including a unique judge number, their name (first name, last name), their passport size photo, phone number (up to 2), email and password. Each judge will be teaming up with another judge which will make up a judge team consisting maximum of 2 judges.

- **Assigned Judging Material**

Each judge will be assigned several participant's materials to judge and the same material will be judged by one or more judges. The data stored regarding each judging material includes school number, lead teacher details (name, email, phone number), link of school poster, link of video that has been published in school's Facebook page and link of activities related to Low Carbon School practices that has been published in school's Facebook page.

- **Judging Score**

They will be the score of the judging material being judged by the judge. The data stored includes school number, score for each judging criterion, total score, recommendation for winner of "Best of the Best" award, judge number and judging date.

- **Participant**

Every school participating in the RCE Iskandar needs to register themselves and provide data that describes them including a unique school number, school name, address (street, city, and postcode), phone number (up to 2) and email.

### Data Entry

- a) Enter the details of the new judge (such as judge J001 with name Ali bin Abu)
- b) Enter the details of judging score for a particular school's exhibition material (such as judge J001 judge the exhibition material of school SMK Sekolah Contoh on 12 May 2020)



## Data Update/Delete

- a) Update/delete the details of a judge
- b) Update/delete the details of a judging score

## Data Query

- a) List the details of a school.
- b) Identify the total number of participating schools assigned to the judge.
- c) Identify the total number of judging materials assigned to the judge.
- d) List the school number, school name ordered by score for each judging criteria.
- e) List the school number, school name that is recommended for winning the “Best of the Best” award.
- f) List the school number, school name ordered by total score.
- g) List the details of a judge.
- h) Identify the details of schools that have a total score higher than 80 marks.
- i) List the details of judging scores.
- j) Identify the judging scores that are still NULL for score for each judging criterion, recommendation for winner of the “Best of the Best” award and total score.

# Participants

## Data Requirement

- **Participant**

Every single school that participates in this competition must input their specific data, such as a unique school number, school name, address (street, city, postcode), phone number (up to 2), email and password.

- **Exhibition Material**

Participants are required to submit their materials for this competition, such as videos, presentation, and school's Facebook link, lead teacher details (name, email, phone number).

- **Results**

This is a data that will be given from the system. This data will be provided for the participants which consists of participants result and announcing date.

## Data Entry

- a) Enter the details of the participants
- b) Enter the details of the participants' exhibition materials

