

CS Department Automated Information Timeline  
Assignment 7.2: OCL

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# 1 Introduction

## 1.1 Purpose

The purpose of this assignment is to collaborate as a team to identify the three most challenging constraints in the design of the CS Department Automated Information Timeline project and describe them using OCL. The team (aka The Incredibles) met multiple times over the course of a few days to work together and identify the constraints in the design.

## 2 Identifying Constraints

1. The Office Manager can only stage approved posts.
2. The main display cannot display more than 10 posts, and all displayed posts must be approved.
3. A notification can only be associated with one post, media, or event.

## 3 Describing Constraints with OCL

### 3.1 Constraint 1: Staging Approved Posts

The Office Manager can only stage approved posts.

```
{context: Post::tagPost():Post  
inv: self.approvalStatus = ItemStatus.APPROVED}
```

### 3.2 Constraint 2: Displaying Posts

The main display cannot display more than 10 posts, and all displayed posts must be approved.

```
{context: PostController::displayPosts(): Set<Post>  
inv: let posts = self.getApprovedPosts(): Set<Posts>  
inv: posts→size() ≤ 10  
inv: posts→forEach(p — p.approvalStatus = ItemStatus.APPROVED)}
```

### 3.3 Constraint 3: Notifications

A notification can only be associated with one post, media, or event.

```
{context: Notification  
implies: (post.page <> null xor post.media <> null) xor (post.event <> null)}
```

## 4 Reference: Class Diagram

To serve as a reference for the constraints listed and OCL written to describe them, below is the JPA Data Model of our system as of the Iteration 1 submission.

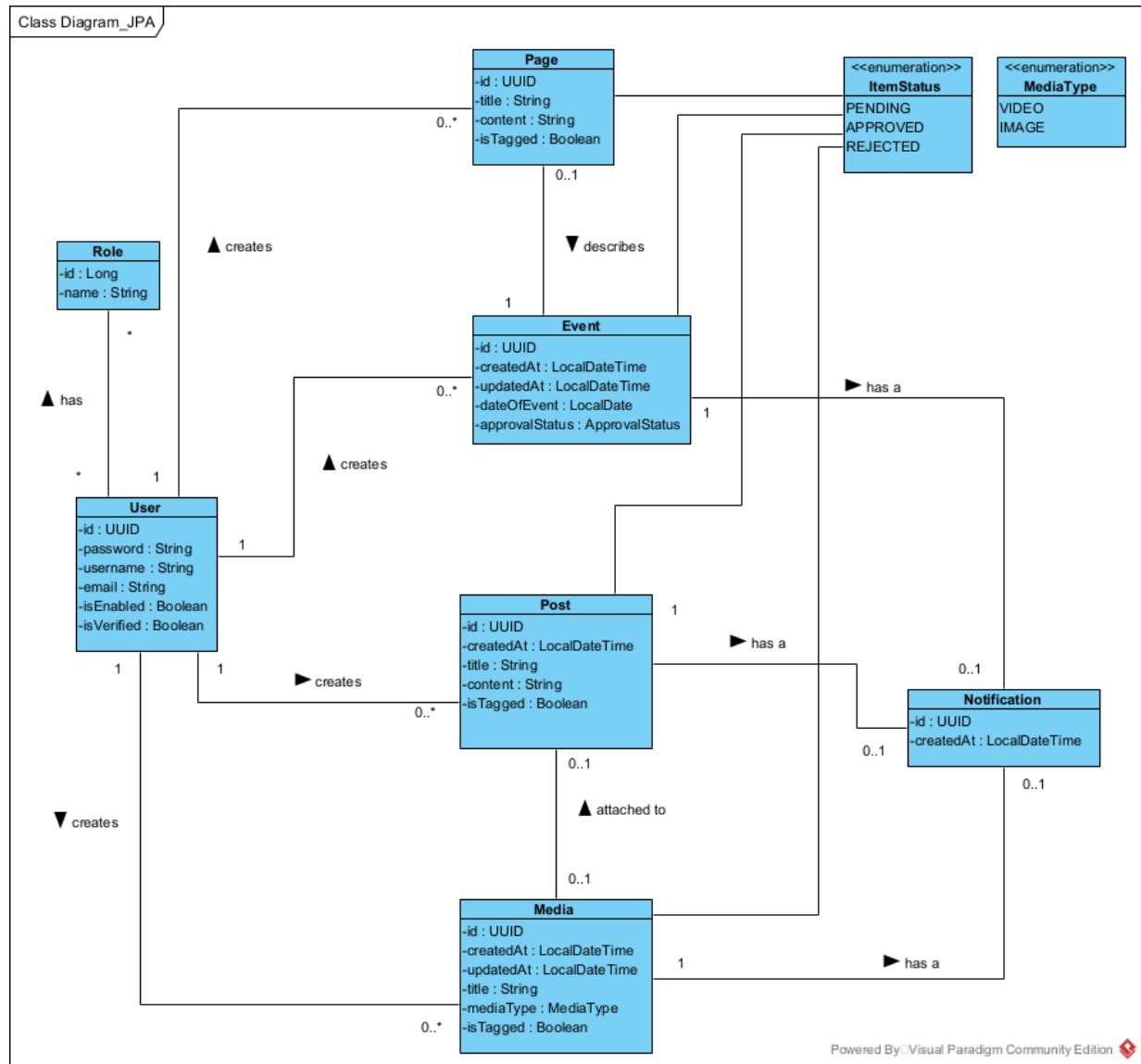


Figure 1: Class Diagram