CPSC 301 Project - JAFB
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Requirement Documents

Abstract

The client, who is representing Calgary emergency departments, is looking for a web application that can improve communication between staff and help employees share knowledge and information about patient care, and manage an academic schedule. Currently, employees use another application that is supposed to do the same thing, but there are many problems with it. For example, it is difficult to navigate, and it isn't very well organized. The client wants a new web application that will be easy to manage, easy to navigate, and that has good access control. For example, adding a new member to the web application must be done within a week. The focus on this application is interaction between staff. For a medical study reason, an employee may want to let other employees know about something happening right now, so instant messaging is an important requirement for this application. The system should also be able to manage content such as a discussions, policies, and journals. The web application must to be accessible from both smart phones and computers.

Requirements

Priority: (A) - high, (B) - middle, (C) - low

- Functional Requirements

  Discussion space:

  1. (A) - The system should have a space for content which includes discussions, educational files (journals, articles, encyclopedia entries, videos, etc.), and policies.
  2. (A) - Discussion topics can be posted by any authorized user.
  3. (A) - The policies are posted or edited only by the administrator. They are on their own page, separate from journals, discussions, memos, and all other content.
  4. (B) - Discussion topics can have a video clip, or PDF file as an attachment.
  5. (A) - Policies and an *about* page are the only things visible to the public (i.e. without logging in).
  6. (B) - Each post has information about writer's name, post date, last time of edit, and tags specified by a writer.
  7. (A) - All posts except policies have a comment form.
  8. (A) - A comment can be posted only by an authorized user.
  9. (B) - Each post on discussion space has a self regulating feature (e.g. like button).
  10. (B) - A user can search the site's content by a keyword(s), presenter(s) or tag(s) and can select which field (memo, paper, policies, or discussions) to search. (i.e. the result contains only related topics from a selected field).
  11. (B) - Every discussion has its own category which is chosen by a writer.
  12. (B) - An authorised user can edit or delete only his/her posts on discussion space.
  13. (B) - The administrator can edit or delete all posts.
  14. (B) - Most recent updated topics come on the top of discussion space.
  15. (C) - The local time used in the discussion space can be selected by the administrator.
  16. (B) - Discussion space can store all of discussions as long as disk space allows to do so.
  17. (C) - The administrator can set the living time for discussions to determine if discussions are old.
  18. (C) - The living time is reset when someone posts a comment or edit something on the discussion.

19. (C) - Nobody except the administrator can comment or edit an old (archived) discussion.

User Management:

20. (B) - Only the administrator must be able to add a new user to the web application. Users without an account may request to create an account.
21. (B) - Each user has his/her profile which contains a name and e-mail address.
22. (C) - A user can add his/her age, gender and position to the profile as an option.
23. (B) - The system must automatically log out a user who is accessing from a computer (not a smart phone) if the user does not take action for some amount of time (specified by a system administrator, default is 10 minutes).
24. (A) - Users must use their medical ID and password to log in.
25. (A) - Only the admins can access administrative pages on which they manage user information, delete discussions, and add notifications.
26. (B) - A user password requires to have at least 8 characters.

Other Features:

27. (A) - A user can send an instant message to all people who are online.
28. (B) - The system must be able to store 15 to 20 HD quality videos which are one or two minutes long.
29. (B) - The top page has latest memos and announcements.
30. (B) - The system supports following environments: IE, Firefox, Google Chrome, iPhone, and Android.
31. (C) -Users can select an option to receive memos by email.
32. (C) - Connections to authorized areas are secured by SSL.
33. (B) - The system can manage one's schedule with a calendar format.
34. (B) - Policies can be viewed by all users, but modified only by system administrators.

- Non-functional Requirements

1. (B) - The system must not be down except during the monthly maintenance which takes 2 hours at midnight.
2. (A) - A new user must obtain access permission since the administrator sets up all information to process.
3. (A) - A post should be available 2-3 minutes after it is submitted.
4. (B) - User passwords have to be stored as hashed values.
5. (B) - UI must be simple and easy to use: do not use font less than 6 pt, all content should be accessible within 5 clicks and labels of buttons represent contents clearly.
6. (B) - Searching has to be done within 30 seconds.
7. (B) - The system should respond to a request of opening a page in 5 seconds.
8. (B) - Loading videos should be done within a few minutes.
9. (B) - The system must be scalable to other departments or hospitals.
10. (B) - The cost of developing this system has to be reasonably cheap: roughly $10,000 CAD.
11. (A) - The system must be delivered within 2 months.
12. (B) -The system has to provide moderate level of security: do not leak any information about communication between users and their personal information.

