Group member name:

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Application name: web game inhouse

Purpose/Problem solving:

To create a web platform that undergraduate students can play web video games together when staying home during covid-19. Allow users play different video games with online interactions, e.g. create an inhouse room for multiplayer with speed contest. Undergraduate students can set their personal profile like program/year/course and preferences and find other gamers based on similarities.

Task Hierarchy:

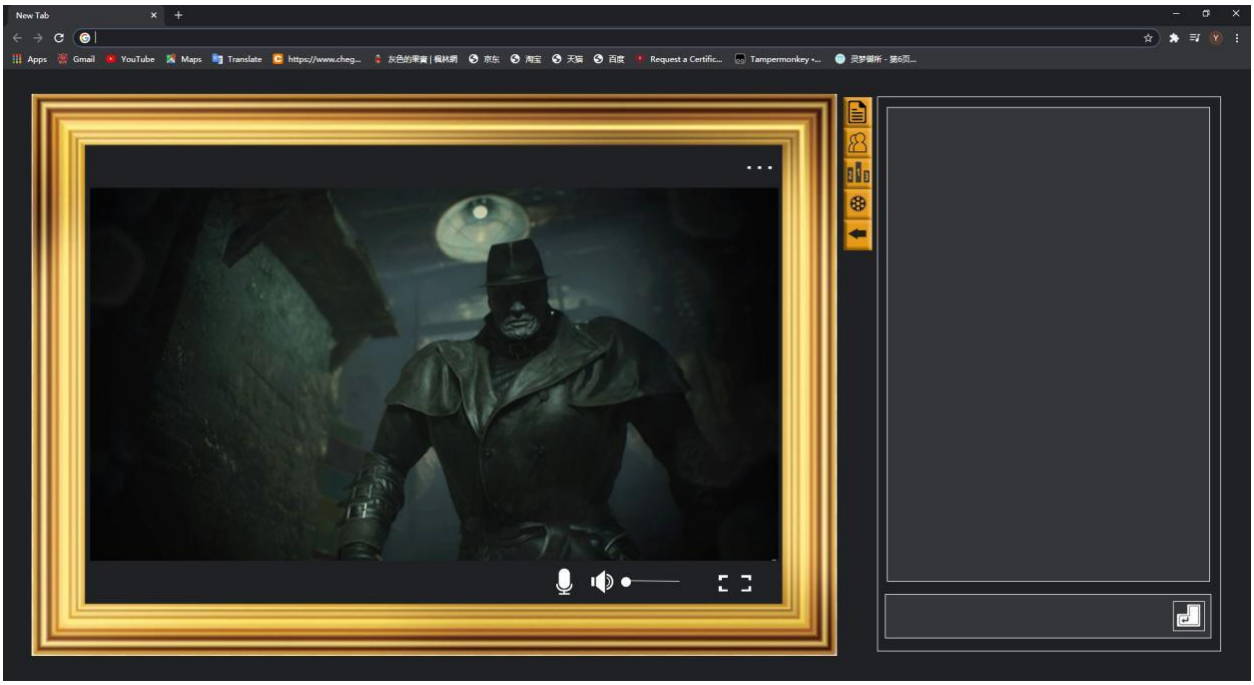
1. **Create game lobby**
   - choose device type (PC, phone)
   - choose the game
   - choose size of lobby (number of players)
   - search online users
     a) filter online users by game preference
     b) filter online users by year
     c) filter online users by program
     d) filter online users by courses
   - generate an invitation link of game lobby
2. **Manage game lobby**
   - present lobby members
   - present game record rank
   - edit message to lobby chat room
   - turn on/off sound
   - turn on/off microphone
3. **Exit the game**
4. **Modify UI settings**
   - edit background color
   - edit font color
   - edit font size
   - edit UI screen size
   - set privacy setting:
     a) set gaming status as public
     b) set gaming status as private
     c) set personal information as public
     d) set personal information as private
5. **Set personal profile**
   - edit username
   - edit university name
   - edit year
   - edit program

