CS Department Automated Information Timeline
Iteration 3 Submission

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The Incredibles

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1 Change Log

1. Added Section 16.3 to detail code progress made in Iteration 3.

2 Vision Statement

The Baylor University Computer Science Department needs a system for faculty to passively share information on department news and events with students and other faculty members. To fulfill this need, our team is developing an automated, web-based system that will populate faculty content, perform content rolling, and automate content updates.

Using our system, any faculty can propose a post, but only one admin/reviewer can approve the post for publishing. In addition to the embedded post timeline, the system also has an event calendar. Similarly, any faculty can propose an event to add to the calendar, but only one admin/reviewer can approve the event for publishing to the event calendar.

This content is available for viewing through a TV screen in the department lobby, which is manually managed by our CS Department office manager. The system is configured to either (1) show only the most recent content on the lobby TV or (2) show staged media tagged manually by the office manager. The system uses WebSockets to roll and update recent content automatically, as well as a WYSIWYG editor to modify and tag static content pages.

Since not everything can be displayed in the lobby, the system suppports a web view accessible to all visitors with a mobile device via QR code. Through the web application, all audience members can browse all content available beyond the posts and events tagged for the lobby TV.

The system uses Spring middleware with database and REST API to support the two described web-based and UI-responsive frontends.

3 Requirements

3.1 Functional Requirements

REQ01: Faculty members can create a post for review, which will initially default to a proposed state until approved.
REQ02: An admin/reviewer must approve a post before it can be published to the site.
REQ03: A user can add events to an event calendar that can be displayed on screen.
REQ04: A user can add pictures to posts.
REQ05: A user can add videos to posts.
REQ06: A user can add HTML pages to posts.
REQ07: A user can tag approved posts for display on a large format screen.
REQ08: The system will allow management of which posts are displayed.
REQ09: The system will allow management of which media is displayed.
REQ10: The system will fall back to the 10 most recent posts if no posts are tagged, or less than 10 posts

are tagged.
REQ11: The Office manager will use the WYSIWYG editor to modify static content posts.
REQ12: The Office Manager will use the WYSIWYG editor to tag posts for display on screen.
REQ13: The system will allow audiences to use their mobile devices (e.g., through a QR code that brings them to the website) to browse all content beyond the 10 most recent posts.
REQ14: The system will allow audiences to use their mobile device to browse the calendar.
REQ15: A user will authenticate and be assigned a valid role or view the content as a non-authenticated user.

3.2 Non-Functional Requirements

REQ16: The system will have the following user roles: Faculty, Admin, and Office Manager.
REQ17: Content rolling and updates to content will be completed via WebSockets.
REQ18: The backend will consist of a Spring Framework REST API with a database and appropriate middleware.
REQ19: The system will manage a media library which consists of all posted pictures and videos.
REQ20: The system will consist of a front-end display: a television screen.
REQ21: The system will consist of a front-end display: a web-based display optimized for all screen sizes.
REQ22: The design of the user interface must utilize Baylor's official color scheme.

- Baylor Green: #154734
- University Gold: #FFB81C
- Secondary and accent colors can be chosen from the lists provided here.

REQ23: The system will have a WYSIWYG editor.

4 Glossary

The following terms are important to the development of the project:

- **WYSIWYG Editor:** What You See Is What You Get, a word processing editor that allows users to view and update content exactly as it appears on the web UI
- **WebSocket:** A computer protocol which provides bidirectional communications over a single TCP connection
- **Post:** A picture, video, or manually created HTML page
- **Page:** An HTML page which can be added to a post or event
- **Event Calendar:** A calendar which is displayed on screen which faculty can add events to
- **Media Library:** A library which stores both picture and video content
- **Faculty:** A university employee who uses the system under discussion to create posts and events
- **Admin:** A privileged user who holds all access rights

- **Reviewer:** A university employee who holds special privilege over the system under discussion to approve or reject posts and events submitted by Faculty
- **Officer Manager:** A university employee who holds special privilege over the system under discussion to manage which posts are displayed at any given time

5 Domain Model

The below Domain model represents a Draft version of the current planned domain model. Classes/objects are noted with a *_D* to indicate they are *draft* classes.

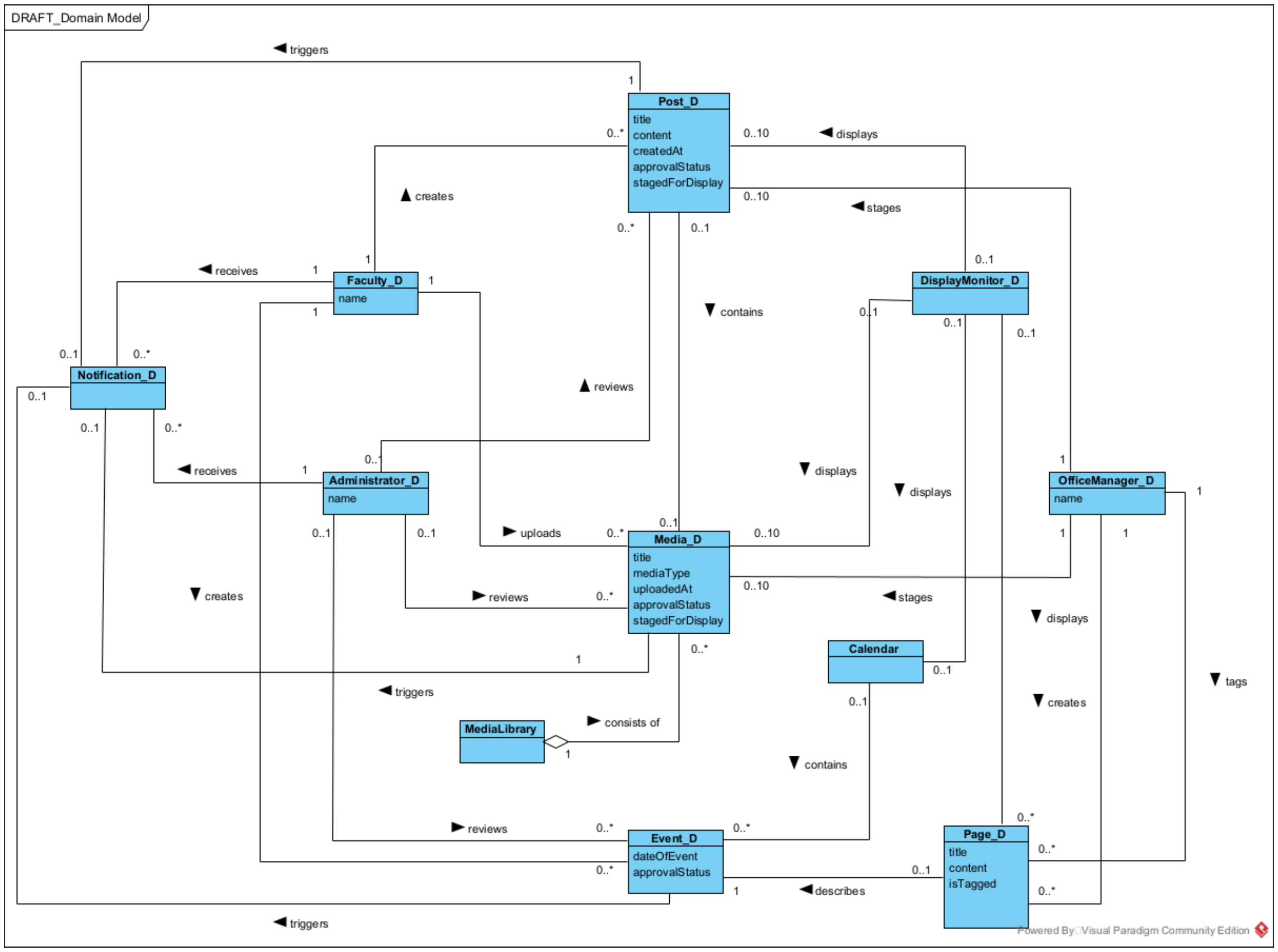

Figure 1: Domain Model for CS Department Automated Information Timeline

6 Use Cases

6.1 Use Case Diagram

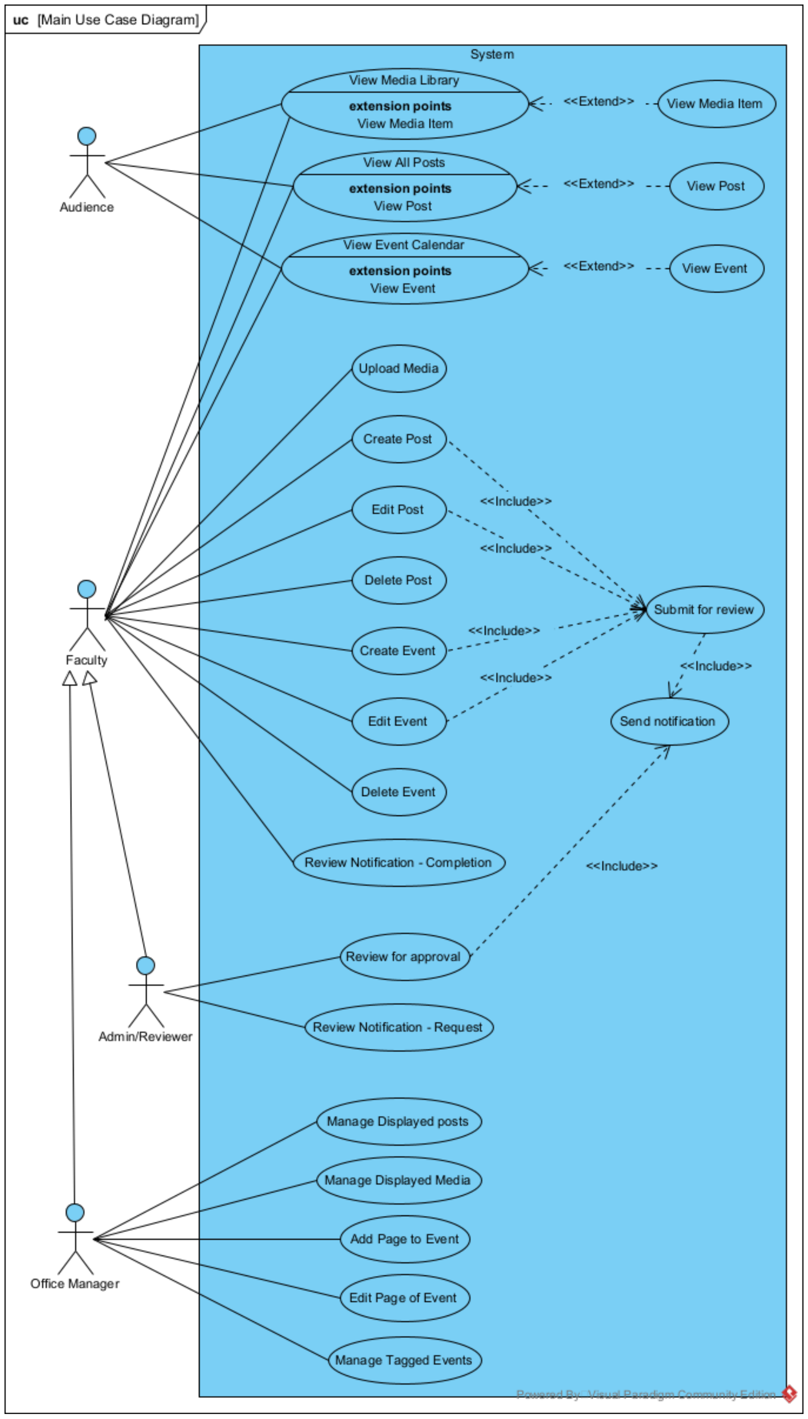

Figure 2: Use Case Diagram for CS Department Automated Information Timeline

6.2 Use Cases

There are a total of 16 use cases written at this stage in the project. Each team member was assigned 3 use cases to fully analyze. Each of these 12 use cases are written in fully-dressed form and accompanied by System Sequence Diagrams (SSDs) and Operations Contracts (OCs). The remaining 4 use cases are written in brief/casual form.

The assigned (fully-dressed) use cases are as follows:

Bhandari	Faron	Hays	Klimpel
UC11	UC05	UC04	UC15
UC12	UC06	UC09	UC16
UC13	UC07	UC10	UC01

6.2.1 UC01: View Media Library

ID: UC01 (View Media Library)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Audience
Stakeholders and Interests:

- Audience wants the ability to view all shared media through the media library
- Faculty wants to be able to allow guests to view media shared by them
- Office Manager wants to ensure that all media is available to be seen through the web portal
- Admin wants to be sure that approved media can be displayed to the audience

Preconditions:

- Media library contains approved media items

Postconditions:

- Media library is shared with the audience

Main Success Scenario:

1. Audience member scans available QR code
2. System provides appropriate URL for main home page
3. Audience member navigates to URL
4. Audience member selects "Media library" option
5. System presents full media library view

Alternative Flows:
3A: URL is down

1. Audience member alerts faculty or office manager
2. Office manager or faculty review system status

5A: Multiple pages available

1. System presents paged view with limit of items
2. Audience member selects ‘next page’
3. System returns next set of results
4. Continue until end of media library is returned

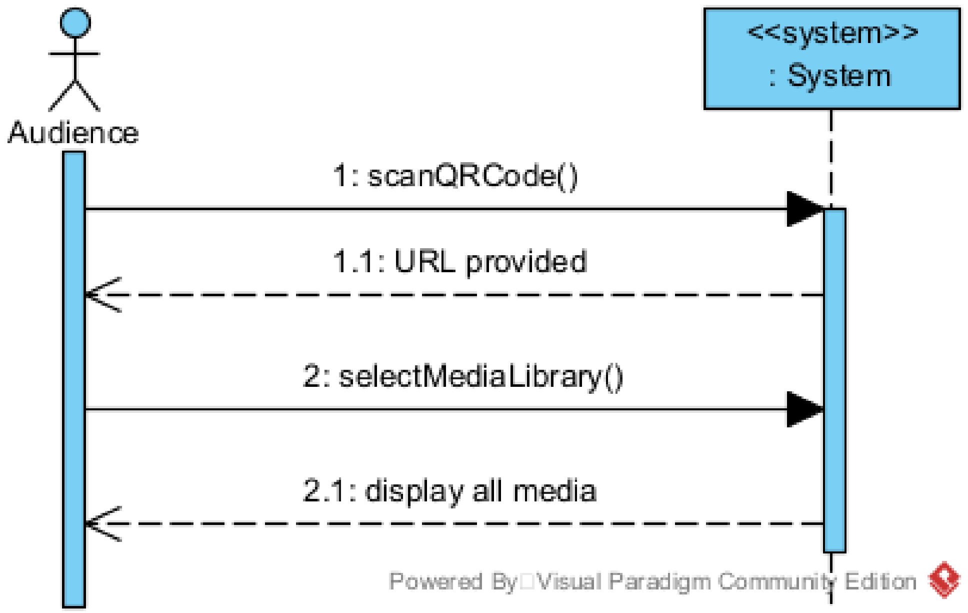

Figure 3: System Sequence Diagram: View Media Library

Operation: selectMediaLibrary()
Cross-References: UC01 (View Media Library)
Pre-conditions:

- Media items, *m*, exists in system
- *m* is approved for view

Post-conditions:

- List of media, *ml*, is created
- *ml* is returned to user

6.2.2 UC02: View All Posts

ID: UC02 (View All Posts)
Main Success Scenario: An audience member has access to either QR code or URL of web application version of system. User navigates to the home page and selects "View All Posts" option. The system returns paginated view of all posts. If more than the page limit exists, multiple page options are presented to user for navigation.
Alternate flow: None.

6.2.3 UC03: View Event Calendar

ID: UC03 (View Event Calendar)
Precondition: Faculty is identified and authenticated in the system.
Main Success Scenario: An audience member has access to either QR code or URL of web application version of system. User navigates to the home page and clicks "Event Calendar" link. The system returns view of Event Calendar, defaulted to open on the current month.

6.2.4 UC04: Create Event

ID: UC04 (Create Event) **Scope**: CS Automated Information Timeline
Level: User Goal
Stakeholders and Interests:

- Faculty: A person that works for the university and is interested in gaining visibility of their post and/or event.
- Admin/Reviewer: A person that works for the university and approves and/or removes posts and/or events from the system.

Preconditions:

- Faculty has been identified and authenticated.

Postconditions:

- Event has been persisted.
- Event has been placed in the proposed state.
- An event notification has been persisted.

Main Success Scenario:

1. Faculty writes the event using the event creation tool.
   (a) The event title is written by the faculty user.
   (b) The event body is written by the faculty user.

2. Faculty reviews the event draft.
3. Faculty submits the event to the system.
   (a) An event id is generated by the system.
   (b) A timestamp is generated by the system.
   (c) The user id of the faculty user is attached to the event object.
   (d) The system assigns the status of the event to the proposed state.
4. The system generates a notification object.
   (a) The event object is attached to the notification object.
5. The notification object is persisted.
6. The event object is persisted.
7. The system returns the persisted event object to the faculty user.

Extensions:

*.a. Anytime the system does not respond,
   1. Faculty will notify the Admin/Reviewer.
   2. Admin/Reviewer will restart the system.

5.a. If the notification is not persisted,
   1. The system returns an error message to the faculty user.
   2. The faculty user resubmits the event.

6.a. If the event is not persisted,
   1. The system returns an error message to the faculty user.
   2. Faculty reattempts the submission of the event.

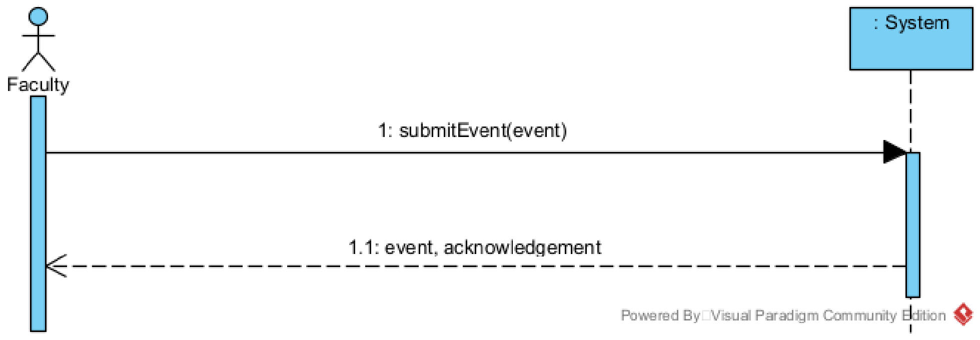
Faculty
: System
1: submitEvent(event)
1.1: event, acknowledgement
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Figure 4: System Sequence Diagram: Create Event

Operation: submitEvent(event: Event)
Cross References: UC04 (Create Post)
Preconditions:

- Faculty, f, has been identified and authenticated.

Postconditions:

- Event, e, was created.
- Event e.status was set to "proposed".
- Event, e, was persisted.

6.2.5 UC05: Edit Event

ID: UC05 (Edit Event)
Scope: CS Automated Information Timeline
Level: User Goal
Primary Actor: Faculty
Stakeholders and Interests:

- Audience: Wants to view up-to-date information about events in the CS Department
- Faculty: Wants the ability to provide updated information on events they submitted
- Office Manager: Wants to display accurate event information on the calendar on the Lobby TV
- Admin/Reviewer: Wants to update previously approved events with up-to-date information provided by the Faculty who submitted those events

Preconditions: Faculty created an event (UC04) and submitted it for review (UC08). Admin/Reviewer reviewed the event (UC09) and approved. Admin/Reviewer is identified and authenticated in the system. Faculty is identified and authenticated in the system and is viewing the event calendar (UC03).
Postconditions: Event status is in a proposed state.
Main Success Scenario:

1. Faculty clicks the "View My Events" link on the event calendar page.
2. System returns a list of existing events authored by Faculty that have been approved.
3. Faculty selects the event they wish to edit from the returned list of their previously approved events.
4. System returns the event page for the selected event.
5. Faculty clicks the "Edit This Event" button on the event page.
6. Faculty enters the updated event information into the submission form:
   - Event date
   - Event time
   - Event description
7. Faculty submits the updated event information for Admin/Reviewer review.
8. System provides Faculty with a submission confirmation message.

Extensions (or Alternate Flows):
3-4a. Faculty begins editing the event, then decides not to submit the updates for review:

1. Upon leaving the web page, any changes to event date, time, or description entered into the submission form are erased.
2. Selected event remains unchanged in the system.

