**University of Koblenz**

Institute for Computer Science

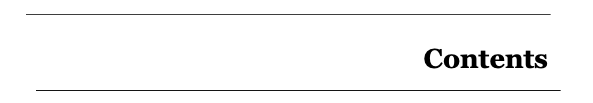
0431017 Java EE Web Applications Summer Term 2023



*Electronic Voting System (EVS)*

Team Kilo

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[**I Preliminaries**](https://docs.google.com/document/d/1kq23fnCcXGrhYvWQZ9J_80sBiTdBXIXhYAc0-_x4KEw/edit#heading=h.30j0zll) **1**

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6. Polls

**1. Abstract**

In this section we describe the role and the use of polls files(.java, .xhtml, etc) that are required in order to provide the organizers the ability to conduct electronic polls.

**2. Components**

2.1 Exception Handling

PollException:

This is a custom exception class designed specifically for the polling system. It extends the standard Java Exception class and is used to signal anomalies or unexpected scenarios related to polls.

2.2 Data Access Object (DAO)

PollAccess:

This DAO class is responsible for CRUD(Create,Read,Update,Delete) operations related to the Poll entity. The class extends the BaseAccess generic class and provides methods to:

Retrieve a poll based on its title.

Show the results of all polls.

Show the results of all polls associated with a specific organizer.

Show the results of all polls based on their current state (e.g., PREPARED, STARTED).

2.3 Entity Model

Poll:

The Poll entity is communicating with the Organizer and Question entities.This entity also represents a poll in the system and includes all the specific attributes from requirements like:

ID

Date of creation

Title

Description

Start date

End date

Current state

PollStates:

This enumeration defines all the states a poll can be in,meaning if a poll does not have the following “labels” then it is invalid:

PREPARED

STARTED

VOTING

FINISHED

Administrator Poll Page:

This page is a “tool” for administrators to manage polls.This is the required template intended for poll organizers. It provides features like creating and managing polls specific to an organizer.

2.Types of Questions

**1. Abstract**

The Question Management page allows authorized users(organizers) to view all the questions for a particular poll, create new questions, and navigate to further question-related actions.

**2. Components**

The organizers have the ability to add different types of questions to a poll,such as:

SINGLE CHOICE

MULTIPLE CHOICE

YES/NO

Attributes:

id: The primary key for the question.

dateCreated: Timestamp indicating when the question was created.

maxAnswers: Maximum number of answers allowed for the question.

minAnswers: Minimum number of answers required for the question.

title: The text of the question.

canAddAnswers: A flag indicating if additional answers can be added.

type: The type of question. It uses the QuestionType enum.

Relations:

items: A one-to-many relationship with the Item entity, representing the possible answers for the question.

poll: A many-to-one relationship, linking the question to the poll it belongs to,meaning a poll might have more than one questions,but a question is only referred to one poll.

3.Organizers

**1. Abstract**

In this section we describe the role and the use of organizers in the EVS Project.By the term of “organizers” we are referring to the university employees.In order to authenticate them,they are requested to sign in with username and password.Every poll that is created must match with the identity of one or more organizers.An organizer cannot edit a poll of another organizer without having access.

**2. OrganizerAccess Class**

This class is responsible for CRUD operations on Organizer entities,meaning an organizer can create,read,change and delete a poll,that he/she has created.

**3. Organizer Entity**

Columns:

id: Primary key for the Organizer table.

dateCreated: Captures the date when an Organizer instance is created, using Java's LocalDateTime.

Relationships:

OneToMany with Poll:A single organizer can manage multiple polls.

ManyToOne with User:Each organizer relates to one user.

Uses the user\_id column for mapping, pointing to the User table's id column.

Access Methods:

Basic setter and getter methods enable access and modifications for both fields and relationships.

Constructor:

The no-argument constructor initializes the dateCreated to the current date and time.