

Course Information Management System

Group 2

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5. Design Details

5.1 Class Responsibility Collaborator (CRC) Cards

Activity	
Responsibilities	Collaborators
Knows title Knows description Knows start day Knows start month Knows start year Knows start hour Knows start minute Knows end day Knows end month Knows end year Knows end hour Knows end minute	ActivityController

ActivityController	
Responsibilities	Collaborators
Add activity Remove activity Update activity Validate input data	Activity

Assignment	
Responsibilities	Collaborators
Knows title Knows description Knows deadline Knows user and associated result	AssignmentController

AssignmentController	
Responsibilities	Collaborators
Add assignment Remove assignment Update assignment Add result on an assignment for a user	Assignment

Remove result on an assignment for a user Update result on an assignment for a user Validate input data	
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Cache	
Responsibilities	Collaborators
Cache object (save to primary memory) Cache output (save to primary memory) Retrieve cached object Retrieve cached output Check if valid cache exists	

Course	
Responsibilities	Collaborators
Knows course code Knows news Knows deadlines Knows results Knows assignment Knows information pages Knows users Knows files	CourseController

CourseController	
Responsibilities	Collaborators
Add course Update course description Register a user for a course Unregister a user from a course Apply a user for a course Validate input data	Course User

Deadline	
Responsibilities	Collaborators
Knows title Knows description Knows day Knows month Knows year Knows hour Knows minute	DeadlineController

DeadlineController	
Responsibilities	Collaborators
Add deadline Remove deadline Update deadline Generate a list of all files for a course Generate a list of all files for a user Validate input data	Course Deadline User

File	
Responsibilities	Collaborators
Knows title Knows description	FileController

FileController	
Responsibilities	Collaborators
Add file metadata to database Remove file metadata from database Update file metadata in database Save file to file system Remove file from file system Update file in file system Validate input data	File

Information Page	
Responsibilities	Collaborators
Knows title Knows content	InformationPageController

InformationPageController	
Responsibilities	Collaborators
Add information page Remove information page Update information page Validate input data	InformationPage

News	
Responsibilities	Collaborators
Knows headline Knows content	NewsController

NewsController	
Responsibilities	Collaborators
Add news Remove news Update news Generate a list of all news for a course Generate a list of all news for a user Validate input data	Course News User

Privilege	
Responsibilities	Collaborators
Knows system administrator status Knows course leader status and associated course Knows course assistant status and associated course	PrivilegeController

PrivilegeController	
Responsibilities	Collaborators
Add system administrator privilege for a user Remove system administrator privilege for a user Add course leader privilege for a user Remove course leader privilege for a user Add course assistant privilege for a user Remove course assistant privilege for a user Validate input data	Course Privilege User

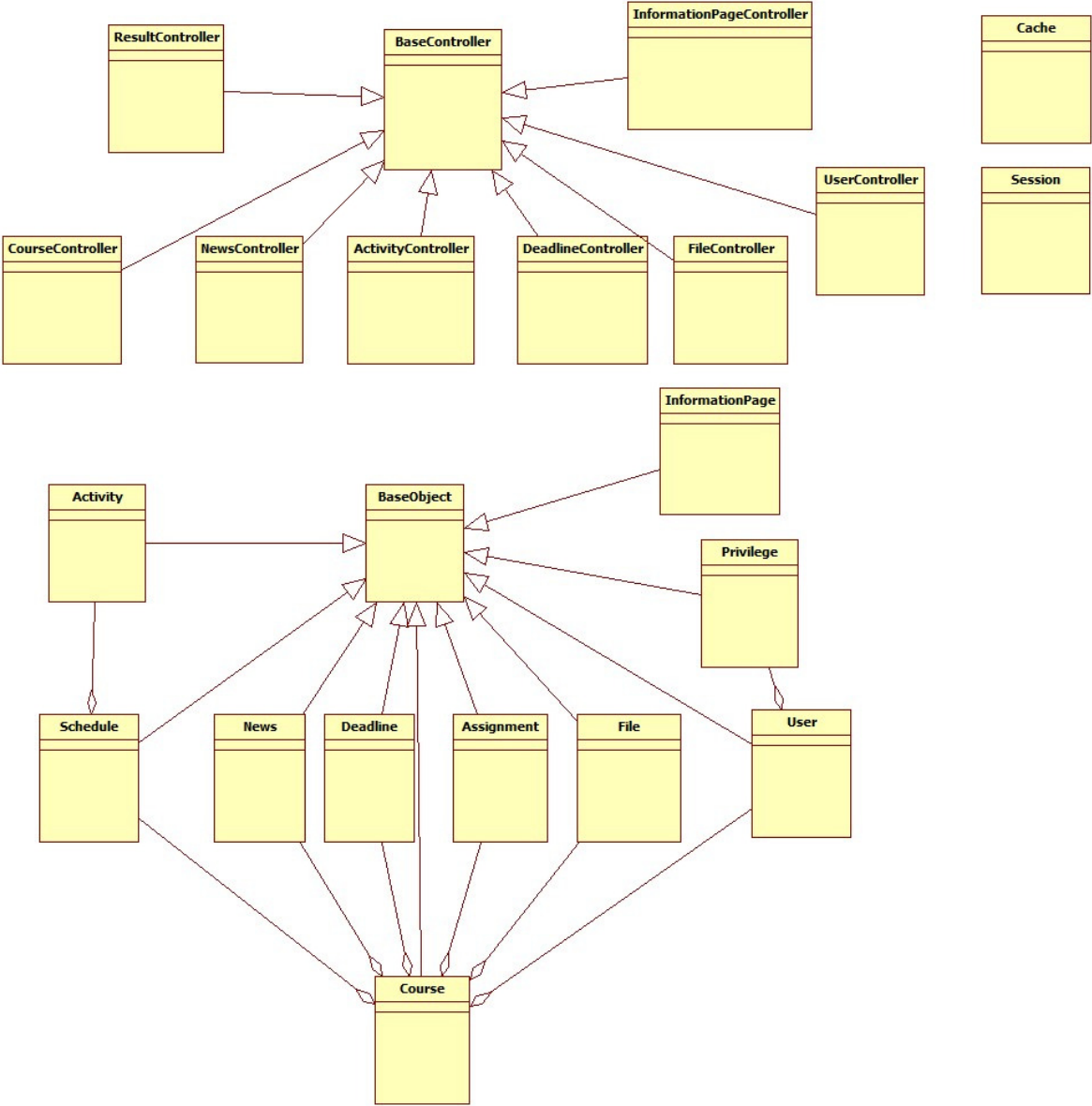
Session	
Responsibilities	Collaborators
Knows logged-in status Creates user-session Ends user-session	User Privilege