3b. Faculty does not see the event they wish to edit in the returned list because the event has not yet been approved by the Admin/Reviewer:

1. Faculty must wait for approval from Admin/Reviewer on the original event before the event is eligible for editing.

Special Requirements: None
Technology and Data Variations List:
4a. Date input is required in the format MM/DD/YYYY.
4b. Time input is required in the Standard Time format in the Central Time Zone.
Frequency of Occurrence: Could be nearly continuous if Admin/Reviewer also reviews edited events and approves them (UC09) nearly continuously.
Open Issues: None

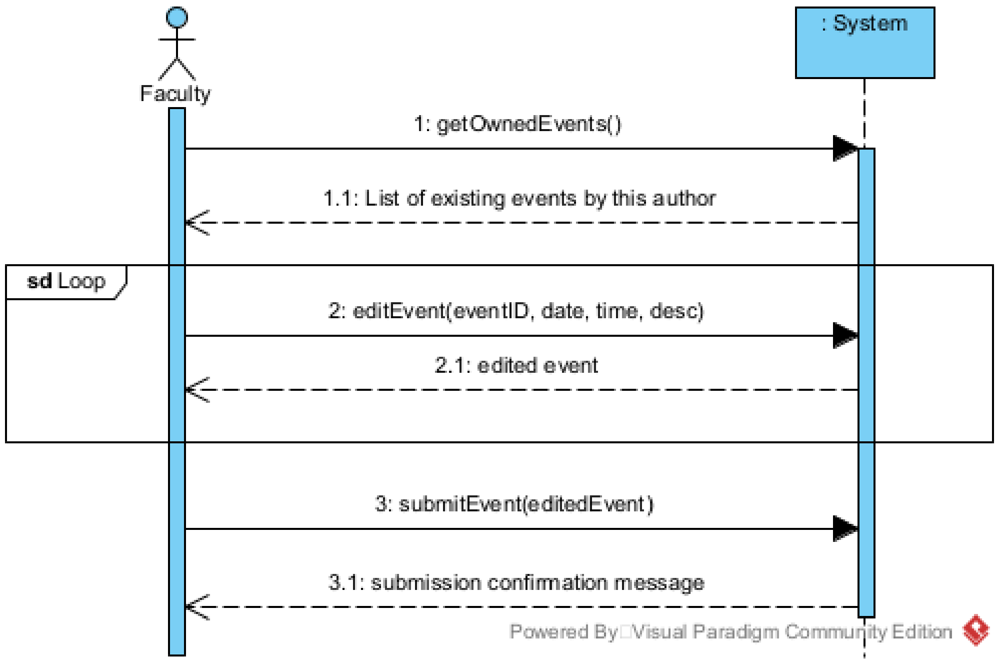
Faculty
: System
1: getOwnedEvents()
1.1: List of existing events by this author
sd Loop
2: editEvent(eventID, date, time, desc)
2.1: edited event
3: submitEvent(editedEvent)
3.1: submission confirmation message
Powered By Visual Paradigm Community Edition

Figure 5: System Sequence Diagram: Edit Event

Operation: getOwnedEvents()
Cross-References: UC05 (Edit Event), UC06 (Delete Event), UC07 (View Event)
Pre-conditions: Event object has been created. Event has been associated with Faculty. Event attribute status is set to approved.

Post-conditions: None.

Operation: editEvent(eventID, date, time, desc)
Cross-References: UC05 (Edit Event)
Pre-conditions:

- Event object has been created.
- Event attribute status is set to approved.
- Event has been associated with Faculty.

Post-conditions: editedEvent has been created.

- editedEvent object has been created.
- editedEvent attributes (date, time, desc) have been updated.
- editedEvent has been associated with Faculty.

Operation: submitEvent(editedEvent)
Cross-References: UC05 (Edit Event)
Pre-conditions:

- editedEvent object has been created.
- editedEvent attributes (date, time, desc) have been updated.
- editedEvent has been associated with Faculty.

Post-conditions:

- Notification object is created.
- Notification object is associated with editedEvent, Faculty, and Admin/Reviewer.

6.2.6 UC06: Delete Event

ID: UC06 (Delete Event)
Scope: CS Automated Information Timeline
Level: User Goal
Primary Actor: Faculty
Stakeholders and Interests:

- Audience: Wants to view up-to-date information about events in the CS Department
- Faculty: Wants the ability to delete events that they submitted that are no longer happening
- Office Manager: Wants to display accurate event information on the calendar on the Lobby TV

Preconditions: Faculty created an event (UC04) and submitted it for review (UC08). Admin/Reviewer reviewed the event (UC09) and approved. Faculty is identified and authenticated in the system and is viewing the event calendar (UC03).
Postconditions: Event status is in a deleted state.
Main Success Scenario:

1. Faculty clicks the “View My Events” link on the event calendar page.
2. System returns a list of existing events authored by Faculty that have been approved.
3. Faculty selects the event they wish to delete from the returned list of their previously approved events.
4. System returns the event page for the selected event.
5. Faculty clicks the “Delete This Event” button on the event page.
6. System prompts Faculty to confirm the removal of the event from the event calendar.
7. Faculty confirms the removal of the event from the event calendar by clicking “Yes”.
8. System provides Faculty with a confirmation message.

Extensions (or Alternate Flows):
3a. Faculty does not see the event they wish to delete in the returned list because the event has not yet been approved by the Admin/Reviewer:

1. Faculty must wait for approval from Admin/Reviewer on the original event before the event is eligible for removal from the event calendar.

7a. Faculty decides they do not want to remove the event from the event calendar:

1. Faculty clicks the “No” button and is redirected to the list of existing events authored by Faculty that have been approved.

Special Requirements: None
Technology and Data Variations List: None
Frequency of Occurrence: Maximum once per submitted and approved event.
Open Issues: None

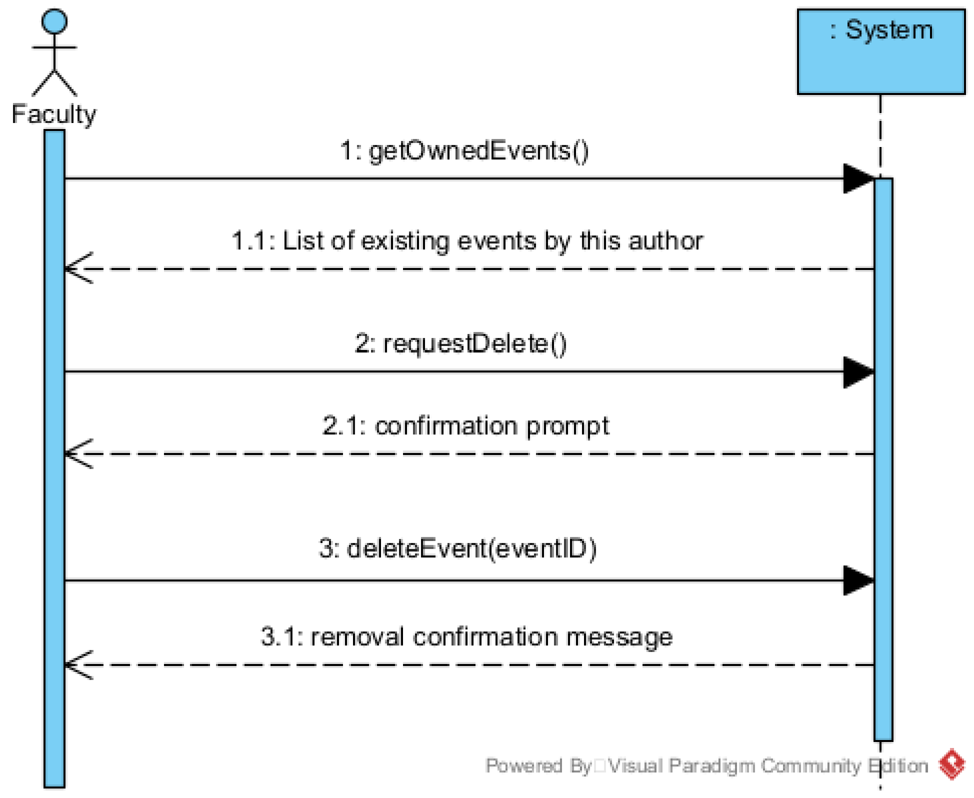
Faculty
: System
1: getOwnedEvents()
1.1: List of existing events by this author
2: requestDelete()
2.1: confirmation prompt
3: deleteEvent(eventID)
3.1: removal confirmation message
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Figure 6: System Sequence Diagram: Delete Event

Operation: requestDelete()
Cross-References: UC06 (Delete Event)
Pre-conditions:

- Event object has been created.
- Event attribute status is set to approved.
- Event has been associated with Faculty.

Post-conditions: None

Operation: deleteEvent(eventID)
Cross-References: UC06 (Delete Event)
Pre-conditions:

- Event object has been created.
- Event attribute status is set to approved.
- Event has been associated with Faculty.

Post-conditions:

- Event attribute status is set to deleted.
- Event associated with Faculty has been broken.

6.2.7 UC07: View Event

ID: UC07 (View Event)
Scope: CS Automated Information Timeline
Level: User Goal
Primary Actor: Faculty
Stakeholders and Interests:

- Audience: Wants to view up-to-date information about events in the CS Department
- Faculty: Wants the ability to view events they have submitted
- Office Manager: Wants to display calendar events on the Lobby TV
- Admin/Reviewer: Wants to view events submitted by Faculty so they can review them

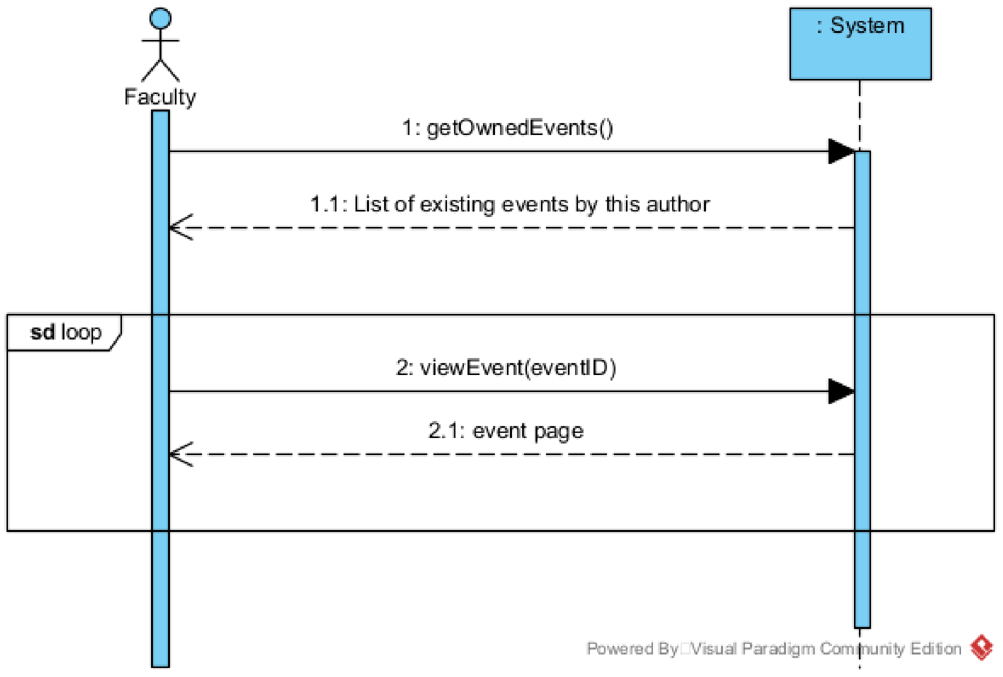
Preconditions: Faculty created an event (UC04) and submitted it for review (UC08). Admin/Reviewer reviewed the event (UC09) and approved. Faculty is identified and authenticated in the system and is viewing the event calendar (UC03).
Postconditions: Event status is in an approved state.
Main Success Scenario:

1. Faculty clicks the "View My Events" link on the event calendar page.
2. System returns a list of existing events authored by Faculty that have been approved.
3. Faculty selects the event they wish to view from the returned list of their previously approved events.
4. System returns the event page for the selected event.

Extensions (or Alternate Flows):
3a. Faculty does not see the event they wish to view in the returned list because the event has not yet been approved by the Admin/Reviewer:

1. Faculty must wait for approval from Admin/Reviewer on the original event before the event is eligible for viewing from the event calendar.

Special Requirements: None
Technology and Data Variations List: None
Frequency of Occurrence: Continuous
Open Issues: None



Faculty
: System
1: getOwnedEvents()
1.1: List of existing events by this author
sd loop
2: viewEvent(eventID)
2.1: event page
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Figure 7: System Sequence Diagram: View Event

Operation: viewEvent(eventID)
Cross-References: UC07 (View Event)
Pre-conditions:

- Event object has been created.
- Event attribute status is set to approved.
- Event has been associated with Faculty.

Post-conditions: None

6.2.8 UC08: Submit For Review

Main Success Scenario: A faculty user submits a post, event, media, or page to the system. The system generates an id and a timestamp that is set to the system time upon submission and associates these attributes with the post, event, media, or page object. The system associates the faculty user that submitted with the post, event, media, or page. The system assigns the status of the post, event, media, or page to the proposed status. The system generates a notification object and attaches the post, event, media, or page object with the notification. The system persists both the created post, event, media, or page object and the created notification object to the database. The created post, event, media, or page is returned to the faculty user.

Alternative Flows:

- The post, event, media, page, or notification object is not persisted.

  - The system will respond to the faculty user with an error message indicating the reason for persistence failure.
  - The faculty member will correct the identified error and attempt to resubmit the post, event, media, or page item.

- If the system does not respond within a given timeframe.
  - The system will return an error message to the faculty user indicating a timeout has occurred.
  - The faculty user will reattempt the submission of the post, event, media, or page item.
    - If the system continues to fail to respond within a given timeframe.
      - The faculty user will inform the admin/reviewer of the error.
      - The admin/reviewer will restart the system.
      - The faculty user will reattempt submission of the post, event, media, or page item.

6.2.9 UC09: Review For Approval

ID: UC09 (Review for Approval)
Scope: CS Automated Information Timeline
Level: User Goal
Stakeholders and Interests:

- Faculty: A person that works for the university and is interested in gaining visibility of their post and/or event.
- Administrator/Reviewer: A person that works for the university and is interested in reviewing and approving requests for system content additions.

Preconditions:

- Administrator/Reviewer a has been identified and authenticated.
- Notification n has been created and persisted.
- n.event, n.post, or n.media has been set.

Postconditions:

- Notification n.entity was identified as either a Post, Event, or Media.
- n.entity.status was set to either "Approved" or "Rejected".
- If the review was favorable, n.entity.status was set to "Approved".
- If the review was unfavorable, n.entity.status was set to "Rejected".
- n.reviewer was set to a.
- n.entity was persisted.

Main Success Scenario:

1. Administrator/Reviewer, a, gets all notifications.

2. For each Notification, n, in notifications, Administrator/Reviewer, a, performs manual review of the Post, Event, or Media attached to Notification, n.
3. Administrator/Reviewer, a, updates the Post, Event, or Media that was attached to Notification, n, to either “Approved” or “Rejected”.
4. If the review is favorable, n.event.status, n.post.status, or n.media.status is set to “Approved”.
5. If the review is not favorable, n.event.status, n.post.status, or n.media.status is set to “Rejected”.
6. The system persists the updated Post, Event, or Media with the status set by Administrator/Reviewer, a.
7. The system associates Administrator/Reviewer, a, with Notification n.
8. Notification, n, is persisted.
9. The Event, Post, or Media is persisted.

Extensions:
2a. There are multiple objects, Post, Event, or Media, attached to Notification n.

- Administrator/Reviewer, a, deletes Notification, n.

Special Requirements: None
Technology and Data Variation List:

- Notification n.post is set and of Post type; n.event and n.media are null.
- Notification n.event is set and of Event type; n.post and n.media are null.
- Notification n.media is set and of Media type; n.post and n.event are null.

Frequency of Occurrence: Could be nearly continuous.

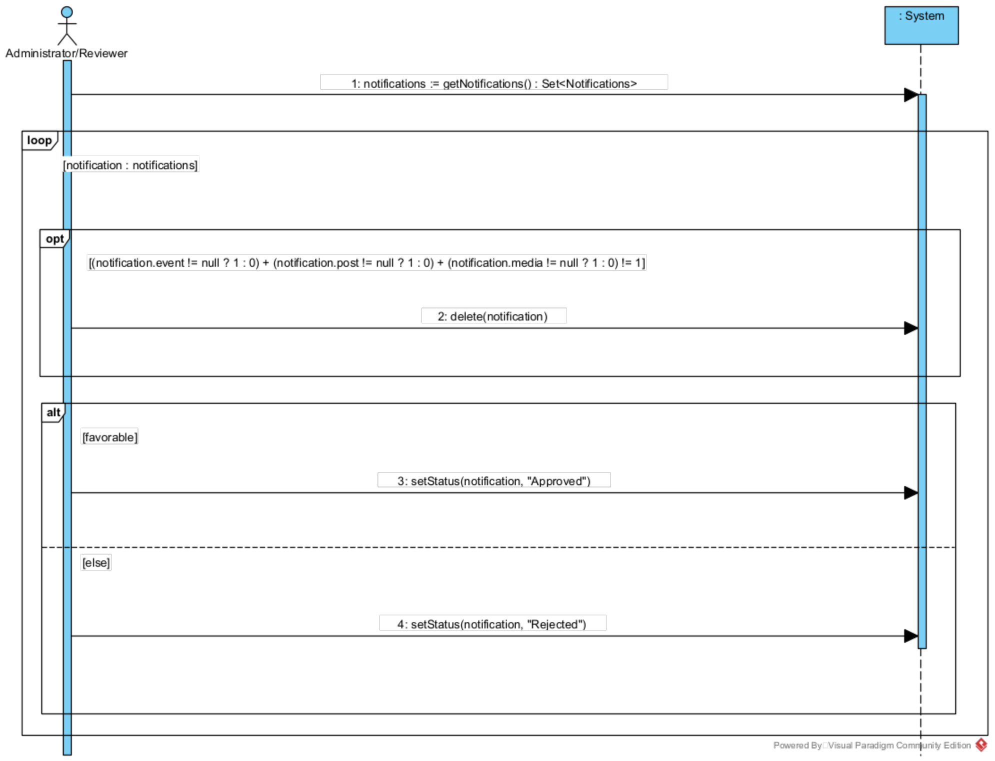
Administrator/Reviewer
: System
1: notifications := getNotifications() : Set<Notifications>
loop
[notification : notifications]
opt
[(notification.event != null ? 1 : 0) + (notification.post != null ? 1 : 0) + (notification.media != null ? 1 : 0) != 1]
2: delete(notification)
alt
[favorable]
3: setStatus(notification, "Approved")
[else]
4: setStatus(notification, "Rejected")
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Figure 8: System Sequence Diagram: Review For Approval

Operation: getNotifications()
Cross References: UC09 (Review for Approval)
Preconditions:

- Admin/Reviewer, a, has been identified and authenticated.
- Notification, n, has been created and persisted.
- Notification n.entity has been set to Post p, Event e, and/or Media m.

Postconditions: None

Operation: deleteNotification(notification: Notification)
Cross References: UC09 (Review for Approval)
Preconditions:

- Admin/Reviewer, a, has been identified and authenticated.
- Notification, n, has been created and persisted.
- Notification n.entity has been set to Post p, Event e, and/or Media m.

Postconditions:

- Association n.entity was disassociated.

- All entities, Post p, Event e, and/or Media m, from association n.entity were removed from persistence and destroyed.
- Notification, n, was removed from persistence and destroyed.

Operation: setStatus(status: String)
Cross References: UC09 (Review for Approval)
Preconditions:

- Admin/Reviewer, a, has been identified and authenticated.
- Notification, n, has been created and persisted.
- n.reviewer has been set to Admin/Reviewer a.
- n.entity has been set to one of Post p, Event e, or Media m.

Postconditions:

- Notification n.entity.status was set to status.
- Notification n.reviewer was set to a.
- Notification, n, was persisted.

