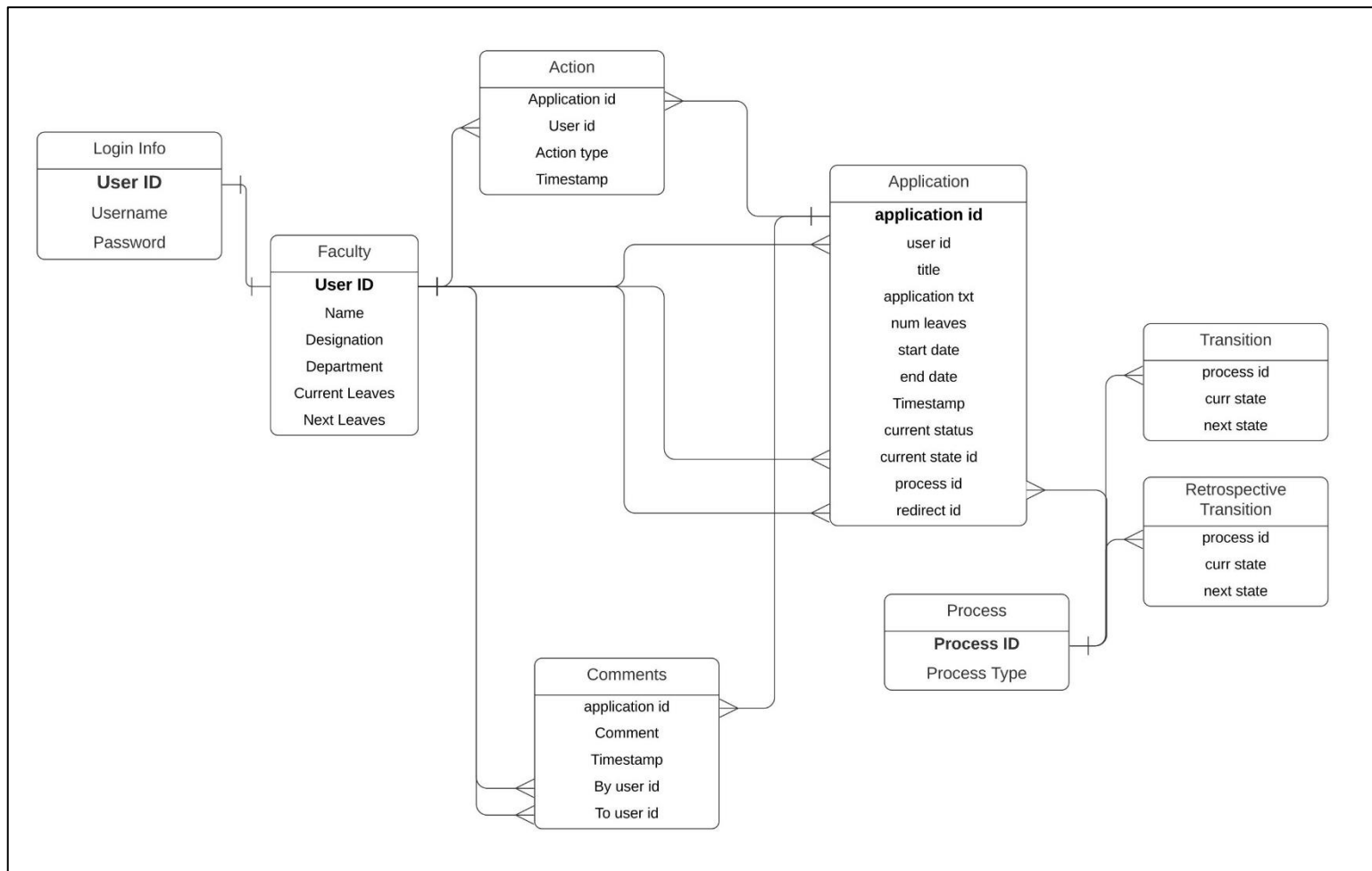


CS301 Phase-A Report

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ER Diagram



Brief Overview of Database

Faculty Table: Includes faculty details.

Login Info Table: Stores the login details of all faculties to the academic portal.

Application Table: Stores Leave application details of all faculty members.

Action Table: Records the actions taken by authorities on leave applications.

Comments Table: Records comments by everyone involved.

Process: The approval process to be followed for people with varying designations.

Transition and Retrospective Transition Tables: Sequence of processes for each process ID.

All Features We Have Developed into The Academic Portal

- Basic Employee Portal
- Specialized Portals for Dean, HODs and Director
- Director has the option to appoint new HODs and Deans.
- Paper Trail of all the past leave applications.
- Relevant security features

- Director has the authority to change the HoD and Dean appointments.
- Whenever there is a change in HoD or Dean FAA, then all the pending applications are forwarded to the new person.
- retrospective leave application
- automatically “rejected by the system.” For applications that have reached start date.
- Excess Leaves feature
- If HoD rejects a leave application, then is not forwarded to Dean FAA.

Triggers

To ensure that one faculty has at most one position across roles which include HOD, Dean and Director, We have implemented a trigger.

This trigger also ensure that there is only one HOD per department and one Dean, Director across the entire institute.

Trigger Code

```
CREATE OR REPLACE FUNCTION designation_check_fn() RETURNS trigger AS $$
BEGIN
```

```
    IF NEW.department is NULL THEN
        NEW.department:=OLD.department;
    END IF;
```

```
    IF NEW.designation='Faculty' THEN
```

```
        RETURN NEW;
```

```
    ElseIf OLD.designation<>'Faculty' THEN
```

```
        RAISE EXCEPTION 'A Faculty can not take up more than one post at at time';
```

```
    ElseIf (NEW.designation='HOD') AND EXISTS(select * from faculty
```

where

```
department=NEW.department and
```

```
designation=NEW.designation) THEN
```

```
    RAISE EXCEPTION '% % post is currently filled',NEW.designation,New.department;
```

```
    ElseIf (NEW.designation='HOD') Then
```

```
        return new;
```

```
    END IF;
```

```
    IF EXISTS(select * from faculty where designation=NEW.designation) THEN
```

```
        RAISE EXCEPTION '% post is currently filled',NEW.designation;
```

```
    END IF;
```

```
    RETURN NEW;
```

```
END;
```

```
$$ LANGUAGE plpgsql;
```

```
CREATE TRIGGER designation_check BEFORE INSERT OR UPDATE ON faculty
```

```
FOR EACH ROW EXECUTE PROCEDURE designation_check_fn();
```