ScheduleController	
Responsibilities	Collaborators
Generate a list of all activities for a course Generate a list of all activities for a user Export a list of activities to iCalendar format Import activities from the iCalendar format Remove all activities for a course	Activities Course User

User	
Responsibilities	Collaborators
Knows username Knows password Knows firstname Knows lastname Knows privileges	UserController Privilege PrivilegeController

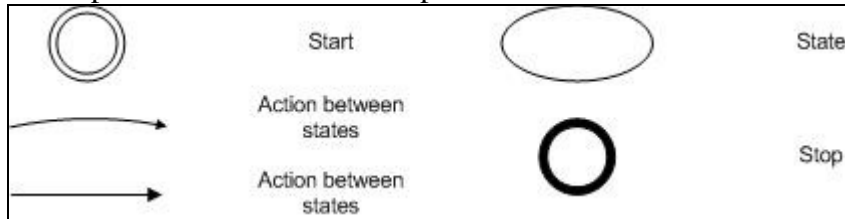
UserController	
Responsibilities	Collaborators
Add user Update user password Remove user Validate input data	User

5.2 Class Diagram

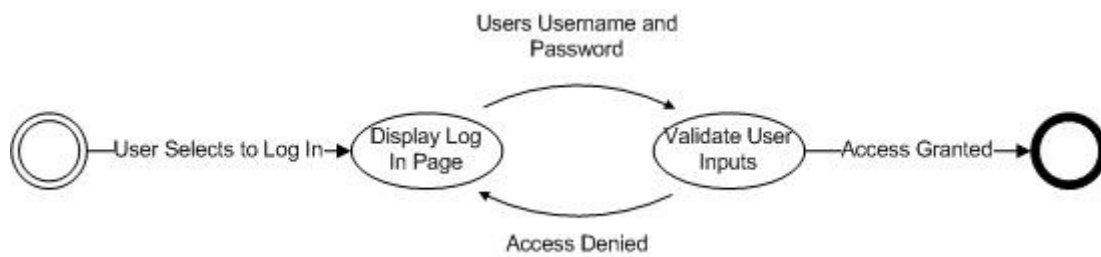


5.3 State Charts

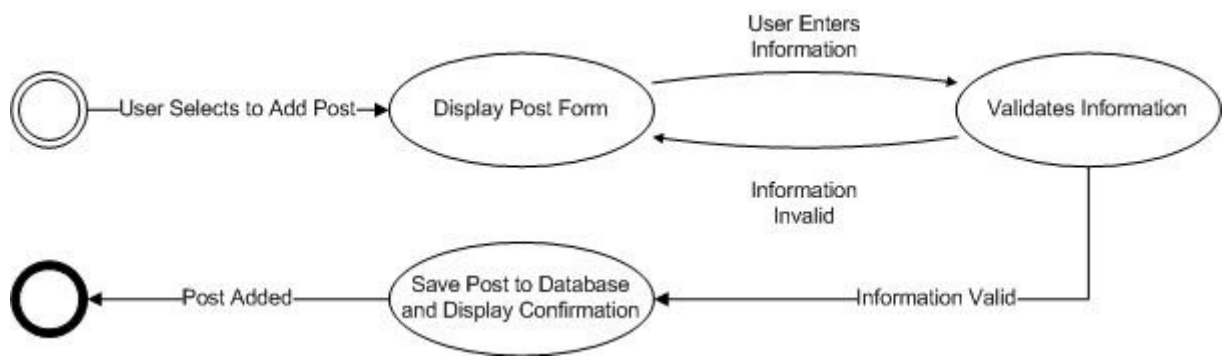
Description of the different components in the State Charts are described in this box.