6.2.10 UC10: Create Post

ID: UC10 (Create Post)
Scope: CS Automated Information Timeline
Level: User Goal
Stakeholders and Interests:

- Faculty: A person who works for the university and is interested in gaining visibility of this post and/or event.
- Admin/Reviewer: A person who works for the university and approves and/or removes posts and/or event from the system.

Preconditions:

- Faculty, f, has been identified and authenticated.

Postconditions:

- Post, p, was created.
- p.status was set to “Pending”.
- p.createdBy was set to Faculty f.
- Post, p, was persisted.
- Notification, n, was created.

- n.post was set to Post p.
- Notification, n, was persisted.

Main Success Scenario:

1. Faculty writes the post using the post creation tool.
2. The post title is written by the faculty user.
3. The post body is written by the faculty user.
4. Faculty reviews the post draft.
5. Faculty submits the post to the system.
6. A post id is generated by the system.
7. A timestamp is generated by the system.
8. The user id of the faculty user is attached to the post object.
9. The system assigns the status of the post to the proposed state.
10. The system generates a notification object.
11. The post object is attached to the notification object.
12. The post object is persisted.
13. The notification object is persisted.
14. The system returns the persisted post object to the faculty user.

Extensions:
*.a. Anytime the system does not respond.

1. Faculty will notify the Admin/Reviewer.
2. Admin/Reviewer will restart the system.
3. Faculty will recreate and submit the post.

5.a. Anytime the system does not respond.

1. The system will return an error message to the faculty user.
2. The faculty user will resubmit the post.

6.a. If the post is not persisted.

1. The system will return an error message to the faculty user.
2. The faculty user will reattempt the submission of the post.

Special Requirements: None
Technology and Data Variations List:

1. Date will be of the format "yyyy-MM-ddTHH:mm:ss".
2. Id will be of the format of a universally unique identifier, UUID.

Frequency of Occurrence: Could be nearly continuous.

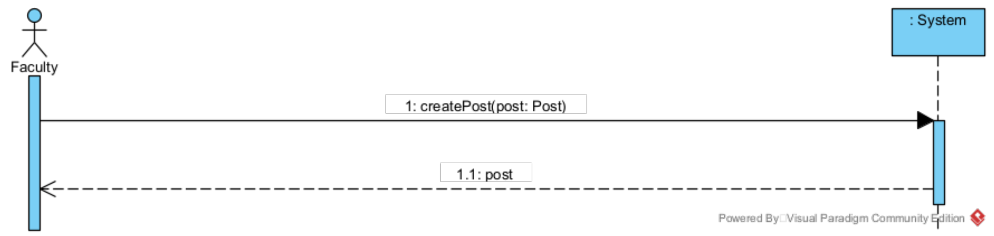
Faculty
: System
1: createPost(post: Post)
1.1: post
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Figure 9: System Sequence Diagram: Create Post

Operation: createPost(post: Post)
Cross References: UC10 (Create Post)
Preconditions:

- Faculty, f, has been identified and authenticated.

Postconditions:

- Post, p, was created.
- p.status was set to "Pending".
- p.createdBy was set to Faculty f.
- Post, p, was persisted.
- Notification, n, was created.
- n.post was set to Post p.
- Notification, n, was persisted.

6.2.11 UC11: Edit Post

ID: UC11 (Edit Post)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Faculty or Admin/Reviewer
Stakeholders and Interests:

- Audience: A person that is interested in viewing all approved content on the system using their mobile device.

- Faculty: A person that works for the university and is interested in gaining visibility of their post and/or event.
- Office Manager: A person that works for the university and is interested in prioritizing the order of posts and/or events.
- Admin/Reviewer: A person that works for the university and approves and/or removes posts and/or events from the system.

Preconditions:

- Faculty has been identified and authenticated.
- A post has been created.

Postconditions:

- Post has been updated and saved to database.
- Media library has been updated with new images and videos from the updated post.
- The display board reflects the updated post flagged for display.

Main Success Scenario:

1. User selects a post to edit
2. System opens the editable view for the selected post with options to edit the text, delete the photos and videos, if present, on the post, upload photos and videos on the post and update the display flag.
3. User saves the updated post.
4. System presents the confirmation that the post is updated

Alternative Flows:
a. At any time, system fails or becomes unresponsive and does not provide an error message

1. User performs a hard refresh on the browser (ctrl + f5 or shift + reload)
2. System reloads the editable view for the post

b. (3.a) Uploaded media is in unsupported format or exceeds the file size limit

1. System prompts the user with the appropriate error message
2. User acknowledges the error and reuploads the media in supported format and size.

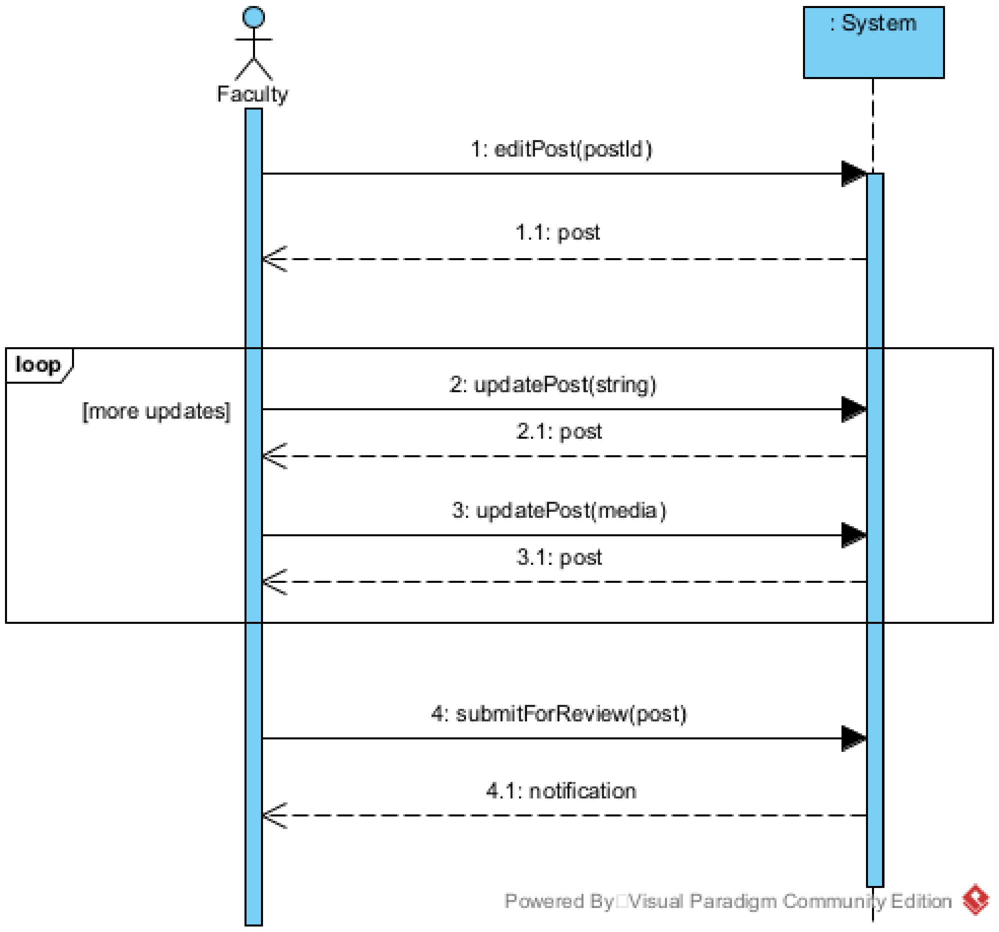


Figure 10: System Sequence Diagram: Edit Post

Operation: updatePost(post)
Cross Reference: UC11 (Edit Post)
Preconditions:

- Faculty has been identified and authenticated.
- A post has been created and persisted in the database.
- Update operation is underway.

Postconditions:

- A Post instance, post was created
- post was associated with the Update operation.
- post was modified
- Modified post was persisted to the database

6.2.12 UC12: Delete Post

ID: UC12 (Delete Post)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Faculty or Admin/Reviewer
Stakeholders and Interests:

- Audience: A person that is interested in viewing all approved content on the system using their mobile device.
- Faculty: A person that works for the university and is interested in gaining visibility of their post and/or event.
- Office Manager: A person that works for the university and is interested in prioritizing the order of posts and/or events.
- Admin/Reviewer: A person that works for the university and approves and/or removes posts and/or events from the system.

Preconditions:

- Faculty has been identified and authenticated.
- A post to be deleted exists.

Postconditions:

- The post has been deleted from the database.
- Media library has been updated.
- The display board no longer displays the deleted post.

Main Success Scenario:

1. User navigates to the admin dashboard and accesses the manage post view.
2. User selects the post to be managed and clicks the delete post button.
3. System presents the confirmation window prompting the user if they are sure about deleting the post
4. User confirms deletion.
5. The system deletes the selected post from the database and updates the display board contents.
6. System presents the confirmation that the post is deleted

Alternative Flows:
a. At any time, system fails or becomes unresponsive and does not provide an error message

1. User performs a hard refresh on the browser (ctrl + f5 or shift + reload)
2. System reloads the editable view for the post

b. (4.a) User does not confirm post deletion (clicks no)

1. No action is taken, and the post is displayed in manage post view

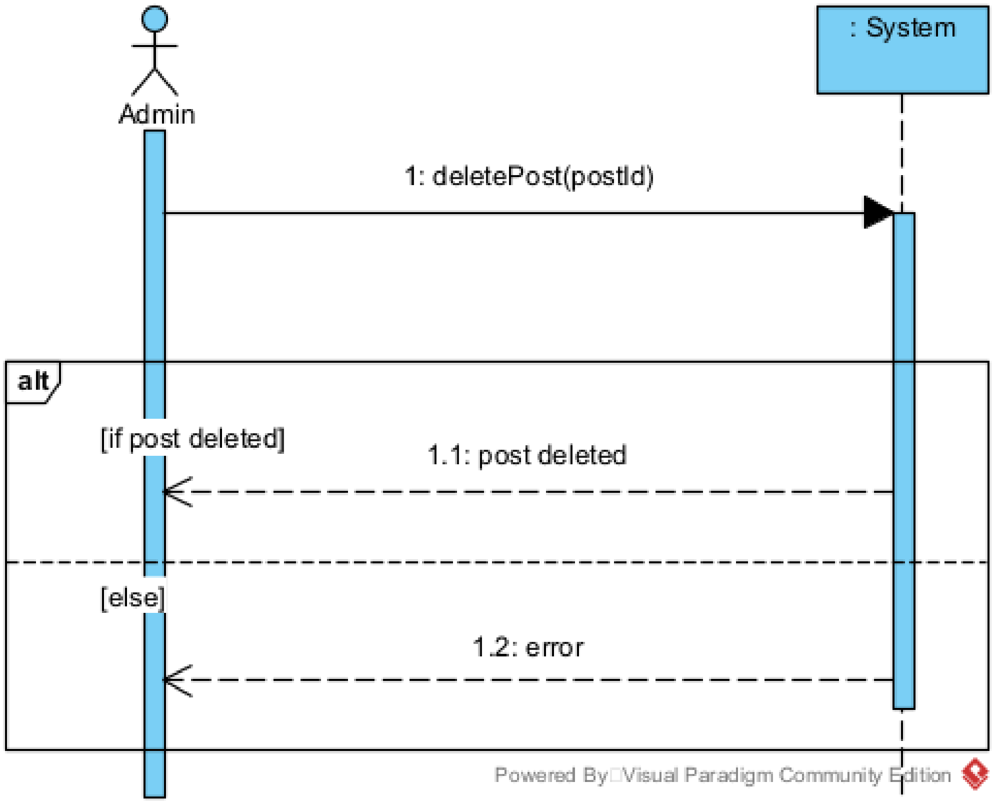


Figure 11: System Sequence Diagram: Delete Post

Operation: deletePost(postId)
Cross Reference: UC12 (Delete Post)
Preconditions:

- Faculty has been identified and authenticated.
- A post has been created and persisted in the database.
- Delete operation is underway.

Postconditions:

- A Post instance, post was created
- post was associated with the Delete operation.
- post was deleted

6.2.13 UC13: View Post

ID: UC13 (View Post)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Audience
Stakeholders and Interests:

- Audience: A person that is interested in viewing all approved content on the system using their mobile device.
- Faculty: A person that works for the university and is interested in gaining visibility of their post and/or event.
- Office Manager: A person that works for the university and is interested in prioritizing the order of posts and/or events.
- Admin/Reviewer: A person that works for the university and approves and/or removes posts and/or events from the system.

Preconditions:

- A post has been created and staged for display.

Postconditions: None
Main Success Scenario:

1. User accesses the web application UI by scanning the QR code on the display board.
2. System presents the web view with posts staged for display

Alternative Flows:
a. At any time, system fails or becomes unresponsive and does not provide an error message

1. User performs a hard refresh on the browser (ctrl + f5 or shift + reload)
2. System reloads the editable view for the post

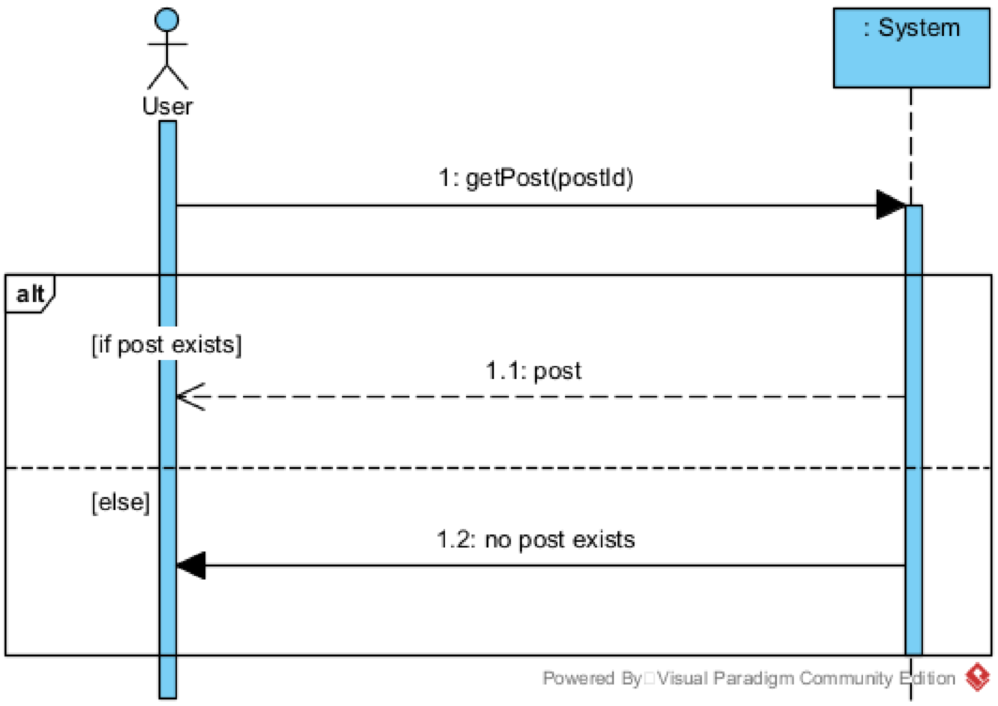


Figure 12: System Sequence Diagram: View Post

Operation: getPost(postId)
Cross Reference: UC13 (View Post) **Preconditions:**

- Post exists and is staged for display
- User is attempting to view a specific post (request)

Postconditions:

- A PostService instance, postService was created
- A PostRepository instance postRepository was created
- A Post instance post was created
- post was associated with the request

6.2.14 UC14: Edit Page of Event

ID: UC14 (Edit Page of Event)
Precondition: Office Manager has been identified and authenticated.
Main Success Scenario: Office Manager can edit HTML page of the event using the WYSIWYG (What You See Is What You Get) editor. Office Manager can select an event and click the edit option, which will allow them to use the WYSISYG editor to compose and submit the HTML page associated with the event. The changes will take effect immediately and will be reflected on the display board.

6.2.15 UC15: Manage Displayed Posts

ID: UC15 (Manage Displayed Posts)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Office Manager
Stakeholders and Interests:

- Admin/Reviewer: Wants to ensure a curated set of posts are displayed for guests
- Guest/Audience: Wants to be able to see priority posts from the department
- Faculty: Wants to ensure their relevant/priority posts are displayed to guests

Preconditions:

- User with Office Manager role has been authenticated
- More than 10 posts exist in the system to allow assigning of priority

Postconditions:

- Curated list of posts are displayed on the TV display
- The ordering of displayed posts is correct

Main Success Scenario:

1. User navigates to view all posts
2. System displays all posts
3. User selects post to be displayed on the main TV display
4. The system presents the current list of curated posts
5. Repeat step 3 and 4 until all desired posts are selected by the user
6. System presents final list of posts to be displayed on the main display
7. User approves final list of media
8. The system records the final list and the user ID associated with the created list
9. The system updates the main display with the curated list of posts
10. The main display begins to display the new posts
11. The system notifies the user that the list is being displayed

Alternative Flows:
3A: User does not deem any posts need to be displayed

1. User decides to not provide a list based on the currently available media

2. The user exits the action of curating the displayed posts
3. The system discards any in work lists

3B: The user wishes to change a previously selected post

1. User selects post to not be displayed
2. The system updates the list of curated posts
3. Renter at beginning of step 3

7A: The user needs to change the order of curated list

1. The user selects the post they wish to change position
2. The user indicates which position the post should be displayed in
3. The system updates the curated list
4. The system re-presents the final list to user for approval
5. Renter at step 7 entry

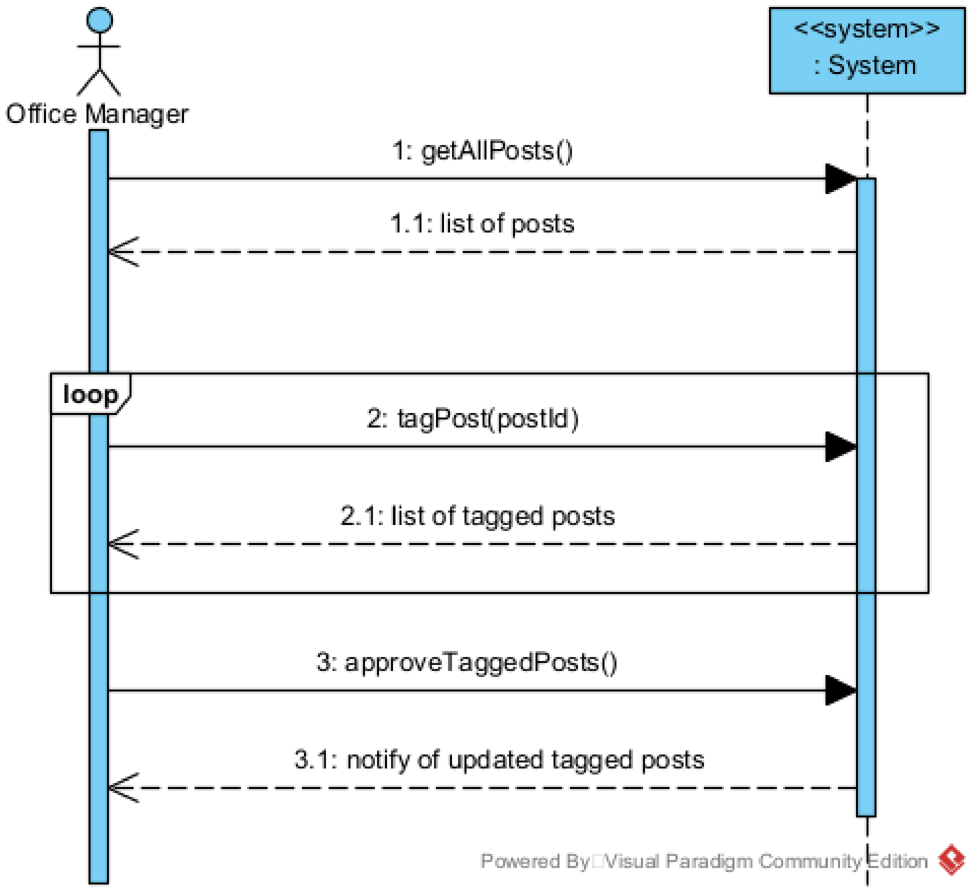


Figure 13: System Sequence Diagram: Manage Displayed Posts

Operation: getAllPosts()
Cross-References: UC15 (Manage Displayed Posts)
Pre-conditions:

- Posts exist in system
- Post count > 10

Post-conditions:

- All posts returned to user (create list of posts, *lp*)

Operation: tagPost(postId)
Cross-References: UC15 (Manage Displayed Posts)
Pre-conditions:

- Size of $lp < 10$

Post-conditions:

- Post item, *p*, is added to *lp*
- Size of $lp \leq 10$

Operation: approveTaggedPosts()
Cross-References: UC15 (Manage Displayed Posts)
Pre-conditions:

- Size of $lp = 10$
- *lp* has not been approved

Post-conditions:

- *lp* is approved
- MainDisplay updates with contents of *lp*

6.2.16 UC16: Manage Displayed Media

ID: UC16 (Manage Media For Display)
Scope: CS Automated Information Timeline
Level: User goal
Primary Actor: Office Manager
Stakeholders and Interests:

- Admin/Reviewer: Wants to ensure curated list of media items are on display for guests
- Guest: Wants to be able to see images and/or video on the TV display

- Faculty: Wants to ensure relevant media can be shown to guests.