## Data Update/Delete

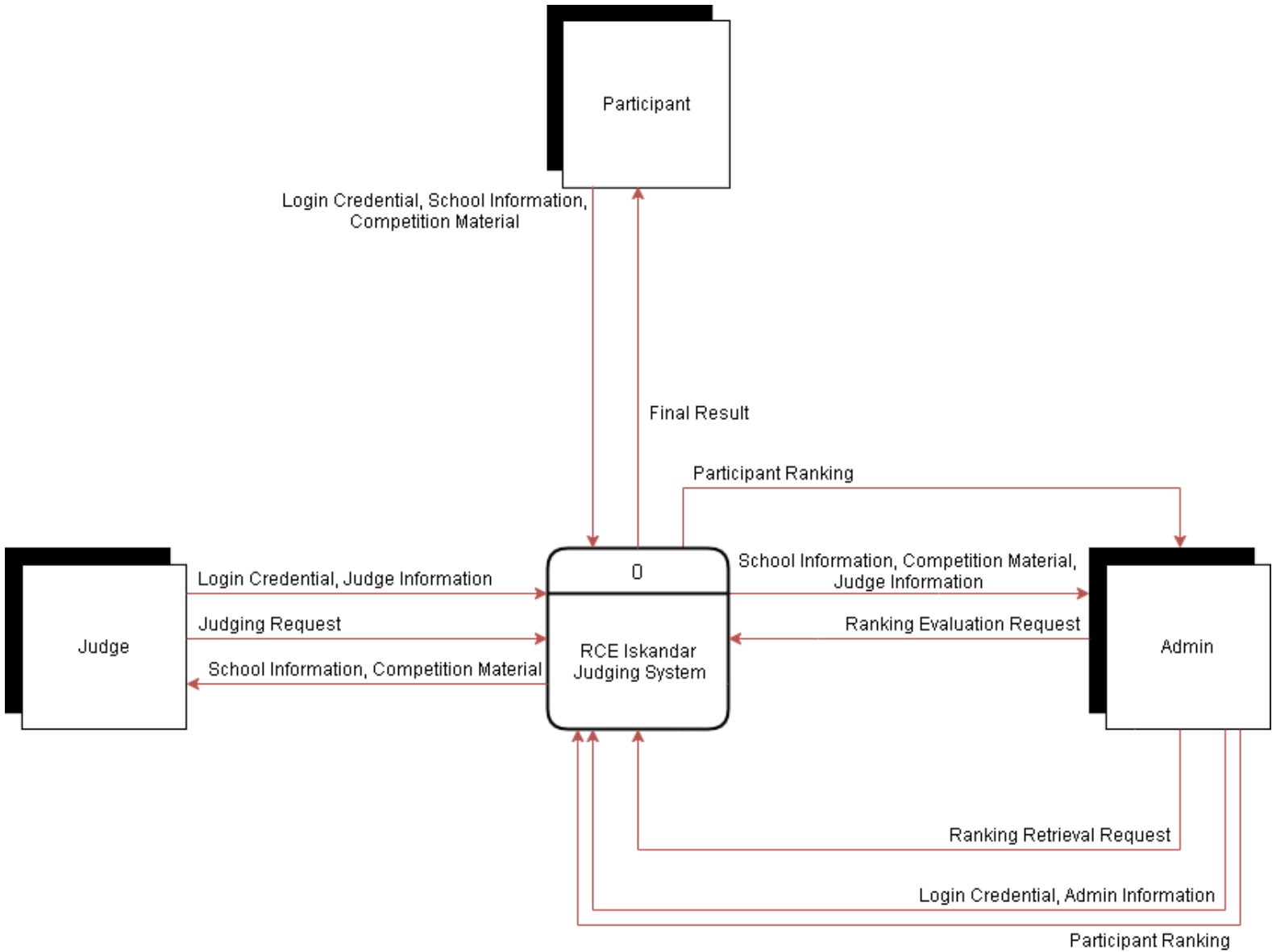
- a) Update/delete the details of the participants
- b) Update/delete the details of the participants' exhibition materials

## Data Query

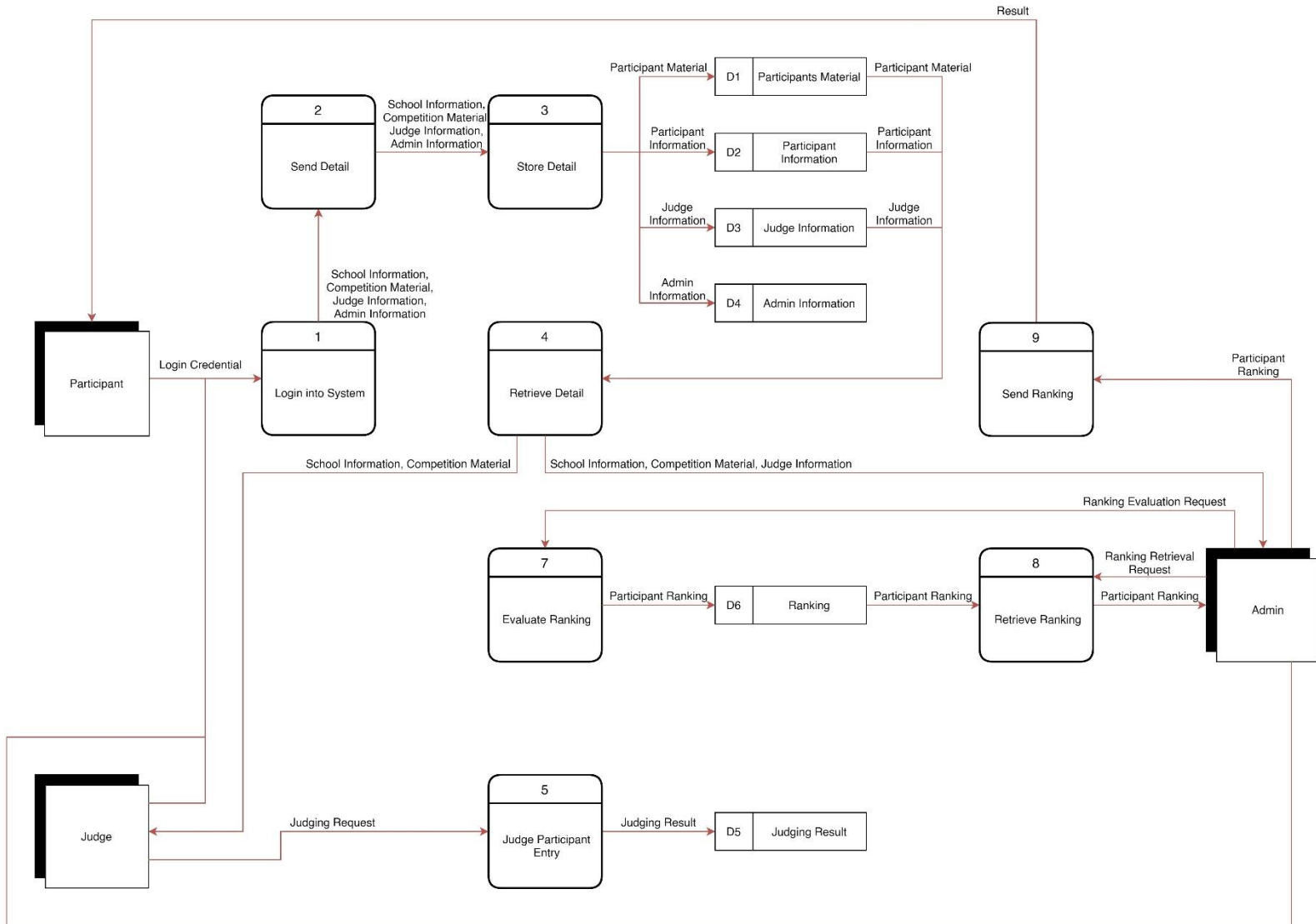
- a) List the details of the participants
- b) List the details of each participant's exhibition material
- c) Identify participants' missing exhibition material that is required for the exhibition
- d) List the ranking for participants