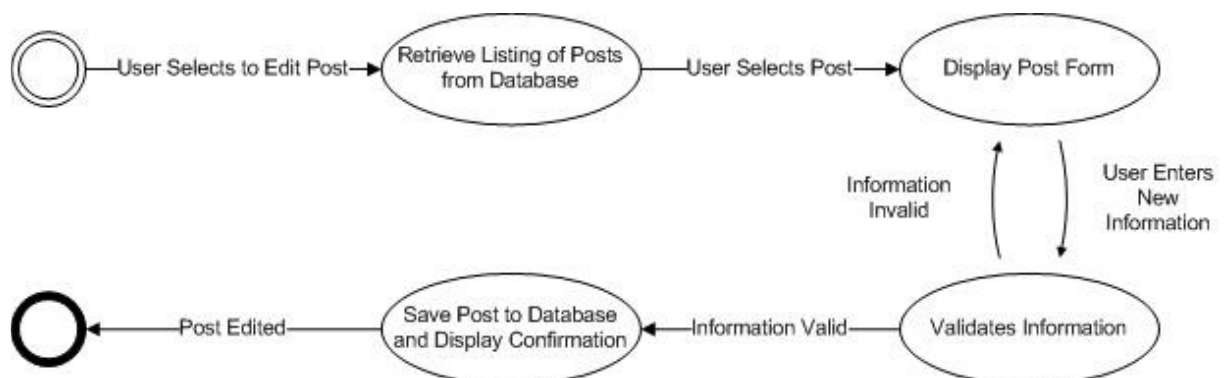
Log In



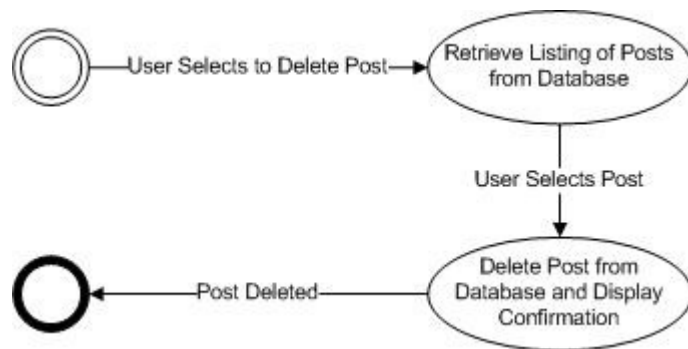
Add Post



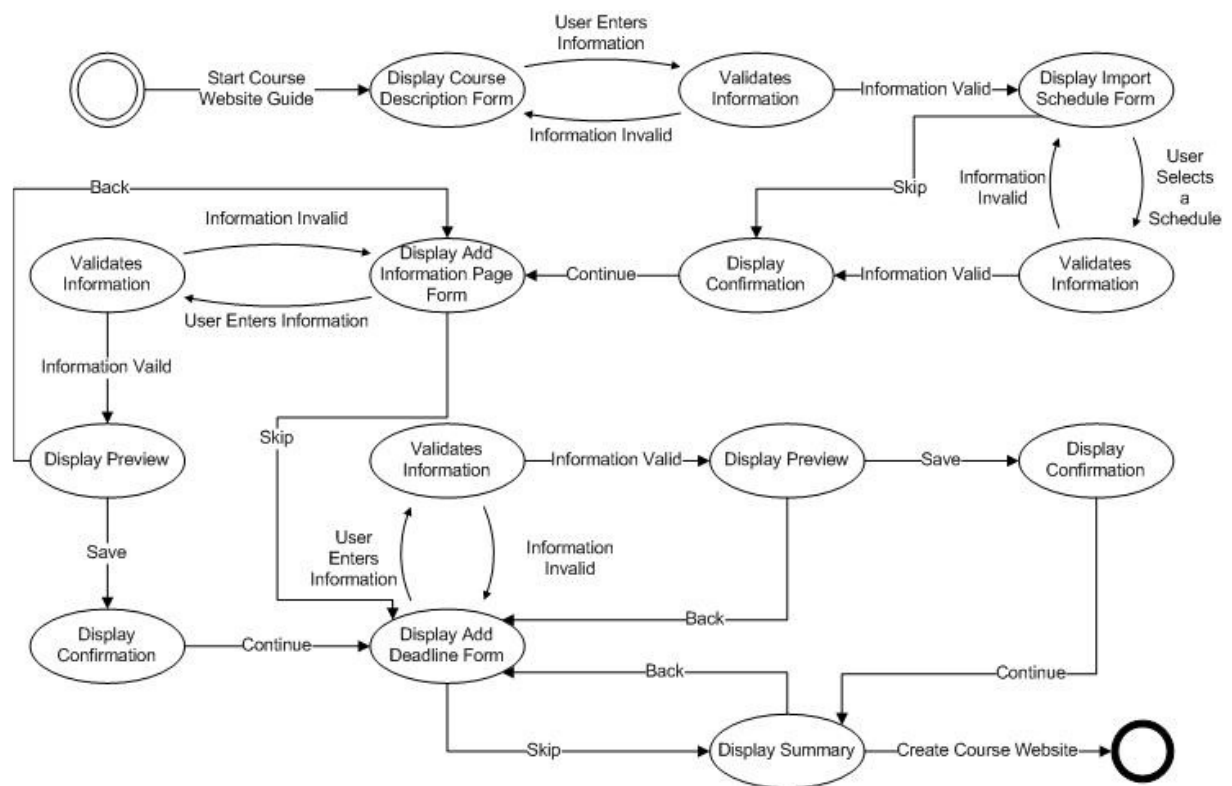
Edit Post



Delete Post



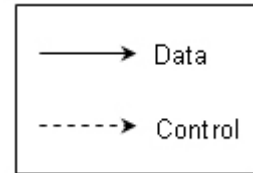
Create Course Website Guide



5.4 Interaction Diagrams

Sequence Diagram

The sequence diagram models the flow of logic within the system where a horizontal arrow represents the interaction between two objects. The dotted vertical lines represent the time, where the time flows from top to bottom. The solid lines represent data flow in the system, and the dashed lines represent a transfer of control.



We decided to create one sequence diagram, “Create Database Post”, for the use cases add course description, add deadline, add course leader, add privileges, etc. because they have similar sequence of actions. The same goes for the sequence diagrams “Edit Database Post”, “Delete Database Post” and the view sequence diagrams. There are two view sequence diagrams, one that describes the flow if a post can be retrieved from the cache and the other if the post can’t be retrieved from the cache and has to get it from the database server.