Preconditions:

- User with Office Manager role has been authenticated.
- Media library is available.

Postconditions:

- Media is displayed on the TV display
- The ordering of the media displayed is correct

Main Success Scenario:

1. User navigates to media library
2. The system displays the media library and available files for display
3. User selects media to be displayed on the main display
4. The system displays the list of media that will be displayed on the main display
5. Repeat step 3 and 4 until all required media is selected for display
6. User reviews final list of media to be displayed
7. User approves media display and saves new list of media to be displayed
8. The system records the final list and the user identification associated with the created list
9. The system updates the main display with the list of media to display
10. The system provides local copies of media to the main display
11. The main display begins displaying the listed media
12. The system notifies the user that the listed media has been saved and is displayed on the main display

Alternative Flows:
3A: User does not find suitable media for display and has media to upload

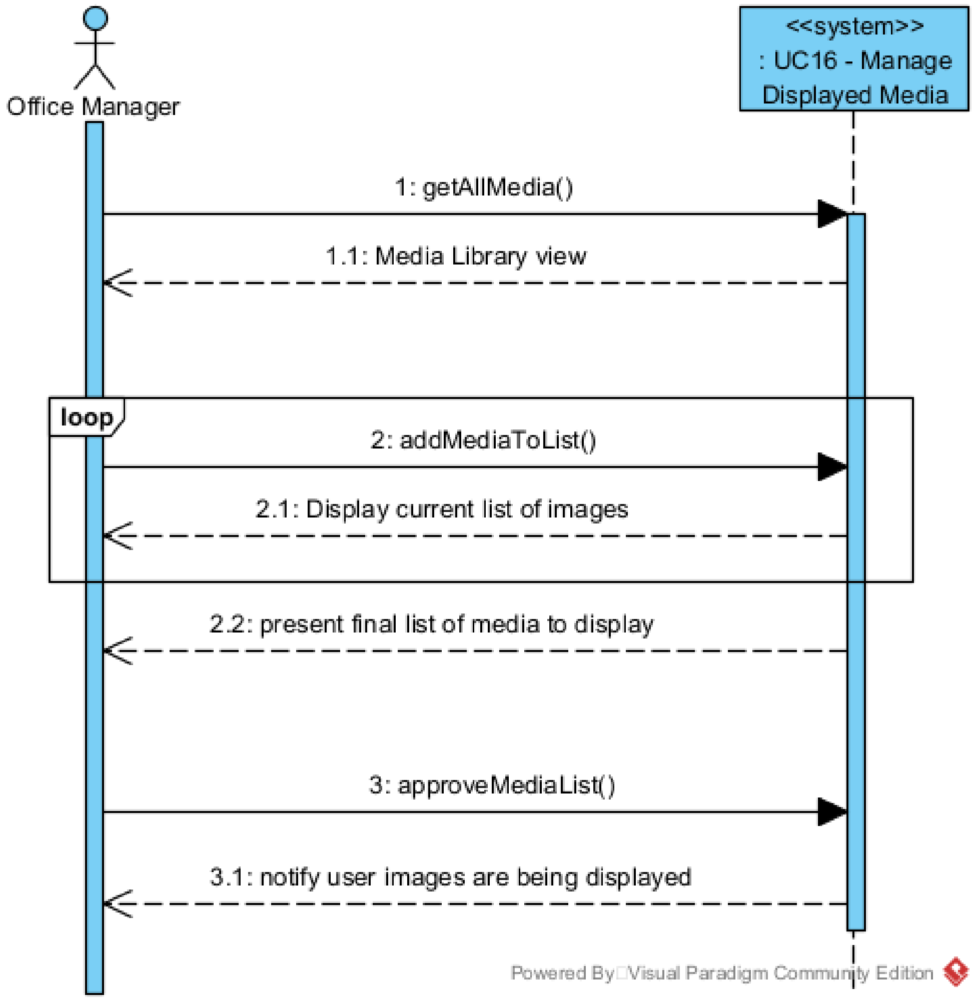
1. User selects media they wish to upload from local device
2. User uploads new media to media library
3. The system confirms successful upload of media
4. The system adds newly uploaded media to list of media to display
5. Proceed to step 4 of the main scenario

3B: User wants to remove items from current Media list

1. User proceeds to modify currently returned media list
2. System returns the current list of media marked for display on the main display
3. User updates list to remove media
4. System returns updated list
5. Repeat step 3 and 4 until either all media is removed from the list or user cancels the action.
6. Proceed to step 6 of the main scenario

7A: User needs to modify order of media to be displayed

1. User selects option to change media ordering
2. The system notifies the user the current order of media will be lost
3. User confirms
4. The system returns user to step 3 of the main scenario



Office Manager
<<system>>
: UC16 - Manage Displayed Media
1: getAllMedia()
1.1: Media Library view
loop
2: addMediaToList()
2.1: Display current list of images
2.2: present final list of media to display
3: approveMediaList()
3.1: notify user images are being displayed
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Figure 14: System Sequence Diagram: Manage Displayed Media

Operation: getAllMedia()
Cross-References: UC16 (Manage Media For Display)
Pre-conditions:

- Media objects exist in the media library (database store)
- Media objects have been approved by admin

Post-conditions:

- List of media returned to user as List¡¿ object, *ml*

Operation: addMediaToList()
Cross-References: UC16 (Manage Media For Display)
Pre-conditions:

- Media List object, *ml*, is not at capacity yet
- *ml* has not been approved

Post-conditions:

- *ml* has association with media item, *m*, formed
- *ml* has been updated and requests approval

Operation: approveMediaList ()
Cross-References: UC16 (Manage Media For Display)
Pre-conditions:

- User has marked *ml* as ready for publish
- *ml* is not over capactiy
- *ml* has not been approved yet

Post-conditions:

- *ml* is approved and set for display
- *MainDisplay* updates with new list, *ml*

