Functionalities:

User Management Modules:

1. New User Registration and Email Confirmation: A user can register a Chingoal account as a learner for studying or as a teacher for providing learning materials and teaching students.

- register() -- The user should select an identify(teacher or learner), input a username, an email address (each email can register at most one account), and password to register a new account. The system will also send out a confirmation email to the user's email address. The user account will only be activated after he/she clicks the confirmation link in the email.
- confirm_registration() -- This function will confirm the user's email address. This function takes the user's username and a token previously generated by the register() function. If the token is valid, the user's account is activated.

2. Login: A user can login a Chingoal account as a learner or as a teacher.

- login() -- This function takes the user's username and password. It verifies the username-password pair and check if the account is activated. Then it login the user or send back error message.

3. User profile: A user can edit personal information, upload photo and reset password.

- view_profile(): -- This function displays the profile of a specific user. It takes an user id, checks it and display the profile of the user.
- edit_profile(): -- This function edits the profile of a specific user. If the request is a GET request, it doesn't take any parameter and it just display the interface of editing profile. If the request is a POST request, it modifies the user profile and saves the modified profile into the database.
- change_password(): -- This function changes the password for the user. It requests the user to input the current password and input the new password for twice. If valid, it changes user's password in the database.

4. Manage account: Users can view virtual money of their account.

- view_money(): -- This function displays the virtual money of a specific user. It takes an user id, checks it and display the virtual money of the user.
- view_achievement(): --This function displays the learning level and how many days he/she finishes schedule continually of a specific user.
- view_schedule():-- User can view schedule to know their learning process.
- edit_schedule(): -- User can edit learning schedule.

5. Manage Friends: User can follow/unfollow another user, and user can also invite friends to register by sending email to the friend.

- view_friends(): User can view current following users.

- send_invitation(): User can input an email address and server will send an email to this address with invitation message. And also, user sends invitation to friends will earn virtual money.

Test Modules:

1. Check Qualification/Check Level: This function includes two aspects. When user registers as a teacher, user needs to take a qualification test to be registered as qualified teacher. When user registers as a learner and wants to start with a specific level instead of basic level, user needs to take a qualification test. When learners finish learning current level, they need to pass a check-level test to pass the level:

- get_test() -- After user click the register button, server first load test suitable for this user, generate a test form, and send this form back to user.
- get_result() -- After user finish the test and click the submit button, a form will be sent to server, and server will check the results from this form, generate a result. And check this result satisfies the qualification or not.

2. post test: Qualified teachers could make up test using our template test interface and post their test. We only allow multiple choice questions and word translation.

- test_create() -- Qualified teachers could get access to this function and get test creating template page.
- test_add_question() -- The test template have button for teachers to add questions. Multiple choice or word translation. After receiving teacher’s request for adding questions this function will return a form with seven fields, including: question description, four choices, correct answer and answer explanation.
- test_save_question() -- After teachers fill in the required fields for the quesiton form they could send request to save this question
- test_edit_question() -- After teachers save their questions and before they finally post their test they could edit current questions.
- test_delete_question() -- Teacher could delete current questions.
- test_post() -- After teacher finishing making up test sheet they could post their test.

Learning Modules:

1. Learning: User could learn lessons by doing multiple choices and word translation. Each level includes several lessons.User could learn materials lesson by lesson.

- get_learning() -- If user click start button, server first load learning information suitable for this user’s selected learning level, generate a learning form, and send this form back to user.
- get_learningResult() -- If user click check button, it will shows the check results about whether the user choose a correct answer or not. After doing every questions, we need to judge whether this question is the last question in the current lesson.If not, user could click the continue button to do the next available question.
- skip_question(): -- If user click the skip button, system think the user provide a wrong answer by default and it also shows the correct answer for this question.

- exit_learning(): -- If user click exit button, the current learning process will quit and return back to home page.
- show_tips(): -- If user click the tips button, it will show the related tips to help user finish this learning question.
- get_discussion(): -- If user click discussion button,it will go to the discuss community.User could post their question in the discuss area and also could give an answer for questions which other users posted.

2. Post learning materials: Qualified teachers could make up learning materials using our template learning-material interface and post their materials. We only allow multiple choice and word translation learning materials.

- create_learning() -- Qualified teachers could get access to this function and get learning creating template page.
- learning_add_question() -- The learning template have button for teachers to add questions. Multiple choice or word translation. After receiving teacher's request for adding questions this function will return a form with seven fields, including: question description, four choices, correct answer, answer explanation and answer tips.
- learning_save_question() -- After teachers fill in the required fields for the learning material form they could send request to save this question
- learning_edit_question() -- After teachers save their learning material and before they finally post their test they could edit current learning material.
- learning_delete_question() -- Teacher could delete current learning material.
- learning_post() -- After teacher finishing making up learning material sheet they could post them.

Transaction Modules: Users can use virtual money they earned to buy title and unlock some learning materials.

1. buy_title() -- User clicks the title he/she wants to buy to send request to server. Server check the user's virtual money and reduce the corresponding amount of money. Then the title field of the user will be changed to the title he/she bought.
2. unlock_learning() -- User clicks unlock button to unlock a specific learning material. After server receiving the request, it checks the user's virtual money and reduce the corresponding amount of money to give the user access to the learning material and corresponding test.
3. earn_money() -- After user finish get_result() function and send the form to server, server will check the points. If the points are larger than 90% of total points, user's virtual money will increase 1. In addition, if user finishes one level, virtual money will increase.

User Interaction Modules:

1. Discussion board: Users can post questions and classify a question with a tag. Different users can reply or answer questions post by others.
    - post_question() -- User could post a question in the discussion board.
    - reply_question() -- User could reply a question in the discussion board.

  - delete_post() -- User could delete the question they post before.

2. Message system: Send message to the other users.

- create_message() -- This function will take the message created by this user and then put it into the destination user's inbox. A user can send message to every user, there is no need to be a friend of them for message system.
- reply_message() -- This function will reply one message in the inbox. The user can edit a reply message and then sent it to the other user's inbox.
- delete_message() -- This function can delete your messages in the inbox. You can either delete one of them or clean up your inbox by one click.

3. Real-time chat: We are trying to figure out to change message system to real-time chat.

Navigations:

1. Login page (login.html):
   Login button:link to the home page.
   SignUp:link to the register page.
2. Register page (register.html):
   Create My Account button: link to home page.
3. Home page (home.html):
   Session button: link to learn page.
4. Store page (store.html):
   All images: link to pop-up window to buy.
   All large buttons: link to pop-up window to buy.
5. Learn page(chingoal-learn.html): Skip button will redirect to next question. Testout button will link to test page. Click check will pop up a window with answer and in that window the ok button will dismiss that window. Discuss button will redirect this page to discussion board.
6. Test page(chingoal-test.html): Perform almost the same with chingoal-learn.html
7. Post question page(chingoal-post-question.html): Currently these button do not have any functions. Each question could be save/edit/delete. At the bottom, teacher could choose to add what type of question.
8. Discussion board(discussion_board.html): Discussion board has main panel and posts are folded, click the post title will unfold the post, and the views will link to the discussion_reply page, and there will be a delete button for the user's own post. And click the new post button can post new question.
9. Discussion reply page(discussion_reply.html): In the reply panel, replies are also folded. Return button will return to the discussion board, and new reply can post a new reply.
10. Navigation bar:
    Discussion label in the left navigation bar: link to Discussion board page.
    Store label in the left navigation bar: link to store page.
    Dashboard label in the left navigation bar: link to home page