Log In

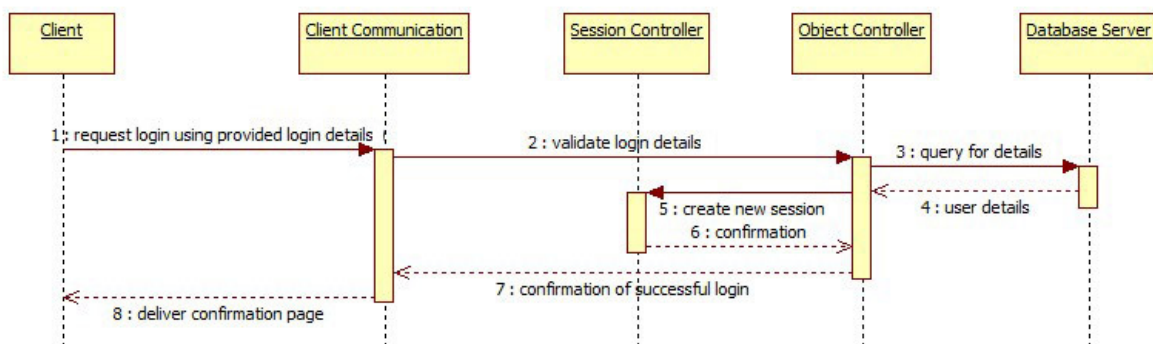


Figure 1 displays the sequence of action when a client requests to log in.

Create Database Post

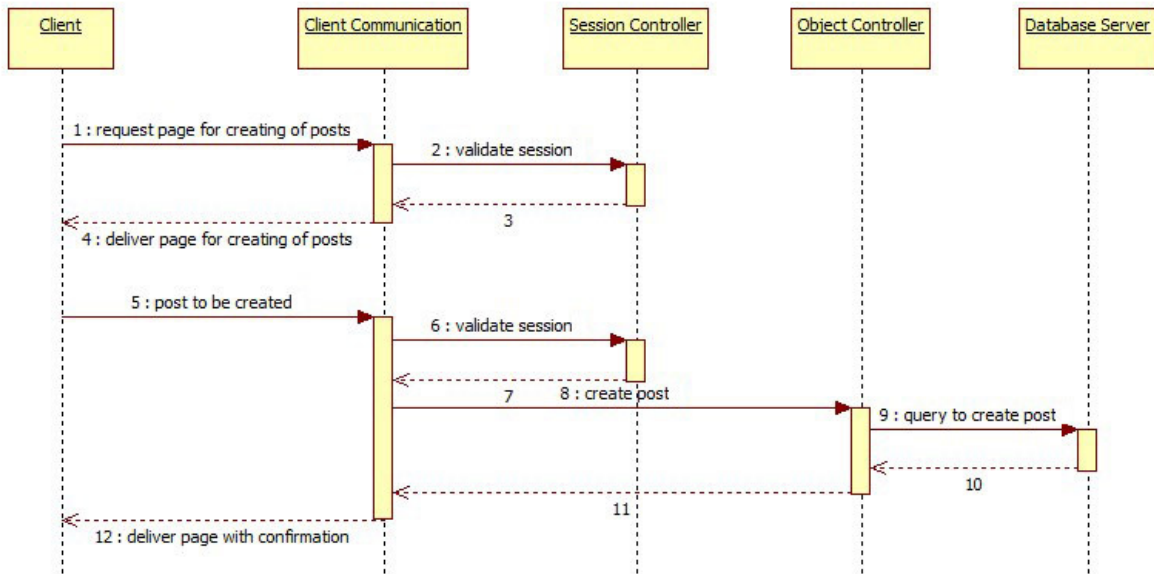


Figure 2 displays the sequence of actions to create a database post.

Edit Database Post

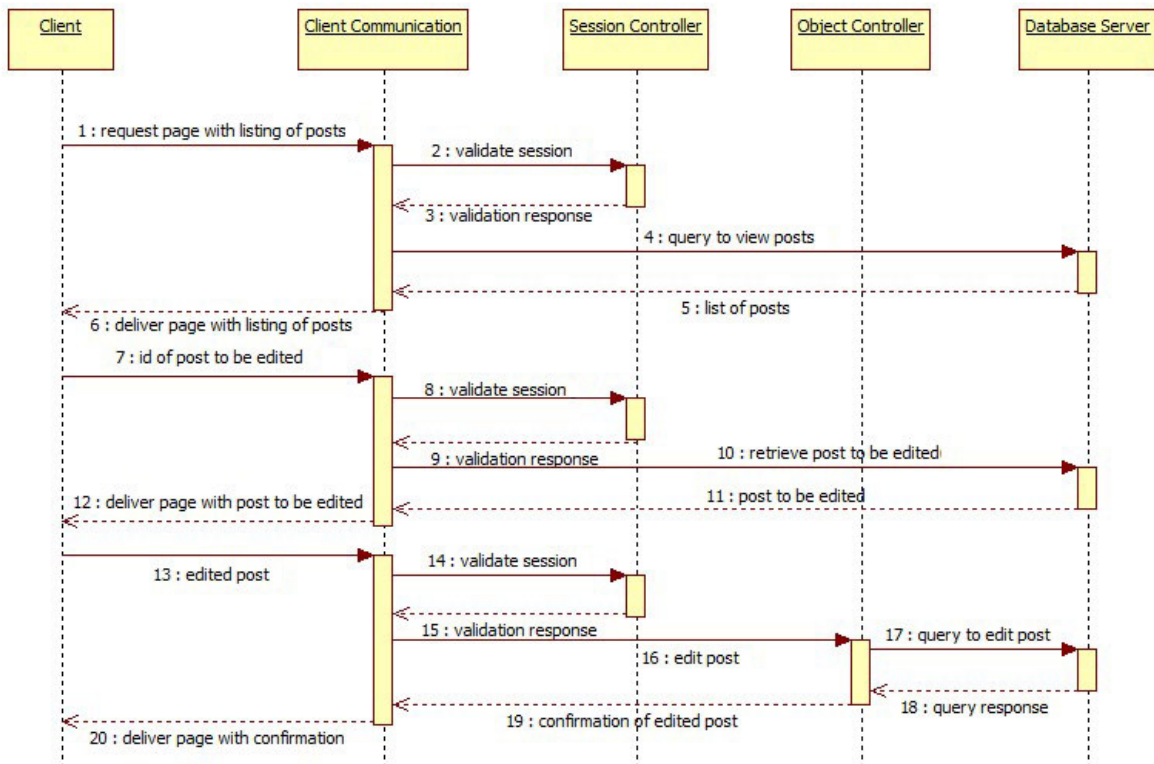


Figure 3 displays the sequence of actions to edit a database post.