7 Activity Diagram: Create Event

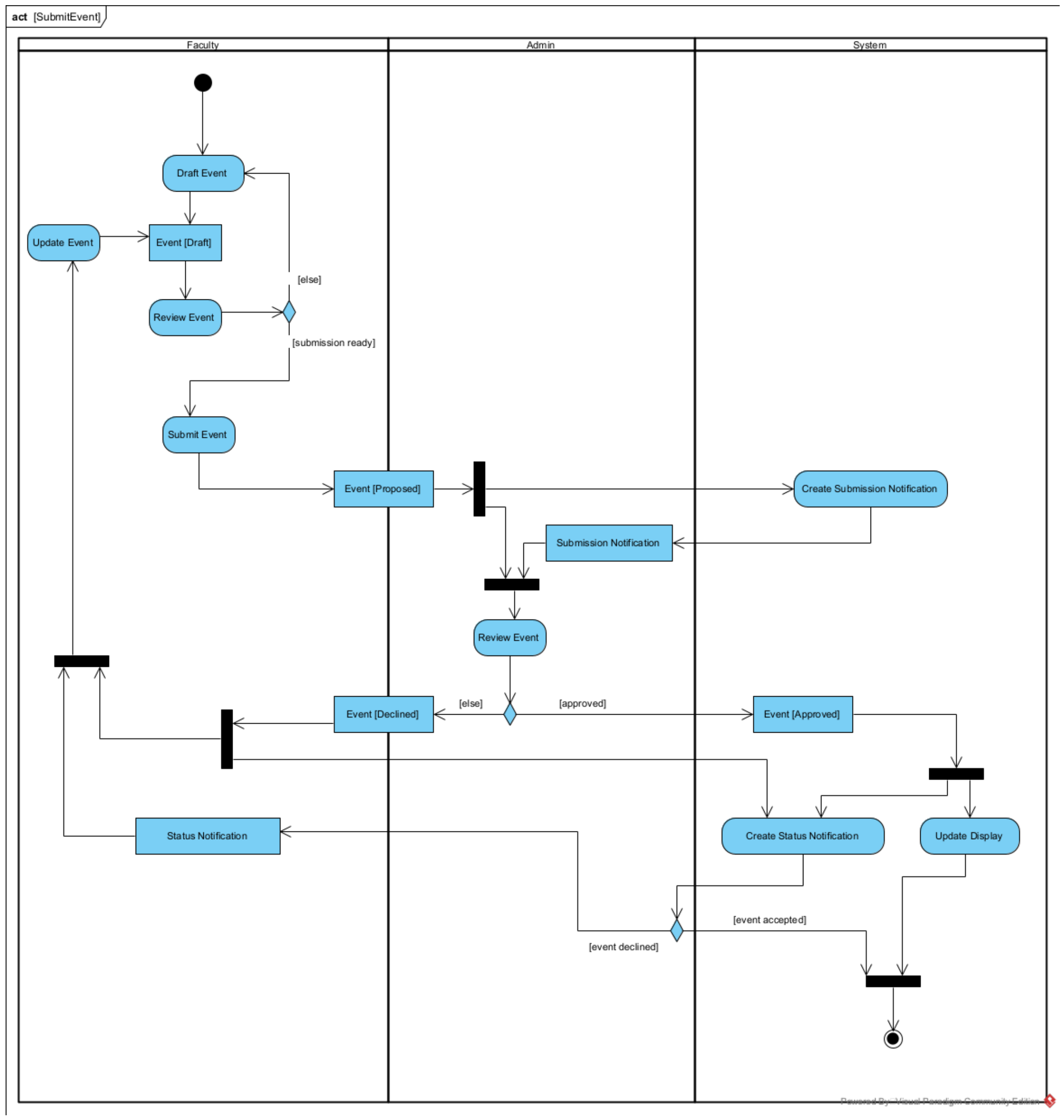

Figure 15: Activity Diagram: Create Event

8 Wireframes

8.1 Login Screen

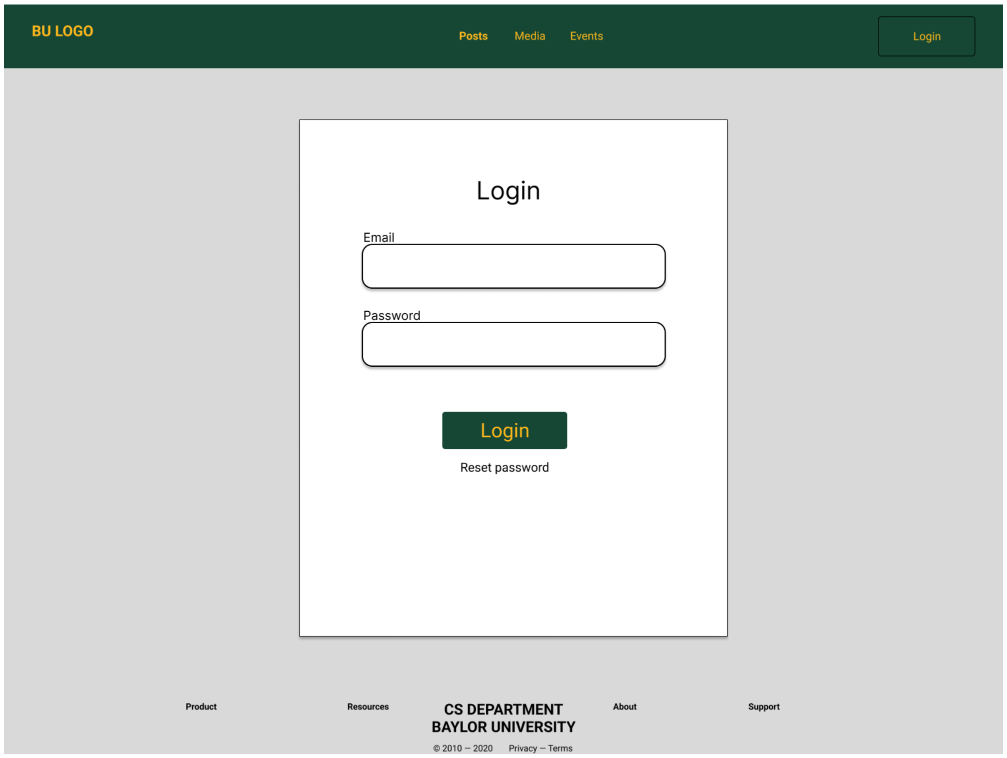

Figure 16: Wireframe: Login Screen

8.2 Create Post Screen

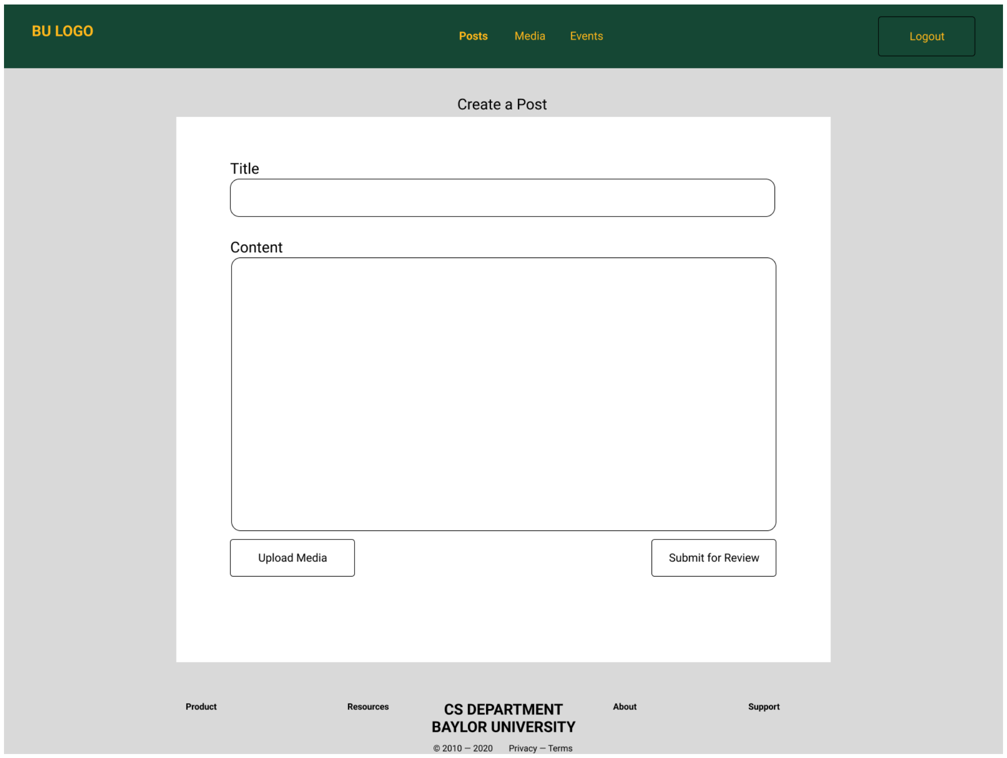

Figure 17: Wireframe: Create Post Screen

8.3 Review Post Screen

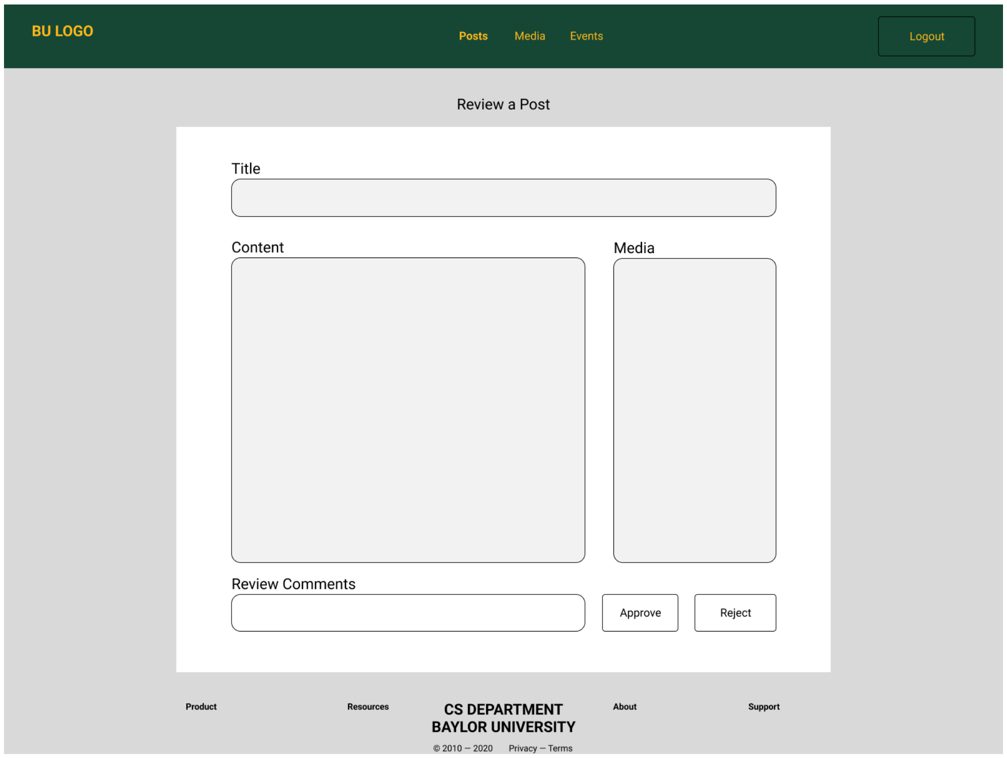

Figure 18: Wireframe: Review Post Screen

8.4 Faculty Dashboard

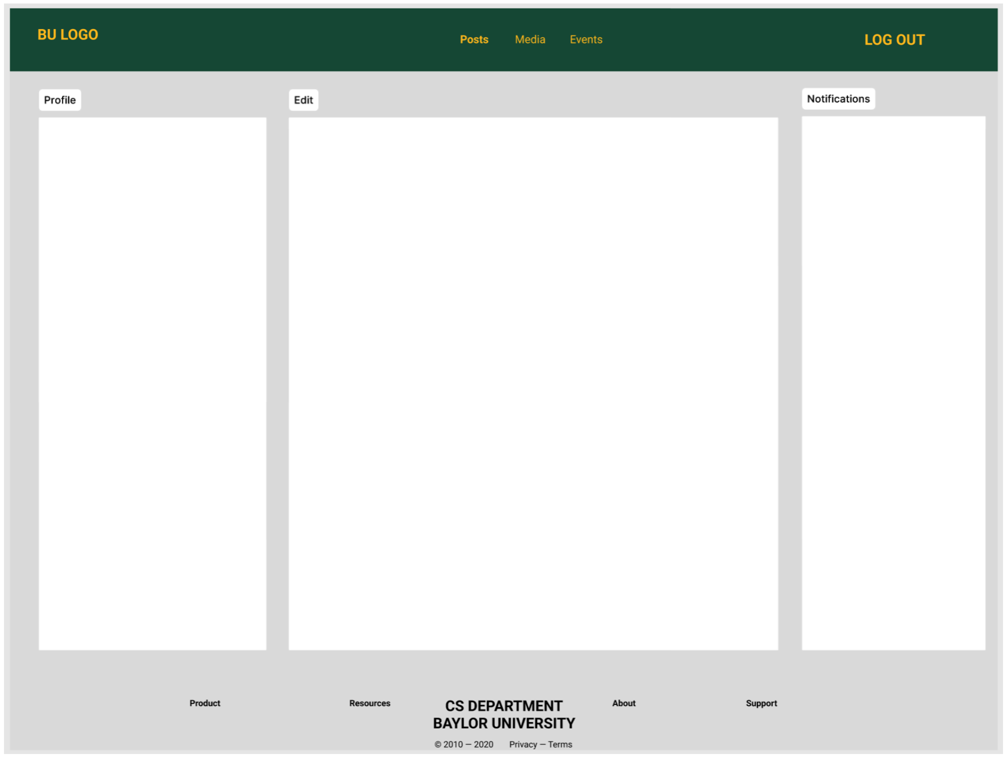

Figure 19: Wireframe: Faculty Dashboard

8.5 TV

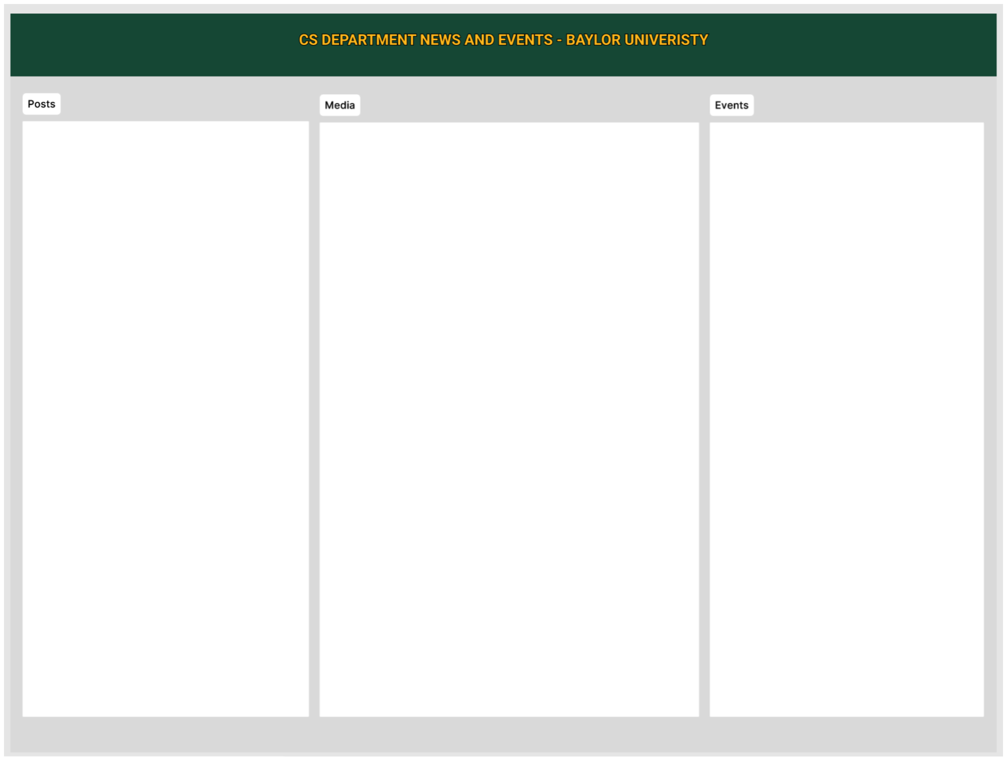

Figure 20: Wireframe: TV

8.6 Web UI

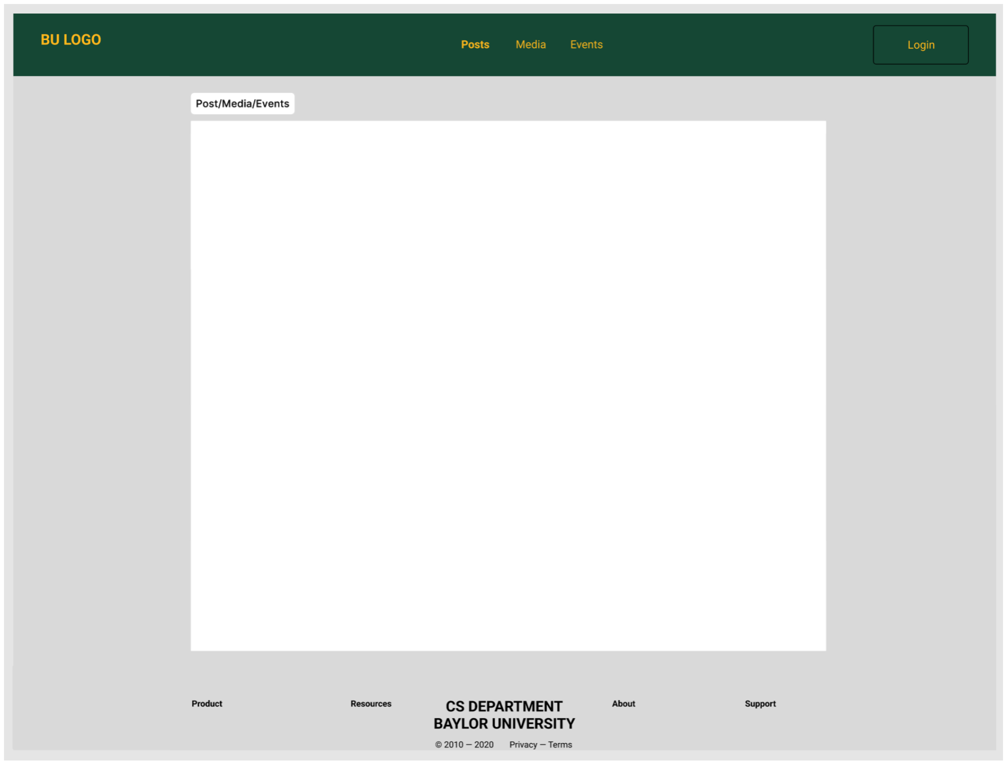

Figure 21: Wireframe: Web UI

9 Class Diagram

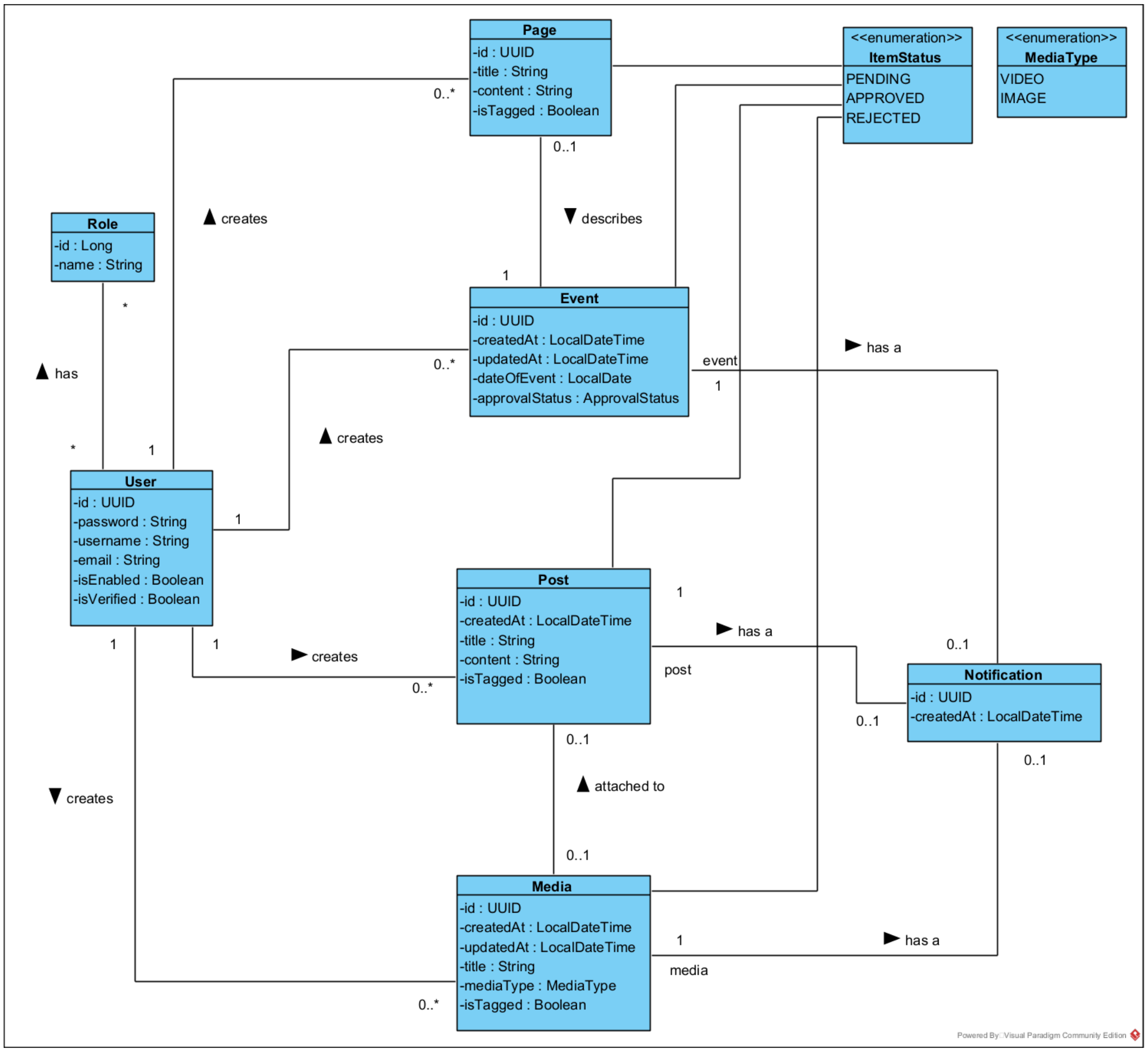

Figure 22: Class Diagram

10 GRASP Patterns

Table below categorizes all the classes that appear on the sequence diagrams based on the GRASP concept they implement.

Controller	Creator	Information Expert	Low Coupling/High Cohesion
EventController	EventMapper	EventRepository	EventService
ReviewController	EventRepository	NotificationRepository	NotificationService
PostController	NotificationRepository	PostRepository	ReviewService
MediaController	NotificationMapper	MediaRepository	PostService
	PostRepository	PageRepository	MediaService
	MediaRepository		DisplayService
	PageRepository		PageService
			EventMapper
			NotificationMapper

Table 1: Classes with the identified GRASP concepts

Low coupling and high cohesion is achieved by clearly separating out Controller, Service and Repository actions so that each class is only responsible for its specific layer of the application. This is also a core part of the MVC pattern which is known to be loosely coupled and highly cohesive.
The mapper classes (EventMapper and NotificationMapper) were also identified as a creators because they are meant to be injected in service classes to create objects to be used as entities. Mapper classes support low coupling by removing a need for mapping user inputs directly to domain object needs and high cohesion by dealing only with JSON Serialization/deserialization of Event/EventDTO objects.

10.1 Annotated Sequence diagrams

A subset of sequence diagrams are annotated with the identified GRASP concepts and are included below. These sequence diagrams cover all the classes and the GRASP patterns they implement.

10.1.1 Sequence Diagram: Create Event

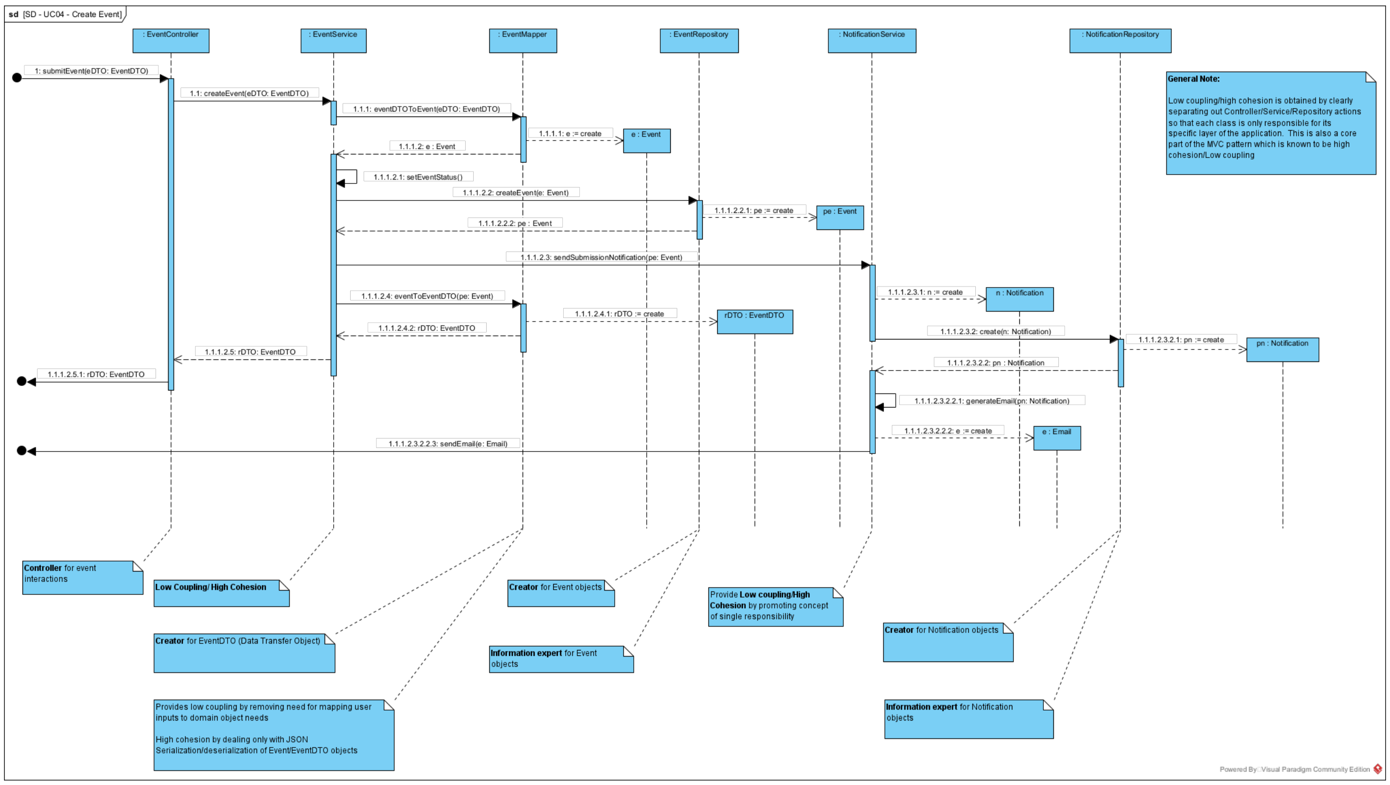
sd [SD - UC04 - Create Event]
: EventController
: EventService
: EventMapper
: EventRepository
: NotificationService
: NotificationRepository
1: submitEvent(eDTO: EventDTO)
1.1: createEvent(eDTO: EventDTO)
1.1.1: eventDTOToEvent(eDTO: EventDTO)
1.1.1.1: e := create
e : Event
1.1.1.2: e : Event
1.1.1.2.1: setEventStatus()
1.1.1.2.2: createEvent(e: Event)
1.1.1.2.2.1: pe := create
pe : Event
1.1.1.2.2.2: pe : Event
1.1.1.2.3: sendSubmissionNotification(pe: Event)
1.1.1.2.3.1: n := create
n : Notification
1.1.1.2.4: eventToEventDTO(pe: Event)
1.1.1.2.4.1: rDTO := create
rDTO : EventDTO
1.1.1.2.3.2: create(n: Notification)
1.1.1.2.3.2.1: pn := create
pn : Notification
1.1.1.2.4.2: rDTO: EventDTO
1.1.1.2.5: rDTO: EventDTO
1.1.1.2.3.2.2: pn : Notification
1.1.1.2.5.1: rDTO: EventDTO
1.1.1.2.3.2.2.1: generateEmail(pn: Notification)
1.1.1.2.3.2.2.2: e := create
e : Email
1.1.1.2.3.2.2.3: sendEmail(e: Email)
General Note:
Low coupling/high cohesion is obtained by clearly separating out Controller/Service/Repository actions so that each class is only responsible for its specific layer of the application. This is also a core part of the MVC pattern which is known to be high cohesion/Low coupling
Controller for event interactions
Low Coupling/ High Cohesion
Creator for EventDTO (Data Transfer Object)
Provides low coupling by removing need for mapping user inputs to domain object needs
High cohesion by dealing only with JSON Serialization/deserialization of Event/EventDTO objects
Creator for Event objects
Information expert for Event objects
Provide Low coupling/High Cohesion by promoting concept of single responsibility
Creator for Notification objects
Information expert for Notification objects
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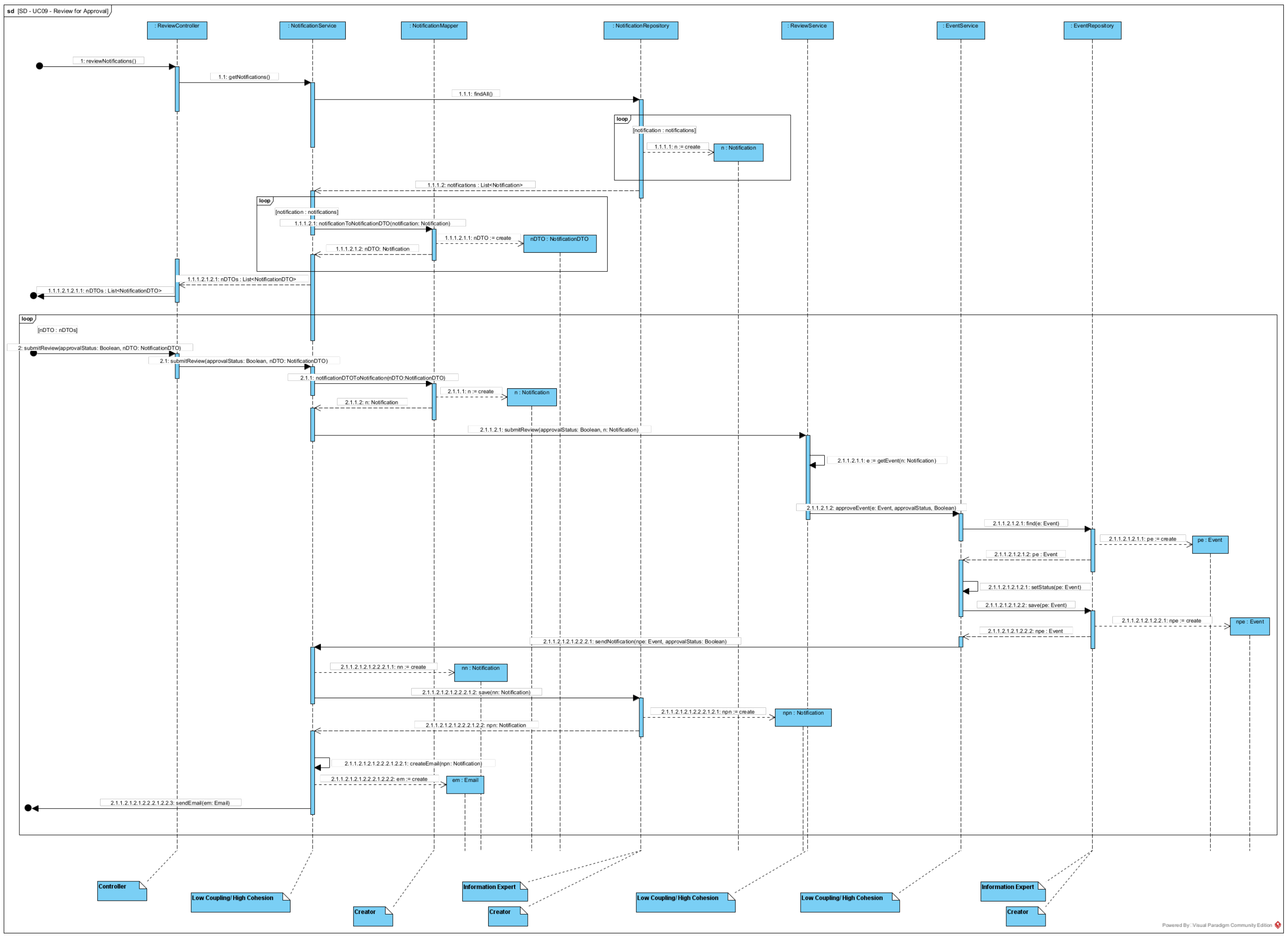
Figure 23: Sequence Diagram: Create Event