Use cases

1. The automatic logging out function for a computer user

- Description
  The system (S) must let a user (U) who is accessing from a computer log out when he/she does not do anything on the web (i.e. does not click or type anything) for five minutes.
- Preconditions
  U is logged in to S from a computer.
  System administrator has specified an automatic log out time *n*, or *n* is the default log out time of 10 minutes.
- Main Flow
  1. S waits for an action from U
  2. U does not do anything (clicking or typing) on S for *n* minutes.
  3. S logs a user out.
  4. S displays a message which says U has been logged out since he/she was not active for *n* minutes.
- Alternate Flow
  1. U logged out manually.
  2. S displays a message that says he/she has been successfully logged out.
- Post-conditions
  U has been logged out from S.

2. Self-regulating: Like button

- Description
  Each post can receive a self-regulating action to rate its contents.
- Preconditions
  An article is posted and readable to users (U).
- Main Flow
  1. U clicks Like button on an article.
  2. Number of Likes for the article is increased by one.
- Alternate Flow
  1. U has already clicked Like button before.
  2. Number of Likes for the article does not change.
- Post-conditions
  The system shows that U Likes the article.

3. Commenting on a discussion thread

- Description
  Users (U) can comment on a discussion thread and share their opinions.
- Preconditions
  A discussion thread is posted and readable to U.
- Main Flow
  1. U writes his comment on the form.
  2. U clicks submit button.
  3. The system receive U's comment and display a message: the comment is posted successfully.
  4. The comment is readable by every user who has an access to the thread.

- Post-conditions

  The comment from U is posted on the comment form of the discussion thread.

4. General Searching for documents/medias

- Description

  Users (U) are able to search documents/media with key words.
- Precondition

  U is logged in, and document or media section is selected.
- Main Flow
  1. U clicks on the searching input box to make the cursor displayed on the input box.
  2. U enters key words for searching.
  3. U clicks the search button beside the input box to start searching.
  4. List result will be displayed on the left side of main window.
- Alternate Flow #1
  1. U leaves all the boxes unchecked and clicks 'search'.
  2. A dialogue box pops up, prompting the user to check at least one box.
  3. Continue main success scenario at step 1.
- Alternate Flow#2
  1. U does not enter a search query. U presses search while the search bar is empty.
  2. A dialogue box pops up, prompting the user to enter a search query.
  3. Continue main success scenario at step 2.
- Alternate Flow#3
  1. No result displayed
  2. U may start re-enter the key words and start from step 3.
- Post-condition

  The search result is shown on the display.

5. Adding a new user to the system

- Description

  The administrator (A) can add a new user (U) to the system.
- Precondition

  U does not have a valid account for the system.
- Main Flow
  1. U clicks create account on the login page.
  2. A new page loads which contains a form for entering in the details for the new user.
  3. U enters in all of the necessary information, including username, password, full name, title, department, employee ID, etc.
  4. U clicks *create account*.
  5. A new page loads. A message that says “Account created. Pending approval.” is shown to the user.
  6. The administrator (A), who has a page listing pending account creation requests open, selects the pending request that U created.
  7. A compares the information in the request to the employee's information on file.
  8. A clicks *approve new user account*.
  9. U can now login to the system with the username and password he/she specified before.
- Alternate Flow#1

4a. U leaves some fields empty.
4b. A dialogue box pops up, telling the user that the empty fields need to be filled in.
4c. Continue main success scenario at (3).

- Alternate Flow#2
  7a. A clicks *reject request*.
  7b. U's request no longer exists on the system. U cannot login to the system, but U can send another request to create an account.
- Post-condition
  U has a valid account for the system.

6. A user sends an instant message

- Description
  All users can send an instant message on the system.
- Preconditions
  The user (U) is logged in and on the instant messaging page.
- Main Flow
  1. U clicks on the message entry box at the bottom of the screen.
  2. U types a message.
  3. U clicks *send* or presses *enter/return* on the keyboard.
  4. U's message gets sent across the system to all logged in users in a department.
  5. U's message shows up in the chat box at the top of the screen.
- Post-conditions
  U will still be logged in and U's message will have been sent to all of the users in a hospital unit who are logged in.

7. A user receives an instant message

- Description
  All users can receive instant messages from other users.
- Preconditions
  The user (U) is logged in and on the instant messaging page.
- Main Flow
  1. U waits.
  2. Another user's message shows up in the chat box at the top of a screen.
- Post-conditions
  U will still be logged in and U will have received an instant message from another user who is logged in.

8. Post a memo

- Description
  The administrator (A) can add a memo to notify all users of something.
- Precondition
  A is logged into the system (S).
- Main Flow
  1. A selects button for adding memos.
  2. S reveals text box.

3. A types a memo in text box.
4. A submits memo.(Press “Enter” or click submit)
5. S adds memo to top of memo list.

- Alternate Flow:
  3a. A submits an empty memo.
  3b. S displays a response(i.e. “Please type something in memo”).
  3c. Continue main success scenario at step 2.
- Post-condition:
  The new memo is created and readable to other users.