Delete Database Post

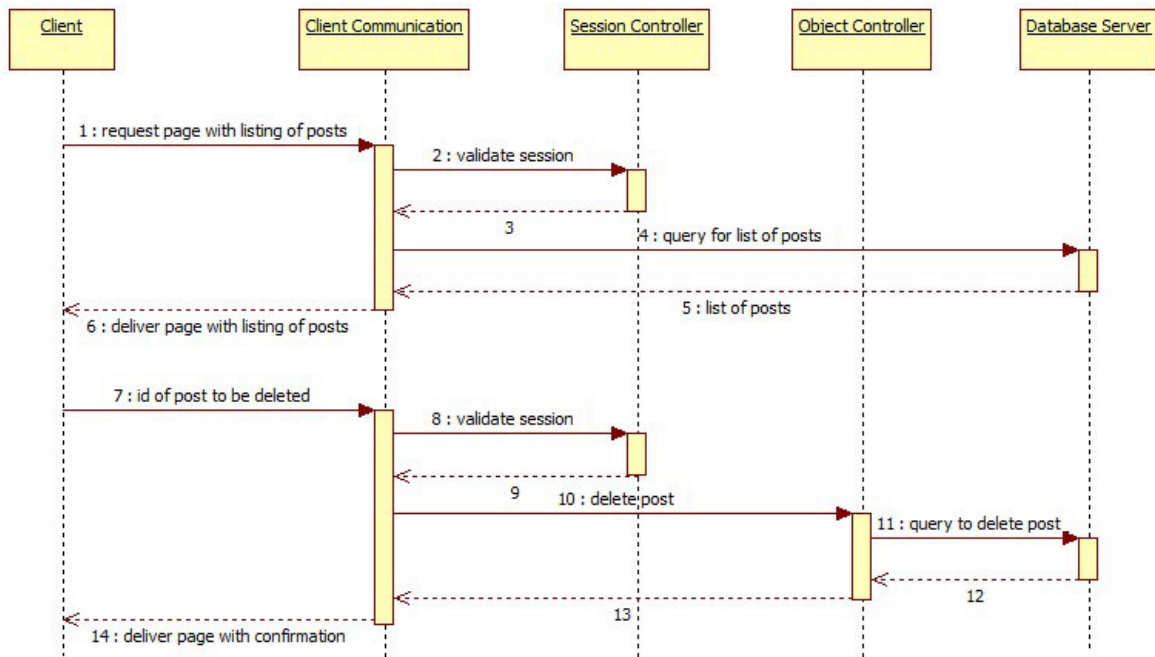


Figure 4 displays the sequence of actions to create a database post.

View Post from Cache

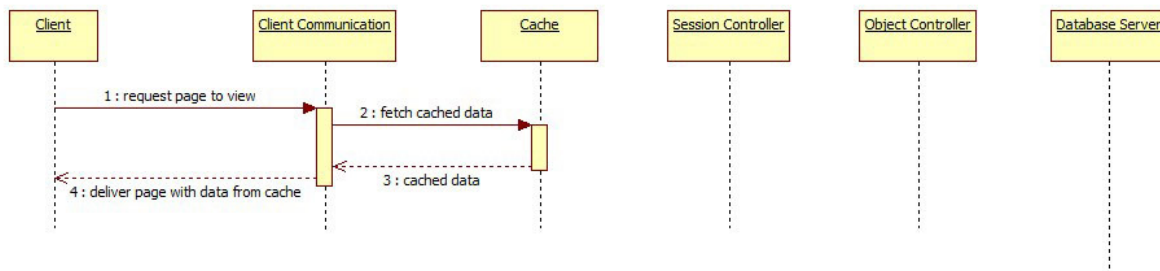


Figure 5 displays the sequence of actions to view a database post from cache.

View Post from Database

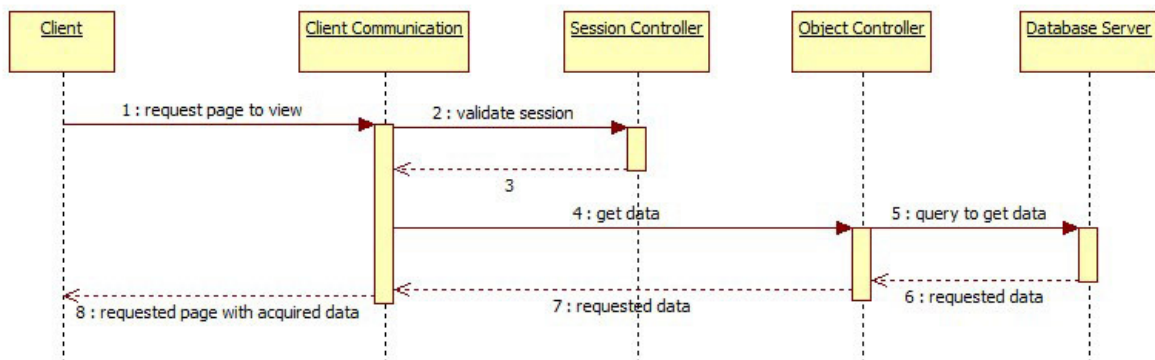


Figure 6 displays the sequence of actions to view a post from the database server when the post isn't available in the cache.