10.1.2 Sequence Diagram: Review for Approval



sd [SD - UC09 - Review for Approval]
: ReviewController
: NotificationService
: NotificationMapper
: NotificationRepository
: ReviewService
: EventService
: EventRepository
1: reviewNotifications()
1.1: getNotifications()
1.1.1: findAll()
loop
[notification : notifications]
1.1.1.1: n := create
n : Notification
1.1.1.2: notifications : List<Notification>
loop
[notification : notifications]
1.1.1.2.1: notificationToNotificationDTO(notification: Notification)
1.1.1.2.1.1: nDTO := create
nDTO : NotificationDTO
1.1.1.2.1.2: nDTO: Notification
1.1.1.2.1.2.1: nDTOs : List<NotificationDTO>
1.1.1.2.1.2.1.1: nDTOs : List<NotificationDTO>
loop
[nDTO : nDTOs]
2: submitReview(approvalStatus: Boolean, nDTO: NotificationDTO)
2.1: submitReview(approvalStatus: Boolean, nDTO: NotificationDTO)
2.1.1: notificationDTOToNotification(nDTO:NotificationDTO)
2.1.1.1: n := create
n : Notification
2.1.1.2: n: Notification
2.1.1.2.1: submitReview(approvalStatus: Boolean, n: Notification)
2.1.1.2.1.1: e := getEvent(n: Notification)
2.1.1.2.1.2: approveEvent(e: Event, approvalStatus, Boolean)
2.1.1.2.1.2.1: find(e: Event)
2.1.1.2.1.2.1.1: pe := create
pe : Event
2.1.1.2.1.2.1.2: pe : Event
2.1.1.2.1.2.1.2.1: setStatus(pe: Event)
2.1.1.2.1.2.1.2.2: save(pe: Event)
2.1.1.2.1.2.1.2.2.1: npe := create
npe : Event
2.1.1.2.1.2.1.2.2.2: npe : Event
2.1.1.2.1.2.1.2.2.2.1: sendNotification(npe: Event, approvalStatus: Boolean)
2.1.1.2.1.2.1.2.2.2.1.1: nn := create
nn : Notification
2.1.1.2.1.2.1.2.2.2.1.2: save(nn: Notification)
2.1.1.2.1.2.1.2.2.2.1.2.1: npn := create
npn : Notification
2.1.1.2.1.2.1.2.2.2.1.2.2: npn: Notification
2.1.1.2.1.2.1.2.2.2.1.2.2.1: createEmail(npn: Notification)
2.1.1.2.1.2.1.2.2.2.1.2.2.2: em := create
em : Email
2.1.1.2.1.2.1.2.2.2.1.2.2.3: sendEmail(em: Email)
Controller
Low Coupling/ High Cohesion
Creator
Information Expert
Creator
Low Coupling/ High Cohesion
Low Coupling/ High Cohesion
Information Expert
Creator
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Figure 24: Sequence Diagram: Review for Approval

10.1.3 Sequence Diagram: Edit Post

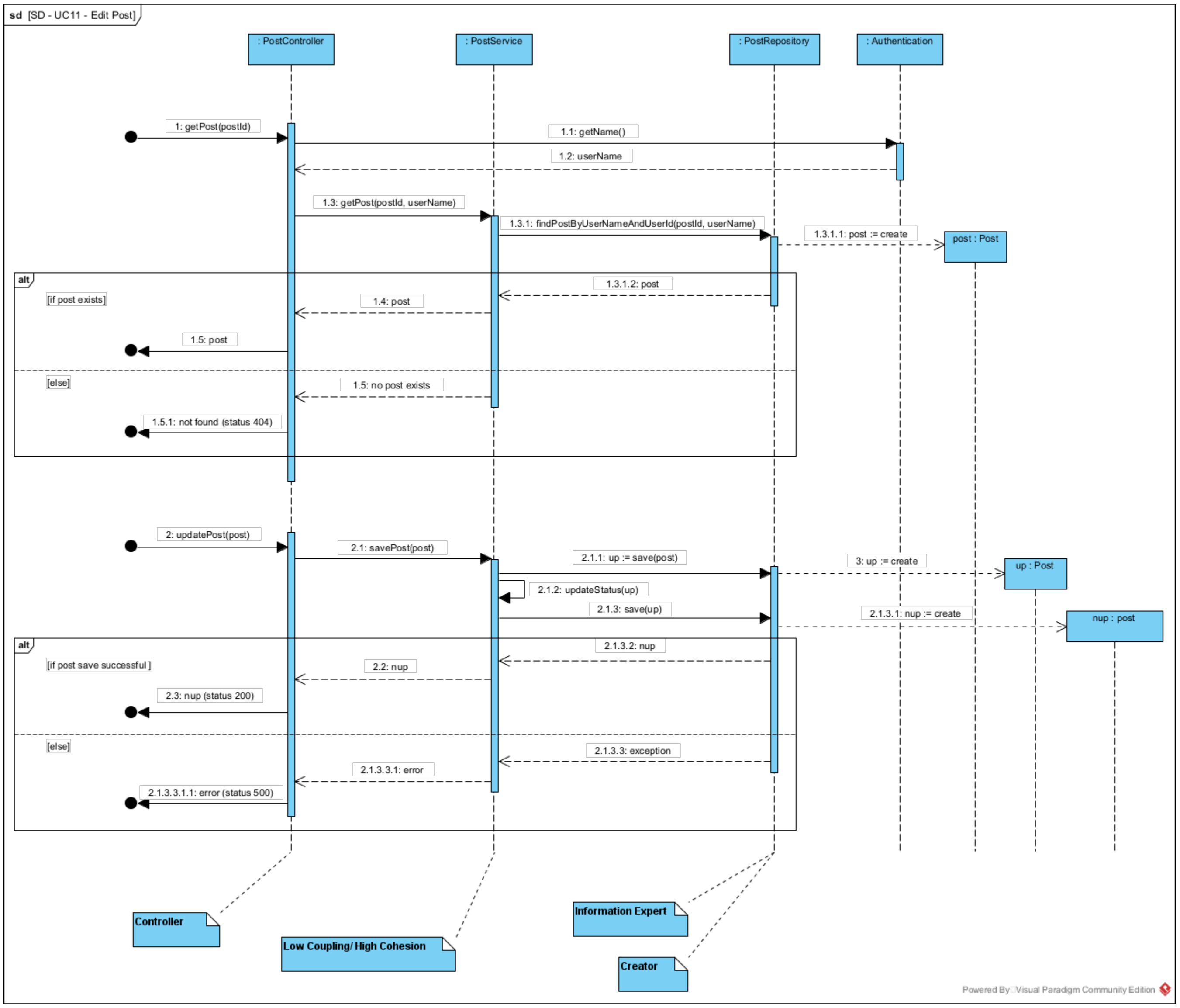

Figure 25: Sequence Diagram: Edit Post

10.1.4 Sequence Diagram: Manage Displayed Media

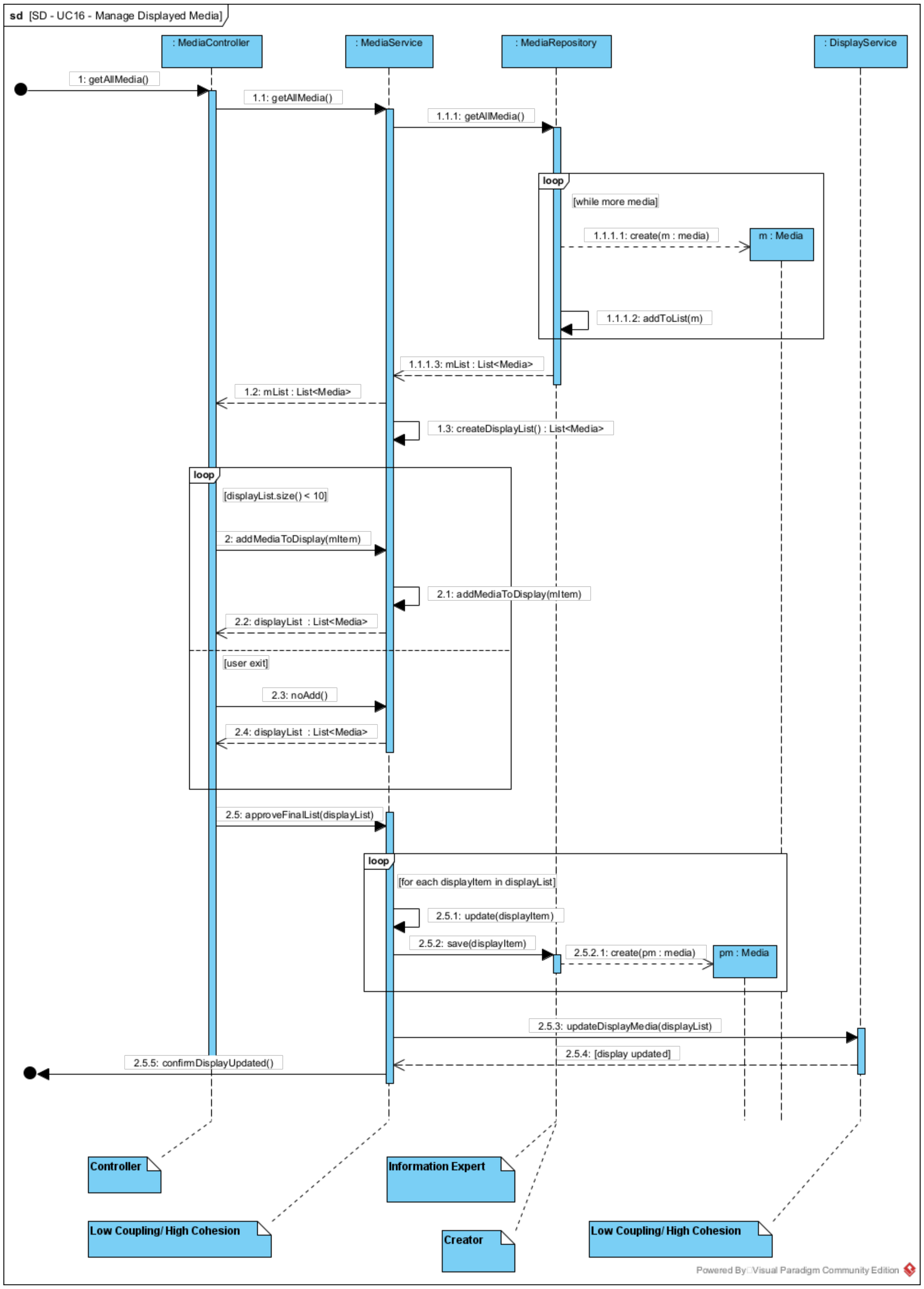
sd [SD - UC16 - Manage Displayed Media]
: MediaController
: MediaService
: MediaRepository
: DisplayService
1: getAllMedia()
1.1: getAllMedia()
1.1.1: getAllMedia()
loop
[while more media]
1.1.1.1: create(m : media)
m : Media
1.1.1.2: addToList(m)
1.1.1.3: mList : List<Media>
1.2: mList : List<Media>
1.3: createDisplayList() : List<Media>
loop
[displayList.size() < 10]
2: addMediaToDisplay(mItem)
2.1: addMediaToDisplay(mItem)
2.2: displayList : List<Media>
[user exit]
2.3: noAdd()
2.4: displayList : List<Media>
2.5: approveFinalList(displayList)
loop
[for each displayItem in displayList]
2.5.1: update(displayItem)
2.5.2: save(displayItem)
2.5.2.1: create(pm : media)
pm : Media
2.5.3: updateDisplayMedia(displayList)
2.5.4: [display updated]
2.5.5: confirmDisplayUpdated()
Controller
Information Expert
Low Coupling/ High Cohesion
Creator
Low Coupling/ High Cohesion
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Figure 26: Sequence Diagram: Manage Displayed Media

10.1.5 Sequence Diagram: Add Page to Event

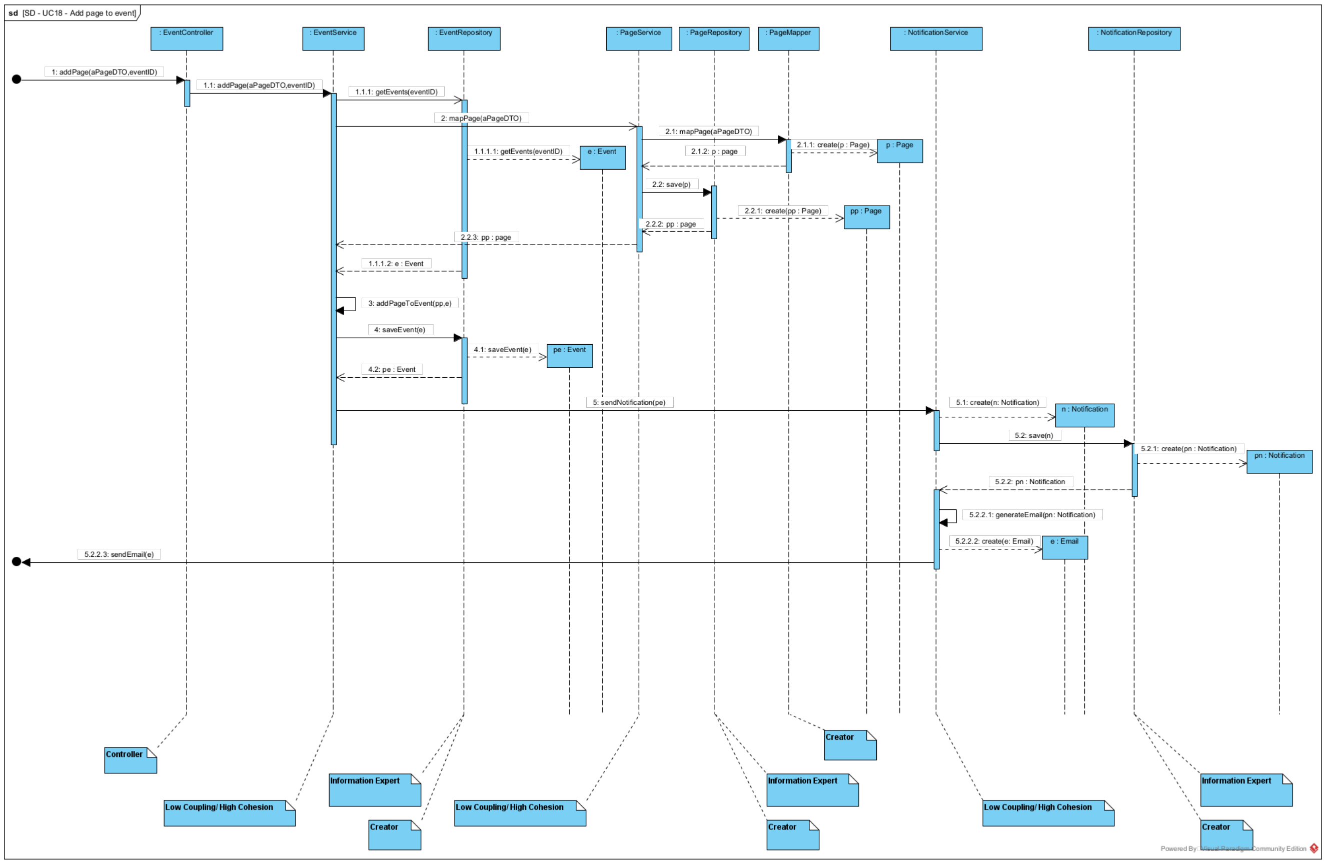


Figure 27: Sequence Diagram: Add page to Event

10.1.6 Sequence Diagram: Edit Event

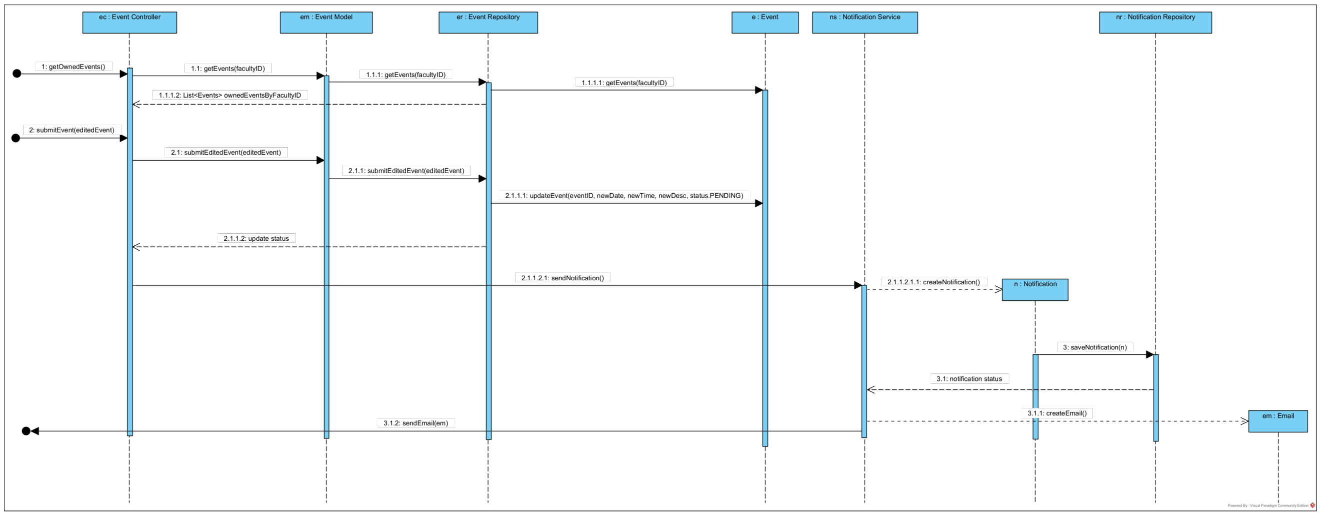

ec : Event Controller
em : Event Model
er : Event Repository
e : Event
ns : Notification Service
nr : Notification Repository
1: getOwnedEvents()
1.1: getEvents(facultyID)
1.1.1: getEvents(facultyID)
1.1.1.1: getEvents(facultyID)
1.1.1.2: List<Events> ownedEventsByFacultyID
2: submitEvent(editedEvent)
2.1: submitEditedEvent(editedEvent)
2.1.1: submitEditedEvent(editedEvent)
2.1.1.1: updateEvent(eventID, newDate, newTime, newDesc, status.PENDING)
2.1.1.2: update status
2.1.1.2.1: sendNotification()
2.1.1.2.1.1: createNotification()
n : Notification
3: saveNotification(n)
3.1: notification status
3.1.1: createEmail()
em : Email
3.1.2: sendEmail(em)
Powered By: Visual Paradigm Community Edition

Figure 28: Sequence Diagram: Edit Event

10.1.7 Sequence Diagram: Delete Event

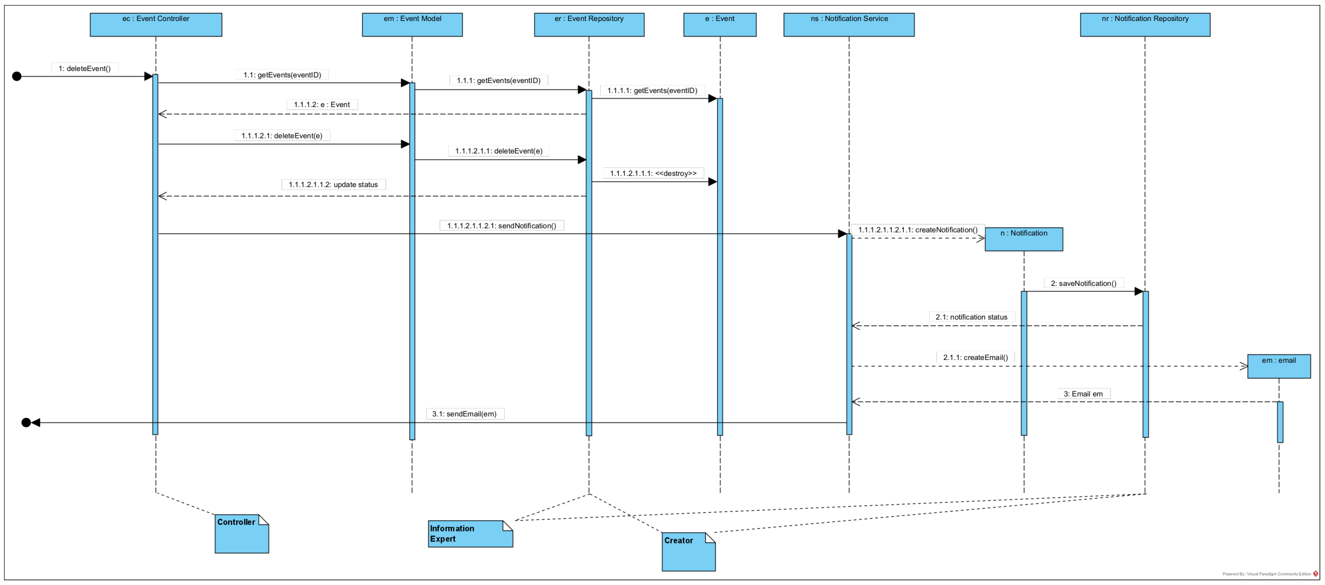

ec : Event Controller
em : Event Model
er : Event Repository
e : Event
ns : Notification Service
nr : Notification Repository
1: deleteEvent()
1.1: getEvents(eventID)
1.1.1: getEvents(eventID)
1.1.1.1: getEvents(eventID)
1.1.1.2: e : Event
1.1.1.2.1: deleteEvent(e)
1.1.1.2.1.1: deleteEvent(e)
1.1.1.2.1.1.1: <<destroy>>
1.1.1.2.1.1.2: update status
1.1.1.2.1.1.2.1: sendNotification()
1.1.1.2.1.1.2.1.1: createNotification()
n : Notification
2: saveNotification()
2.1: notification status
2.1.1: createEmail()
em : email
3: Email em
3.1: sendEmail(em)
Controller
Information Expert
Creator
Powered By Visual Paradigm Community Edition