# LOGICAL DFD

## Context Diagram

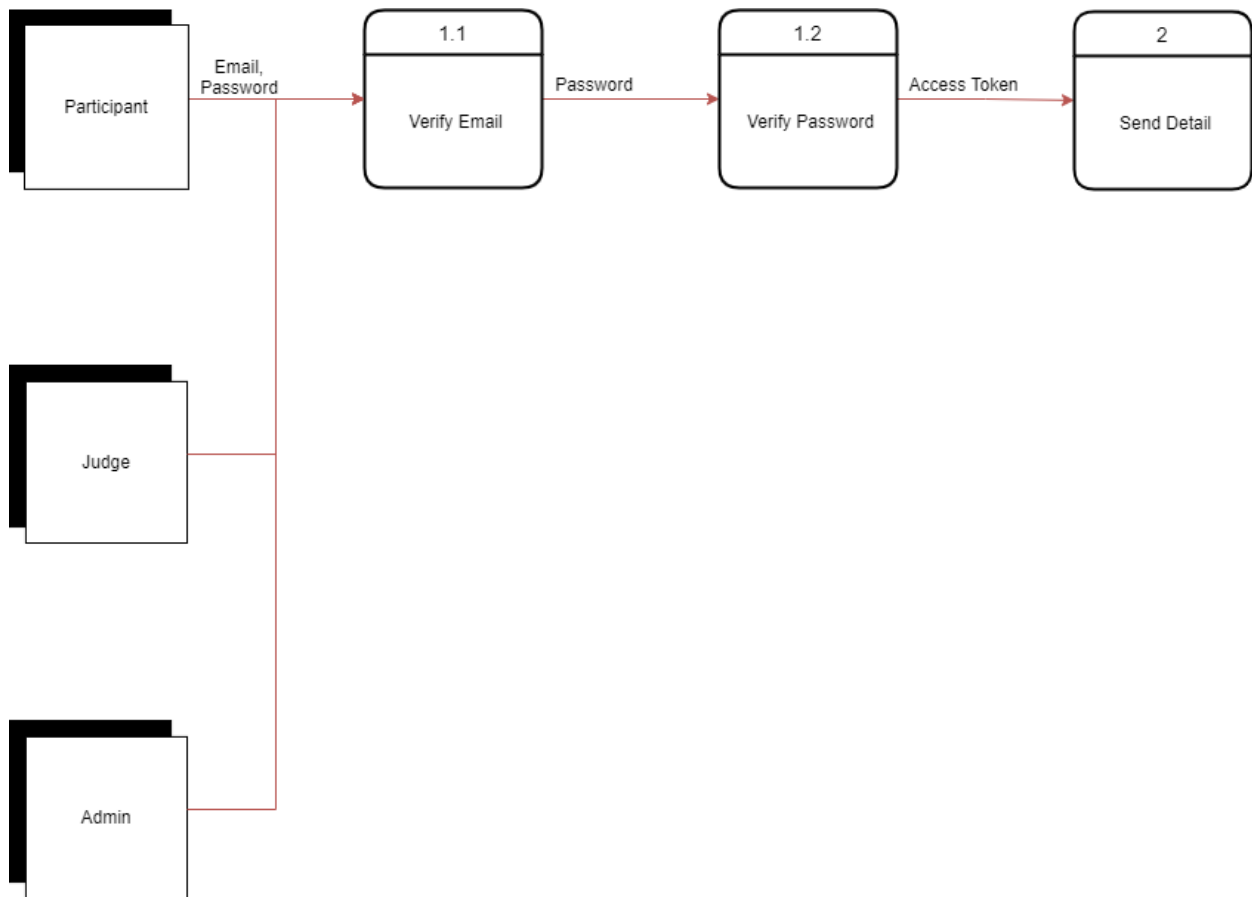


# Diagram 0

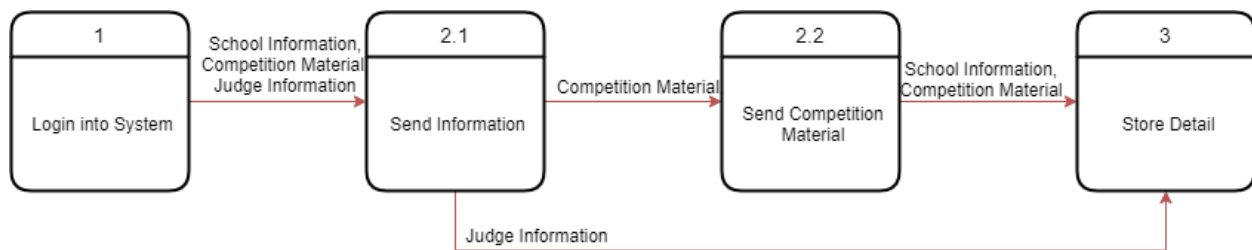


# Child Diagrams

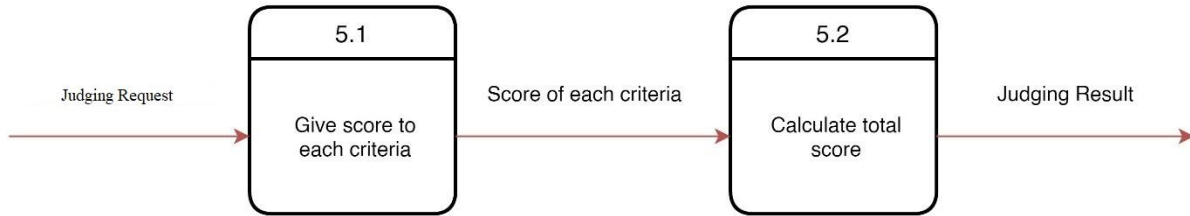
## Process 1



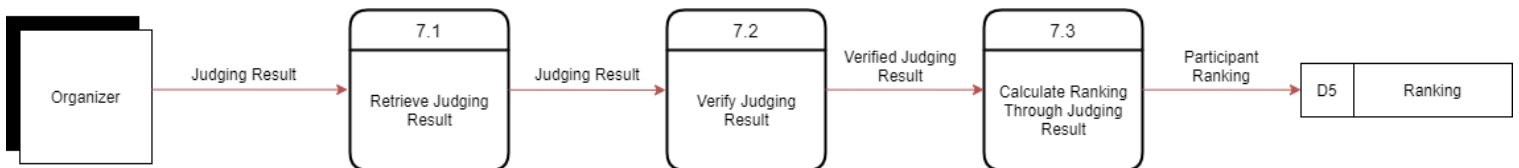
## Process 2



## Process 5



## Process 7



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3. Visual Paradigm. (n.d.). What is entity relationship diagram (ERD)? Retrieved from <https://www.visual-paradigm.com/guide/data-modeling/what-is-entity-relationship-diagram/>
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