Export Schedule into iCalendar Format

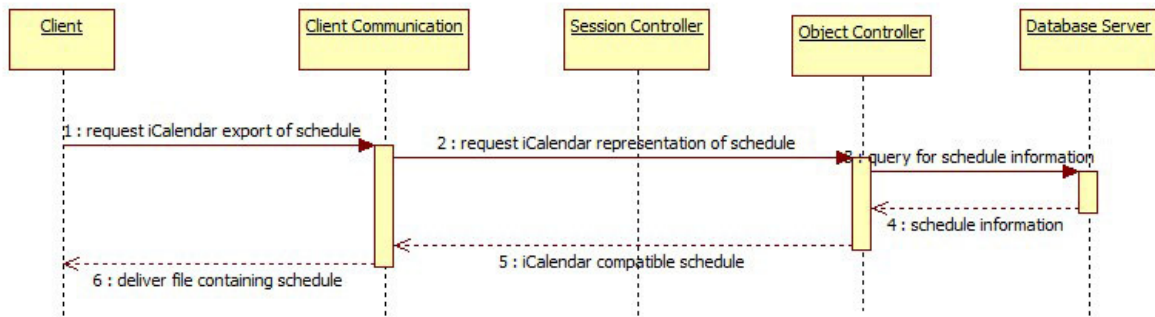


Figure 7 displays the sequence of actions to export a schedule into iCalendar format.

Upload File

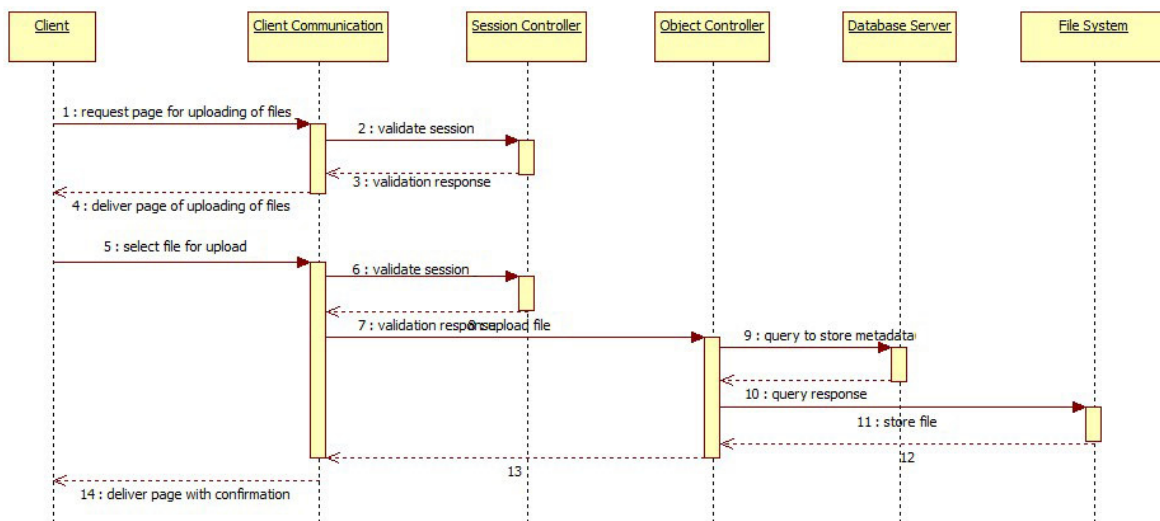


Figure 8 displays the sequence of actions when a client requests to upload a file.