Figure 29: Sequence Diagram: Delete Event

10.1.8 Sequence Diagram: Delete Post

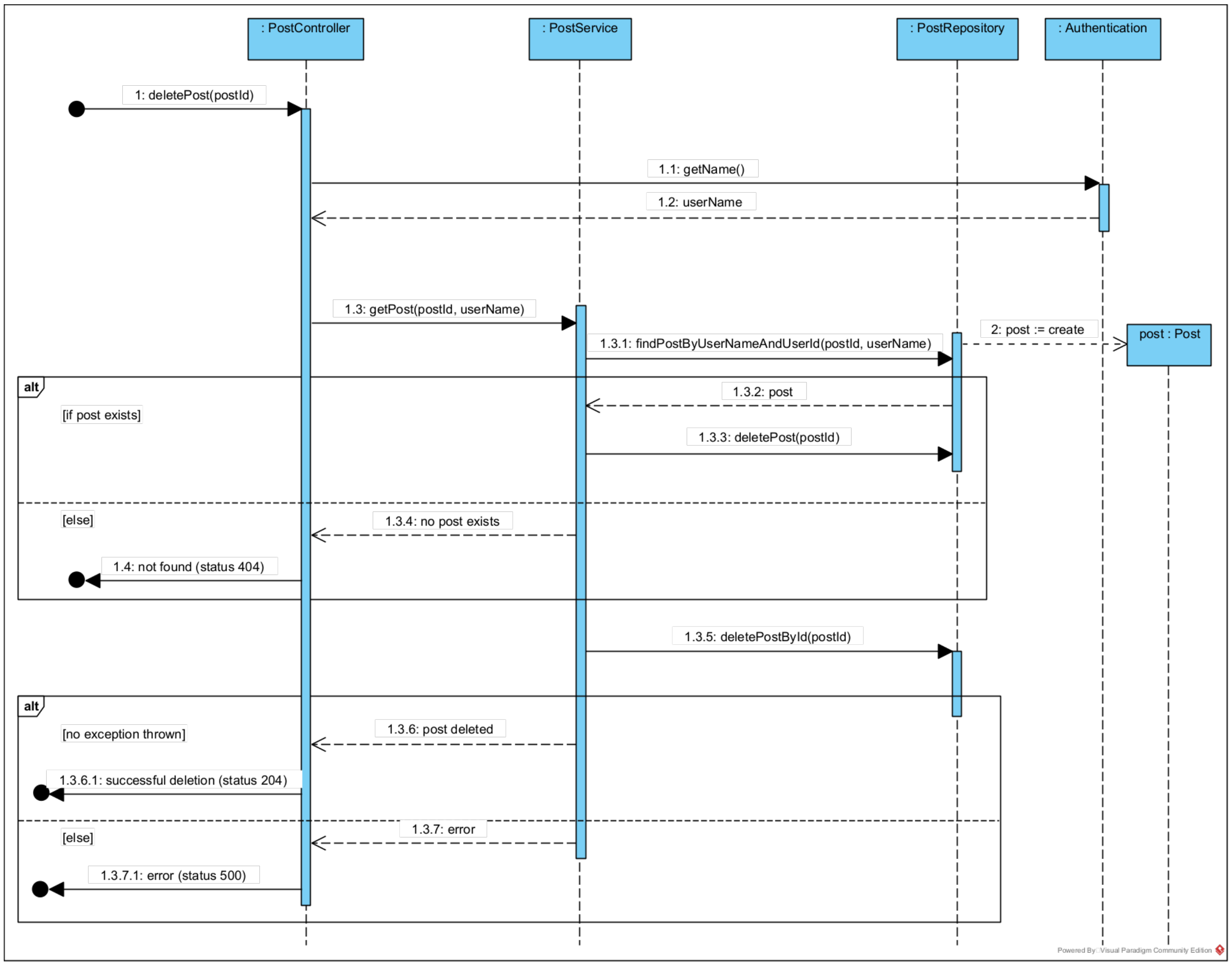

: PostController
: PostService
: PostRepository
: Authentication
1: deletePost(postId)
1.1: getName()
1.2: userName
1.3: getPost(postId, userName)
2: post := create
post : Post
1.3.1: findPostByUserNameAndUserId(postId, userName)
alt
[if post exists]
1.3.2: post
1.3.3: deletePost(postId)
[else]
1.3.4: no post exists
1.4: not found (status 404)
1.3.5: deletePostById(postId)
alt
[no exception thrown]
1.3.6: post deleted
1.3.6.1: successful deletion (status 204)
[else]
1.3.7: error
1.3.7.1: error (status 500)
Powered By: Visual Paradigm Community Edition

Figure 30: Sequence Diagram: Delete Post

11 Object Constraint Language

Below are the three most challenging constraints in the design of the CS Department Automated Information Timeline project which are described in OCL.

11.1 Describing Constraints with OCL

11.1.1 Constraint 1: Staging Approved Posts

The Office Manager can only stage approved posts.

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

11.1.2 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 = Posts.allInstances()→ select(p | p.approvalStatus = ItemStatus.APPROVED) → sortedBy(p | p.createdAt) → asSequence() → reverse() → subSequence(1, 10) implies posts → size() ≤ 10 }

11.1.3 Constraint 3: Notifications

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

{**context:** Notification
inv: (self.post <> null xor self.media <> null) xor (self.event <> null)}

12 State Machine Diagram

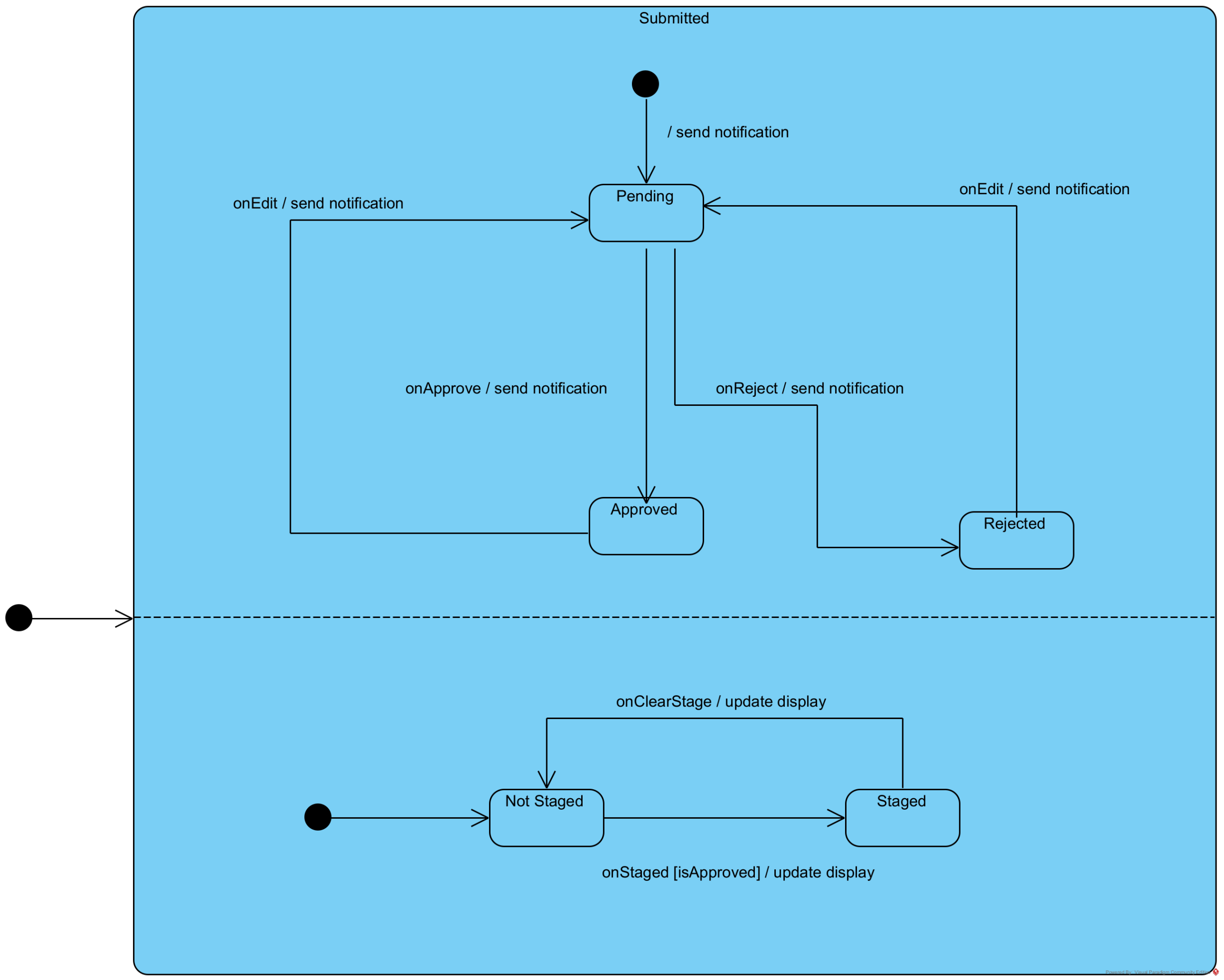

Submitted
/ send notification
Pending
onEdit / send notification
onEdit / send notification
onApprove / send notification
onReject / send notification
Approved
Rejected
onClearStage / update display
Not Staged
Staged
onStaged [isApproved] / update display

Figure 31: State Machine Diagram for review and staging of submitted posts, events and pages.

13 Package Diagram

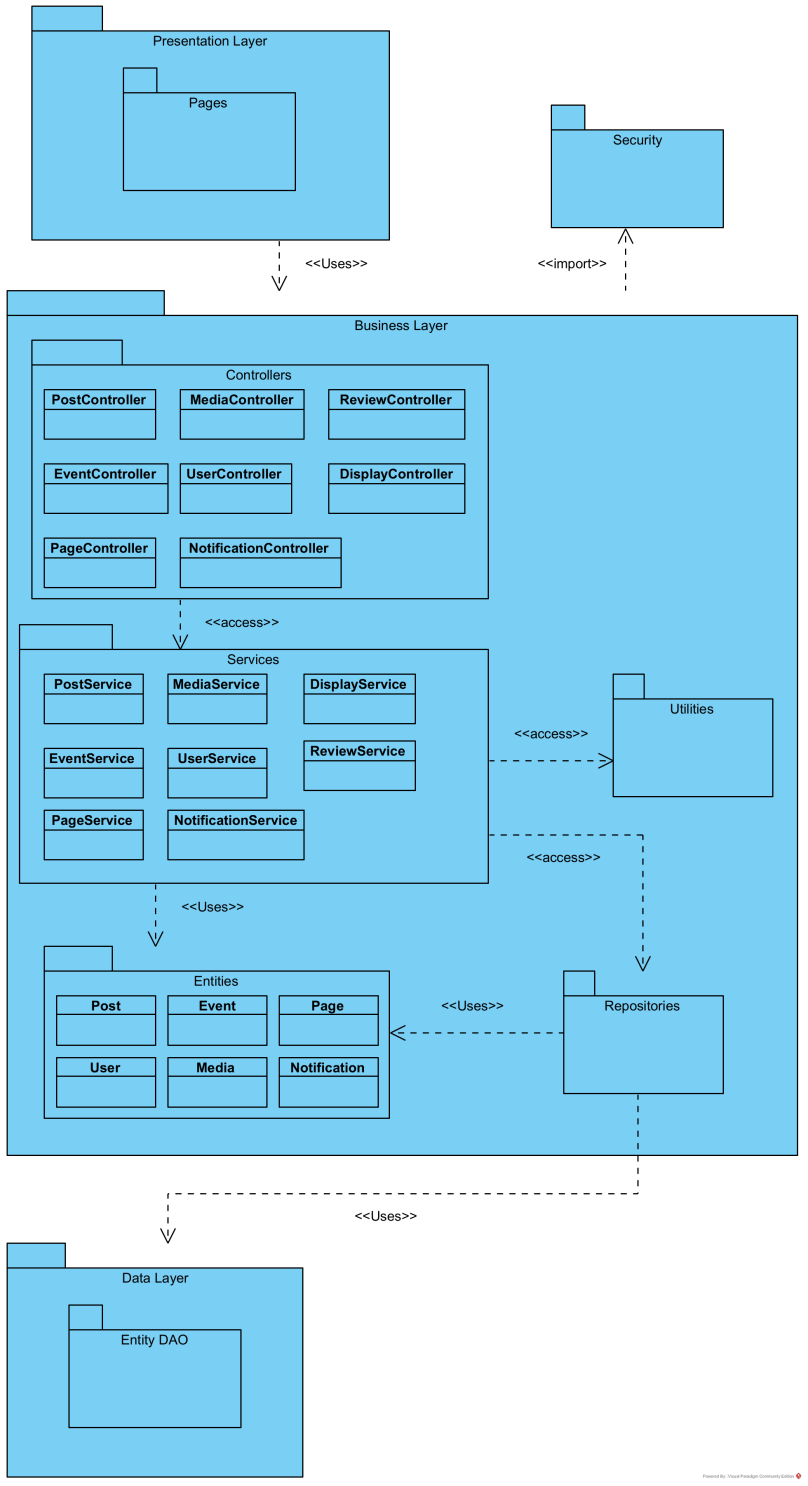


Figure 32: Package Diagram

14 Deployment Diagram

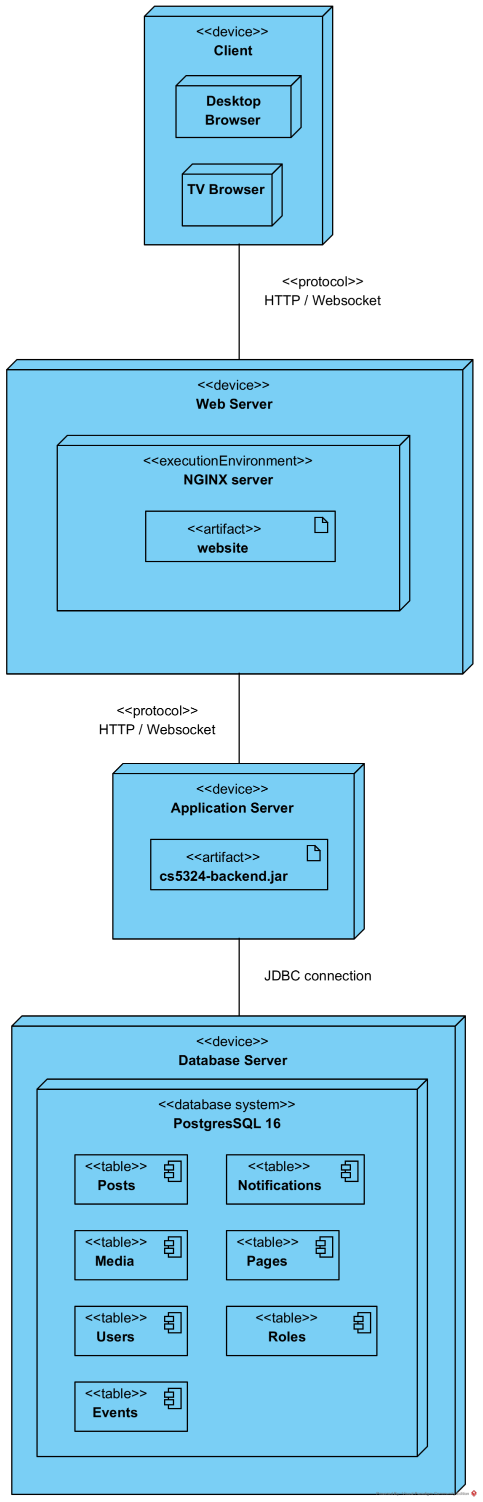


Figure 33: Deployment Diagram

15 Component Diagram

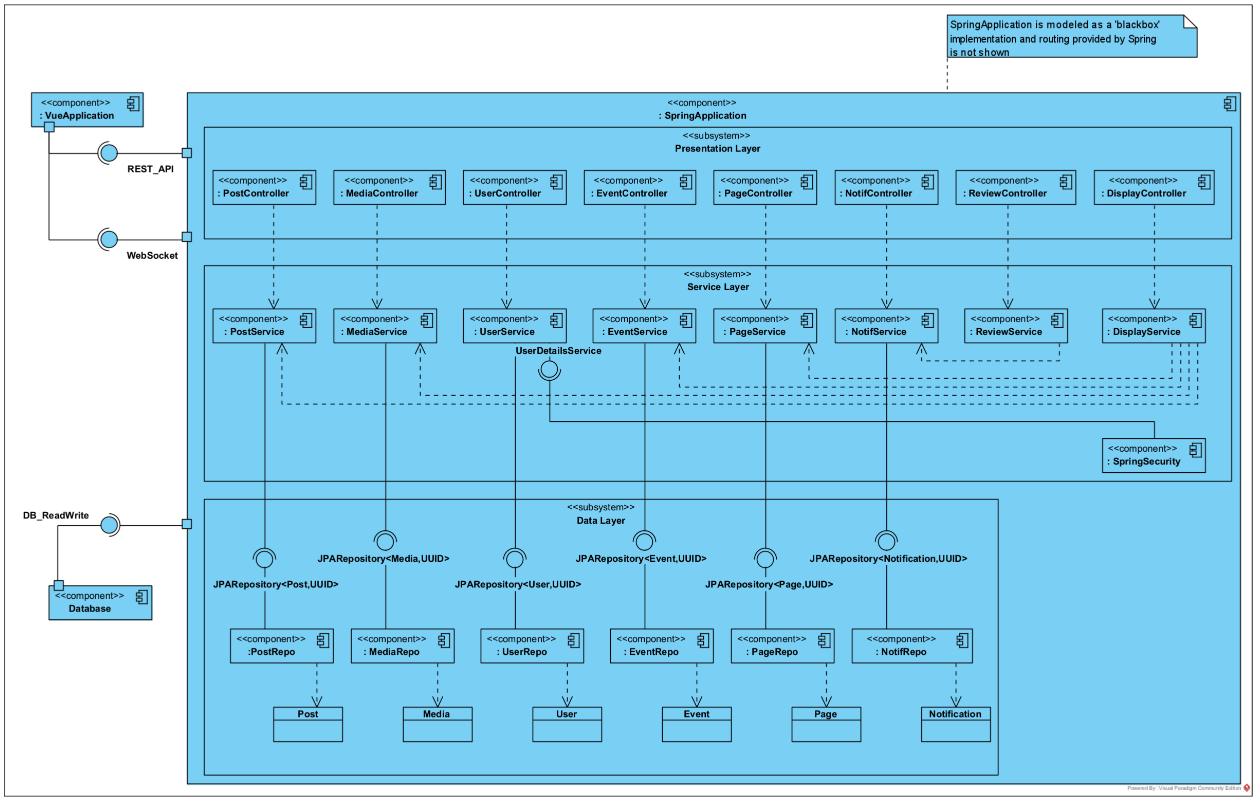

SpringApplication is modeled as a 'blackbox' implementation and routing provided by Spring is not shown
<<component>> : VueApplication
<<component>> : SpringApplication
REST_API
WebSocket
<<subsystem>> Presentation Layer
<<component>> : PostController
<<component>> : MediaController
<<component>> : UserController
<<component>> : EventController
<<component>> : PageController
<<component>> : NotifController
<<component>> : ReviewController
<<component>> : DisplayController
<<subsystem>> Service Layer
<<component>> : PostService
<<component>> : MediaService
<<component>> : UserService
<<component>> : EventService
<<component>> : PageService
<<component>> : NotifService
<<component>> : ReviewService
<<component>> : DisplayService
UserDetailsService
<<component>> : SpringSecurity
DB_ReadWrite
<<component>> Database
<<subsystem>> Data Layer
JPARepository<Post,UUID>
JPARepository<Media,UUID>
JPARepository<User,UUID>
JPARepository<Event,UUID>
JPARepository<Page,UUID>
JPARepository<Notification,UUID>
<<component>> :PostRepo
<<component>> : MediaRepo
<<component>> : UserRepo
<<component>> : EventRepo
<<component>> : PageRepo
<<component>> : NotifRepo
Post
Media
User
Event
Page
Notification

Figure 34: Component Diagram

16 Code

16.1 Iteration 1: JPA data model

For the initial iteration submission, we have provided an implemented domain using the Spring JPA framework. The following items were considered in this iteration. The code base will continue to evolve over subsequent iterations.