Edit Uploaded File

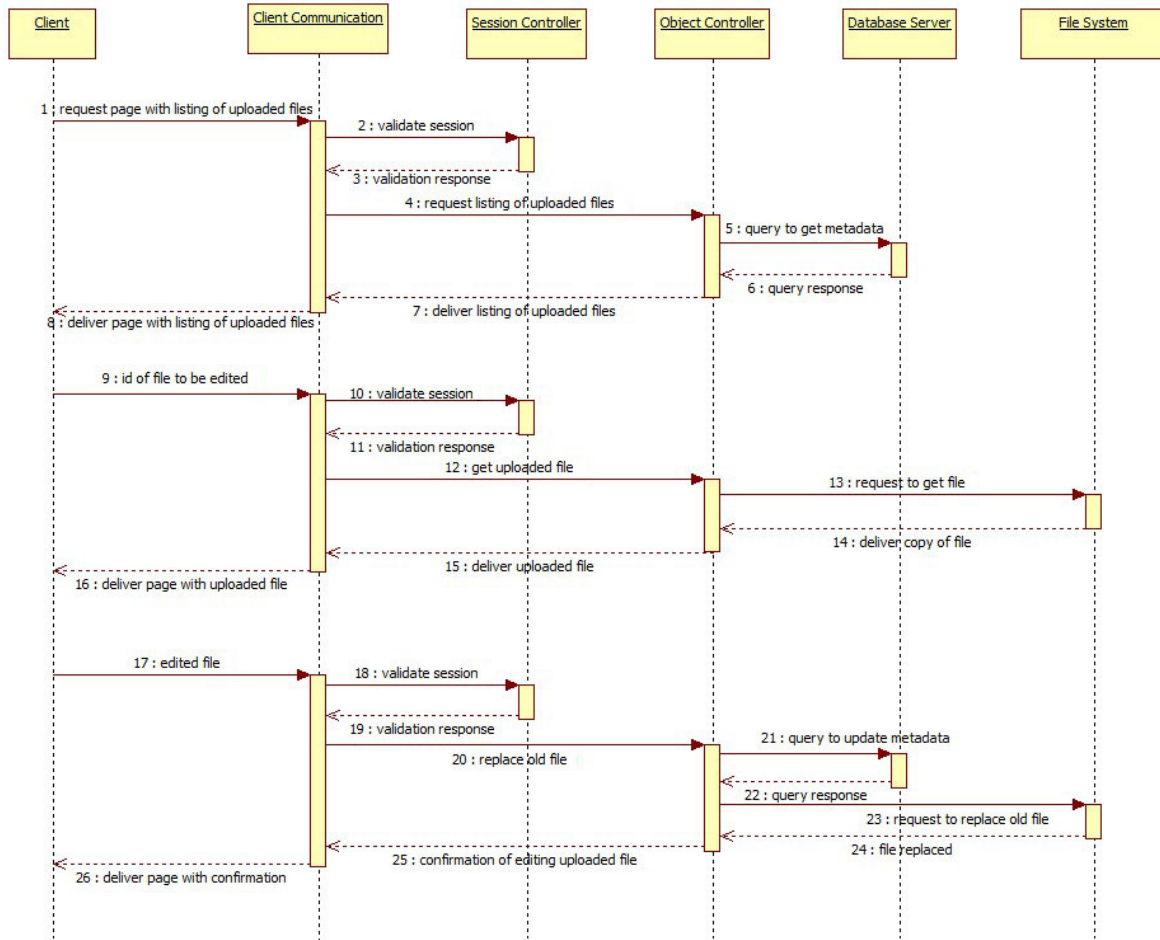


Figure 9 displays the sequence of actions when a client requests to edit an uploaded file.

Delete Uploaded File

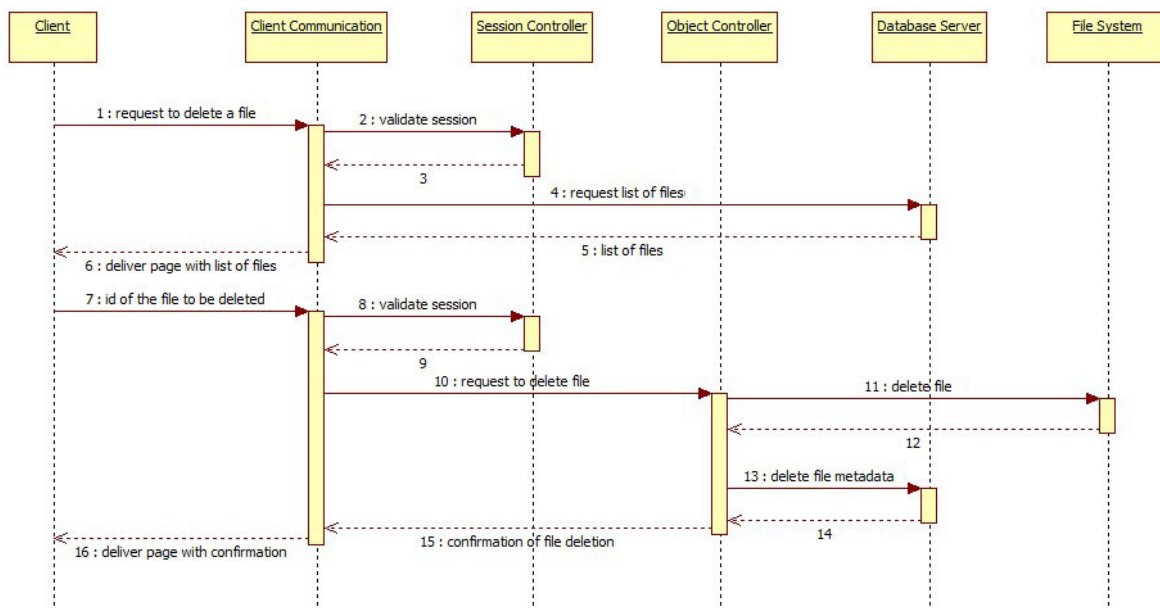
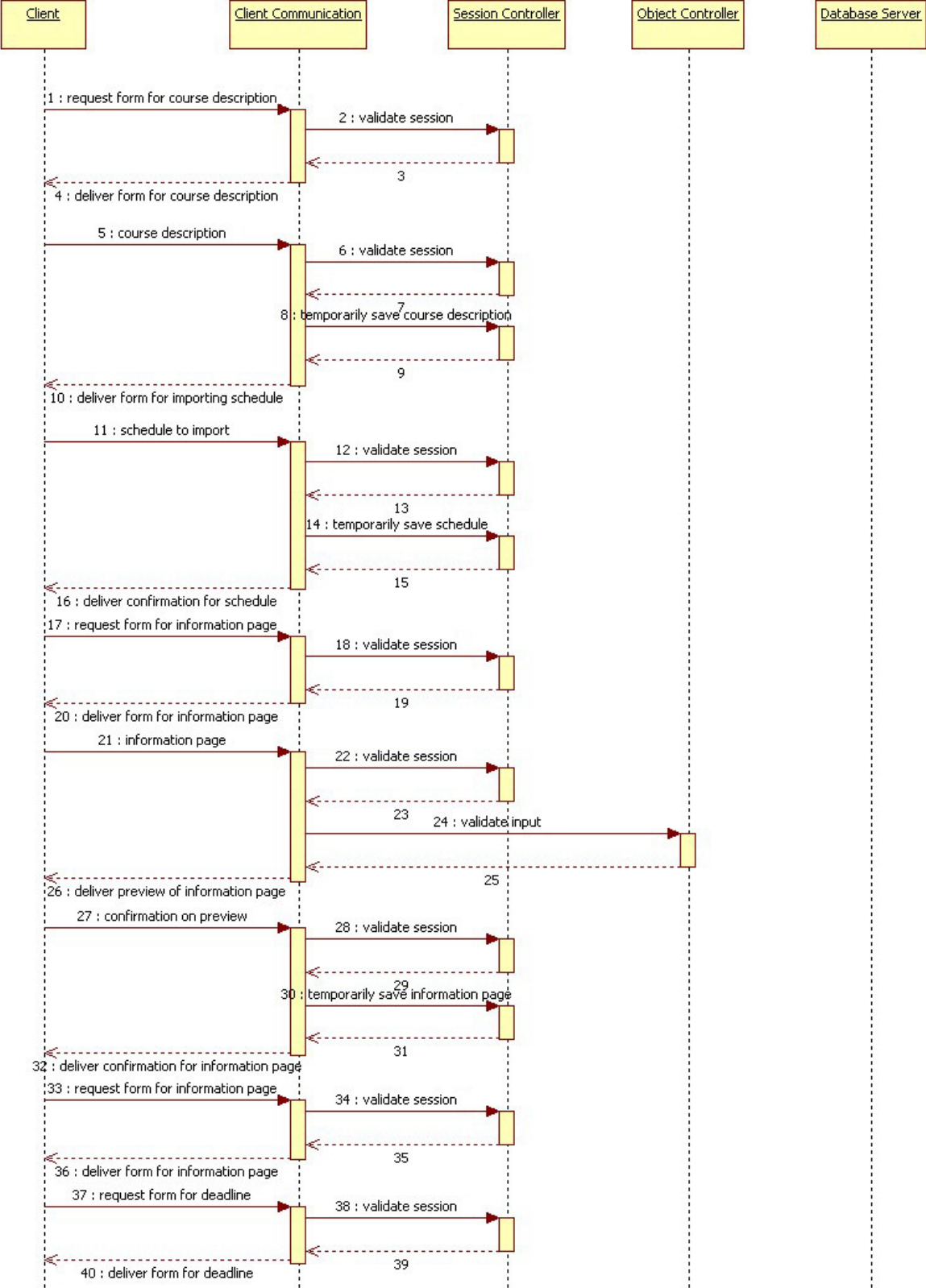