- Version allows for optimistic locking during database transactional contexts to ensure that a stale persistence does not occur.
- Created at and updated at values use Spring auditing to add the appropriate system time to our entities upon submission.
- Enumerations were provided as separate classes to promote reusability and extensibility within the code base.
- Care was given in assigning relationship owning entities to allow for succinct operations in persistence and modification.
- At this time, no cascading operation have been determined. This is to be provided later as realization of these operations will become more available while development continues.

- Special consideration was given to the Notification entity to ensure that it may have one and only one relationship with the following differing entity types: Post, Event, Media.
- Custom user implementation of UserDetails and UserDetailsService (from Spring security) was used to create the base user class. This was chosen since it will provide roles tied to logged in users and can be fetched to determine which options are available to a logged in user based on the granted authorities for that role.

16.2 Iteration 2: REST API implementation of selected use cases

For the second iteration submission, progress on the source code has been made, including but not limited to:

- The creation of controller and service skeletons
- The implementation of Use Cases 1 (view media library), 5 (edit event), 7 (view event), 10 (create post), 11 (edit post), 12 (delete post) and 13 (view post).
- Preliminary JUnit tests for use cases

16.3 Iteration 3: REST API implementation of all use cases

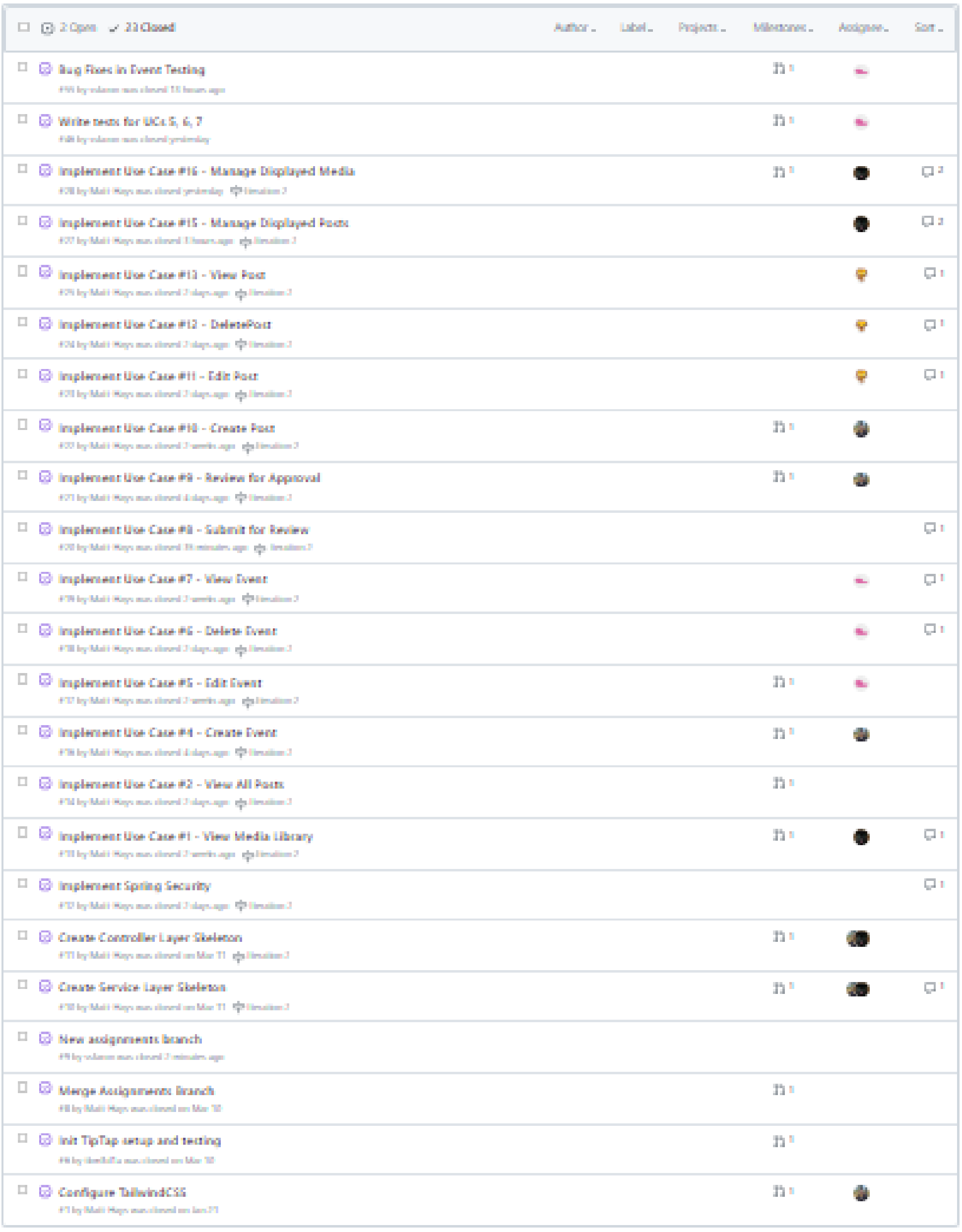
For the third iteration submission, REST API implementation of all 12 required use cases has been completed. This includes:

- All source code necessary to run endpoints for 14 of the 16 initially identified use cases
- Full JUnit test suite encompassing all 14 use cases
- Postman collection with 24 requests for ease of API use

16.3.1 GitHub Repository

The source code with JPA & API implementation is provided in a zip folder along with this document. The latest release is linked here on the project GitHub repository. Please refer to the `README` file in the root directory of the source code zip for deployment instructions and endpoint prerequisites.

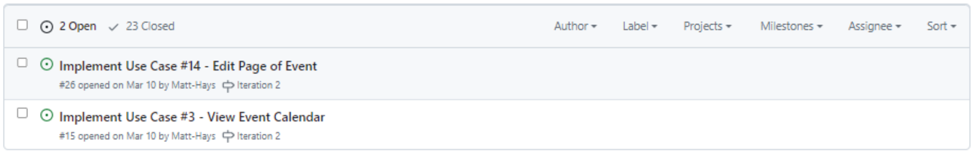
Issue tracking for Iterations 2 and 3 was completed entirely with GitHub Issues. Below are screenshots of our completed GitHub Issues, our remaining open GitHub Issues, and our completed Pull Requests.



2 Open ✓ 23 Closed Author Label Projects Milestones Assignee Sort

- Bug Fixes in Event Testing
  #35 by [illegible] was closed 15 hours ago
- Write tests for UCs 5, 6, 7
  #36 by [illegible] was closed yesterday
- Implement Use Case #16 - Manage Displayed Media
  #28 by Matt-Hays was closed yesterday Iteration 2
- Implement Use Case #15 - Manage Displayed Posts
  #27 by Matt-Hays was closed 3 hours ago Iteration 2
- Implement Use Case #13 - View Post
  #25 by Matt-Hays was closed 2 days ago Iteration 2
- Implement Use Case #12 - DeletePost
  #24 by Matt-Hays was closed 2 days ago Iteration 2
- Implement Use Case #11 - Edit Post
  #23 by Matt-Hays was closed 2 days ago Iteration 2
- Implement Use Case #10 - Create Post
  #22 by Matt-Hays was closed 2 weeks ago Iteration 2
- Implement Use Case #9 - Review for Approval
  #21 by Matt-Hays was closed 4 days ago Iteration 2
- Implement Use Case #8 - Submit for Review
  #20 by Matt-Hays was closed 35 minutes ago Iteration 2
- Implement Use Case #7 - View Event
  #19 by Matt-Hays was closed 2 weeks ago Iteration 2
- Implement Use Case #6 - Delete Event
  #18 by Matt-Hays was closed 2 days ago Iteration 2
- Implement Use Case #5 - Edit Event
  #17 by Matt-Hays was closed 2 weeks ago Iteration 2
- Implement Use Case #4 - Create Event
  #16 by Matt-Hays was closed 4 days ago Iteration 2
- Implement Use Case #2 - View All Posts
  #14 by Matt-Hays was closed 2 days ago Iteration 2
- Implement Use Case #1 - View Media Library
  #13 by Matt-Hays was closed 2 weeks ago Iteration 2
- Implement Spring Security
  #12 by Matt-Hays was closed 2 days ago Iteration 2
- Create Controller Layer Skeleton
  #11 by Matt-Hays was closed on Mar 11 Iteration 2
- Create Service Layer Skeleton
  #10 by Matt-Hays was closed on Mar 11 Iteration 2
- New assignments branch
  #9 by [illegible] was closed 2 minutes ago
- Merge Assignments Branch
  #8 by Matt-Hays was closed on Mar 10
- Init TipTap setup and testing
  #6 by [illegible] was closed on Mar 10
- Configure TailwindCSS
  #1 by Matt-Hays was closed on Jan 21

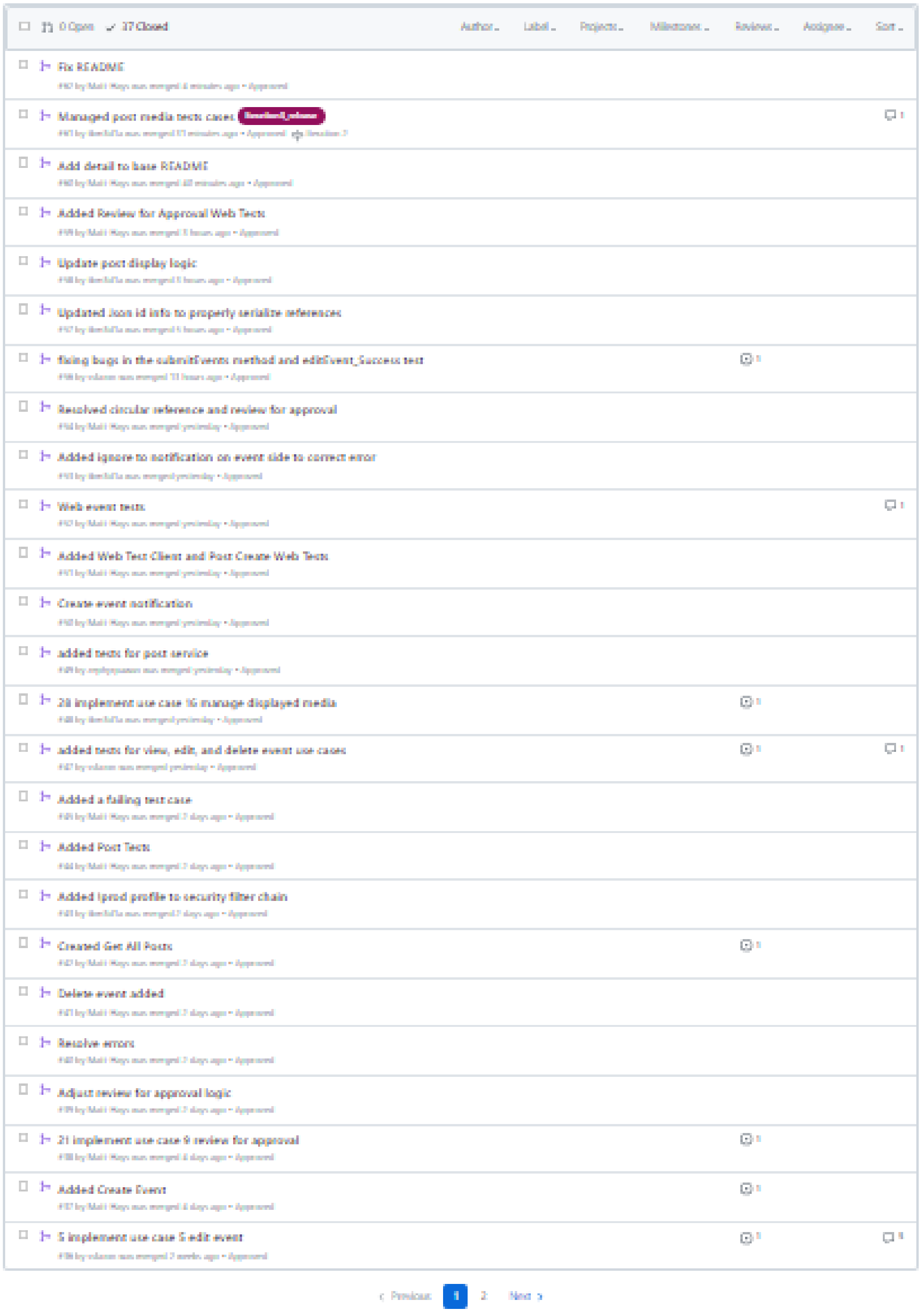
Figure 35: 23 Closed Issues in the Incredibles GitHub Repository



2 Open ✓ 23 Closed Author Label Projects Milestones Assignee Sort

- Implement Use Case #14 - Edit Page of Event
  #26 opened on Mar 10 by Matt-Hays Iteration 2
- Implement Use Case #3 - View Event Calendar
  #15 opened on Mar 10 by Matt-Hays Iteration 2

Figure 36: 2 Remaining Open Issues in the Incredibles GitHub Repository



0 Open ✓ 37 Closed Author Label Projects Milestones Reviews Assignee Sort

Fix README
#62 by Matt Hays was merged 4 minutes ago • Approved

Managed post media tests cases [illegible]
#61 by [illegible] was merged 17 minutes ago • Approved [illegible]

Add detail to base README
#60 by Matt Hays was merged 40 minutes ago • Approved

Added Review for Approval Web Tests
#59 by Matt Hays was merged 3 hours ago • Approved

Update post display logic
#58 by [illegible] was merged 5 hours ago • Approved

Updated Json id info to properly serialize references
#57 by [illegible] was merged 5 hours ago • Approved

fixing bugs in the submitEvents method and editEvent_Success test
#56 by [illegible] was merged 11 hours ago • Approved

Resolved circular reference and review for approval
#54 by Matt Hays was merged yesterday • Approved

Added ignore to notification on event side to correct error
#53 by [illegible] was merged yesterday • Approved

Web event tests
#52 by Matt Hays was merged yesterday • Approved

Added Web Test Client and Post Create Web Tests
#51 by Matt Hays was merged yesterday • Approved

Create event notification
#50 by Matt Hays was merged yesterday • Approved

added tests for post service
#49 by [illegible] was merged yesterday • Approved

28 implement use case 16 manage displayed media
#48 by [illegible] was merged yesterday • Approved

added tests for view, edit, and delete event use cases
#47 by [illegible] was merged yesterday • Approved

Added a failing test case
#45 by Matt Hays was merged 2 days ago • Approved

Added Post Tests
#44 by Matt Hays was merged 2 days ago • Approved

Added !prod profile to security filter chain
#43 by [illegible] was merged 2 days ago • Approved

Created Get All Posts
#42 by Matt Hays was merged 2 days ago • Approved

Delete event added
#41 by Matt Hays was merged 2 days ago • Approved

Resolve errors
#40 by Matt Hays was merged 2 days ago • Approved

Adjust review for approval logic
#39 by Matt Hays was merged 2 days ago • Approved

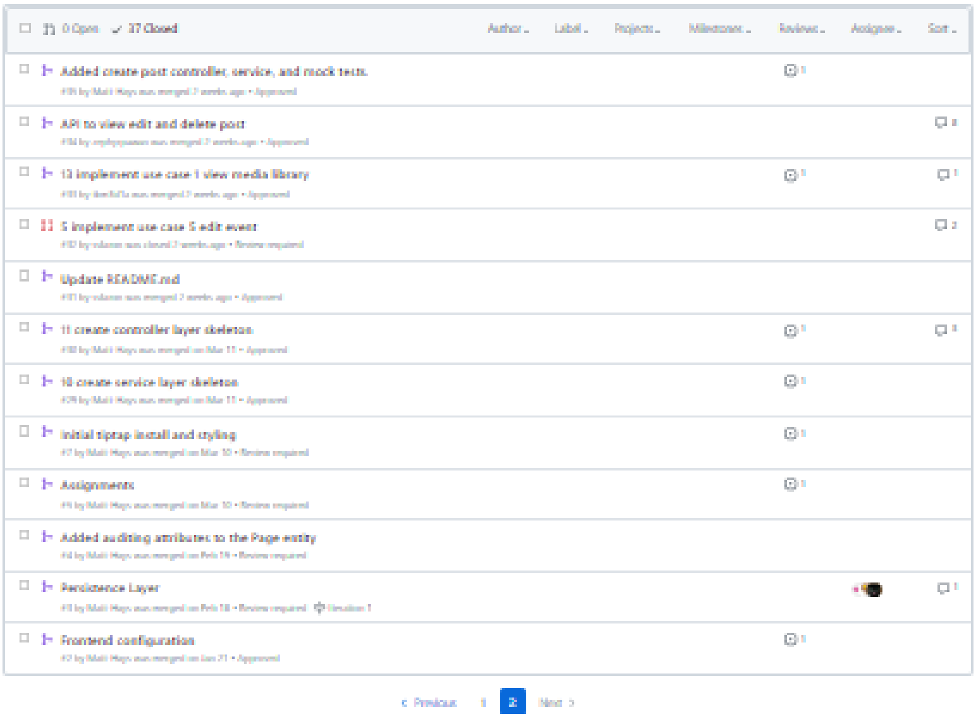
21 implement use case 9 review for approval
#38 by Matt Hays was merged 4 days ago • Approved

Added Create Event
#37 by Matt Hays was merged 4 days ago • Approved

5 implement use case 5 edit event
#36 by [illegible] was merged 2 weeks ago • Approved

‹ Previous 1 2 Next ›

Figure 37: 37 Closed Pull Requests in the Incredibles GitHub Repository: Page 1



0 Open ✓ 37 Closed

Author Label Projects Milestones Reviews Assignee Sort

Added create post controller, service, and mock tests.
[illegible] by Matt Hays was merged 2 weeks ago • Approved

API to view edit and delete post
[illegible] was merged 2 weeks ago • Approved

13 implement use case 1 view media library
[illegible] was merged 2 weeks ago • Approved

5 implement use case 5 edit event
[illegible] was closed 2 weeks ago • Review required

Update README.md
[illegible] was merged 2 weeks ago • Approved

11 create controller layer skeleton
[illegible] by Matt Hays was merged on Mar 11 • Approved

10 create service layer skeleton
[illegible] by Matt Hays was merged on Mar 11 • Approved

Initial tiptap install and styling
#7 by Matt Hays was merged on Mar 10 • Review required

Assignments
[illegible] by Matt Hays was merged on Mar 10 • Review required

Added auditing attributes to the Page entity
#4 by Matt Hays was merged on Feb 19 • Review required

Persistence Layer
#3 by Matt Hays was merged on Feb 18 • Review required Iteration 1

Frontend configuration
#2 by Matt Hays was merged on Jan 21 • Approved

< Previous 1 2 Next >

Figure 38: 37 Closed Pull Requests in the Incredibles GitHub Repository: Page 2

16.3.2 Documentation

The full Postman collection with 24 API requests is included in the root of the project submission zip. Full API documentation to accompany this Postman collection has been published and is publicly available at this link.

16.3.3 Test Report

A full test report is included in the root of the project submission zip. All 26 tests pass with no failures, errors, or skipped tests.