Figure 10 displays the sequence of actions when a client requests to delete an uploaded file.

Create Course Website



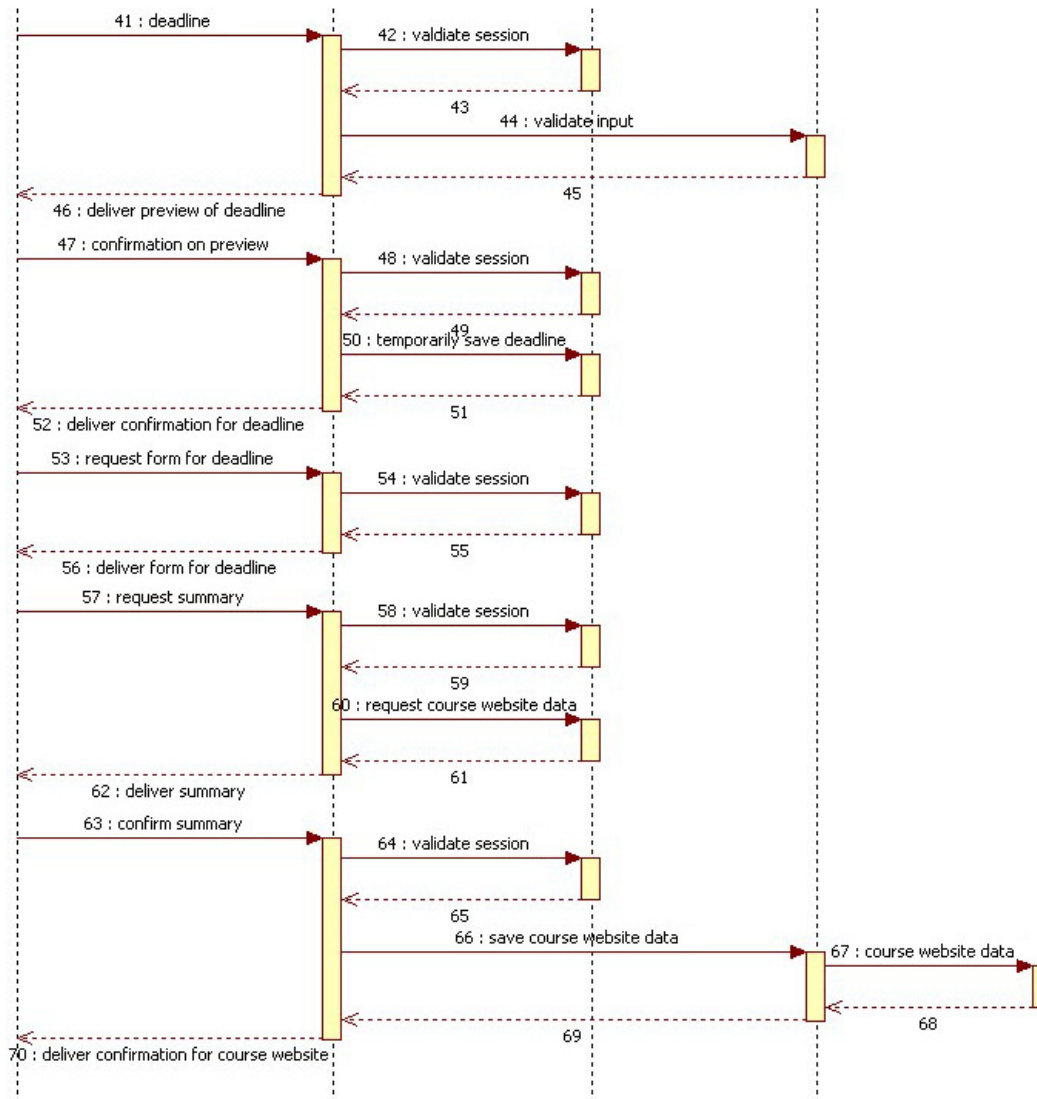


Figure 11 displays the sequence of actions when a client uses the guide for creating a course website.