- edit game preferences

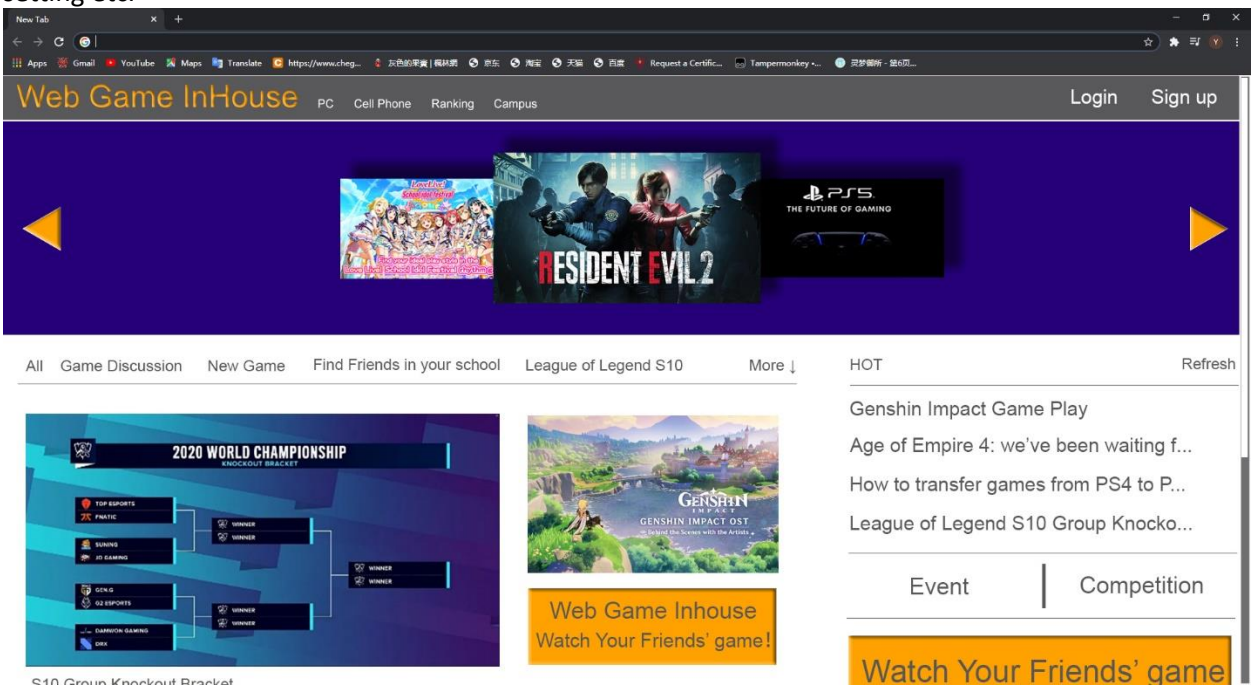
6. **Create a post in community forum**
   - enter post name
   - set post category based on game
   - set post to public
   - set post only visible to certain group of users(program/year/courses)
   - enter post content
   - publish post
7. **View a post in community forum**
   - filter the posts by game
   - filter the posts by year
   - filter the posts by program
   - search the posts by post name
8. **Reply to a post**
   - enter reply message to a post
9. **Delete/remove a post**
   - delete whole post
   - delete a single message in the post

Mockup of 4 most important pages:

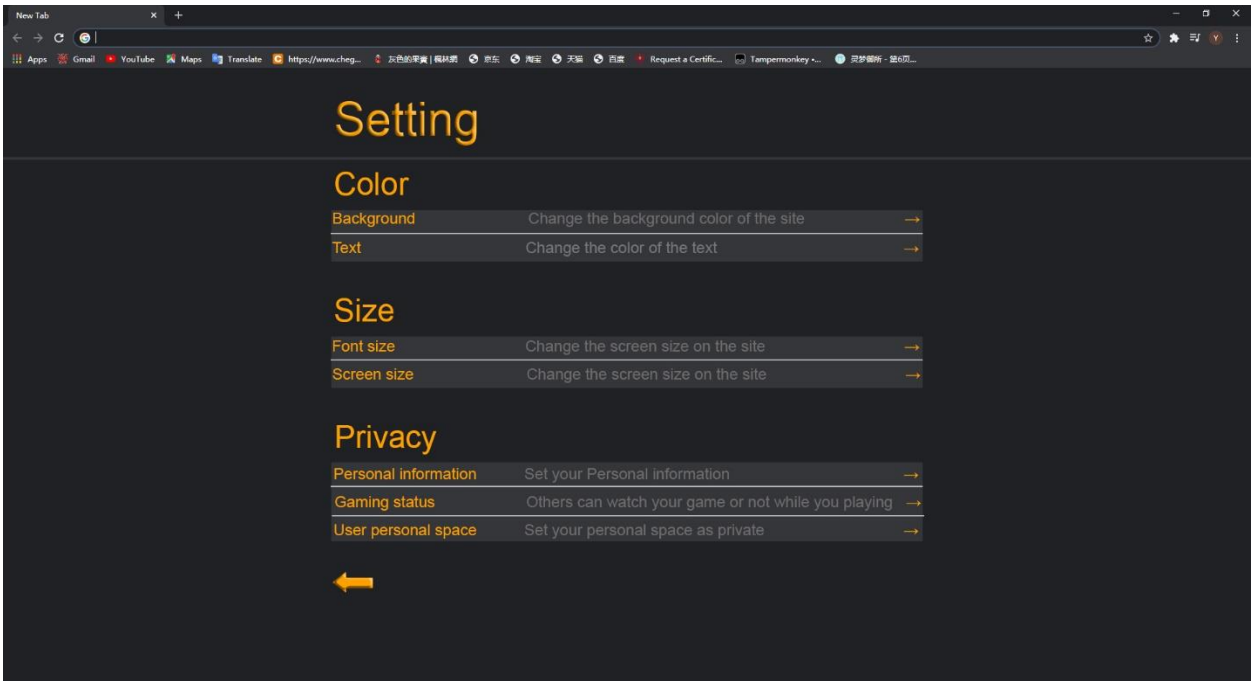
This page is the main page when users open the interface, users can tell each part's function easily from the simple and straight lay-out with text description.



This is when user create a game lobby and enter a game, left side is game screen and different buttons are present on the top-right side for different functions, e.g. lobby members, game rank, personal setting etc.



This page is community forum main page. Users can choose different games by the thumbnail images on top side and filter posts, bottom part is the newest and important posts based on popularity.



This is setting interface; users can modify settings of UI and adjust to a style that they personally prefer.

Design discussions:

(design guidelines) When we are designing our interface, we ensured that all the links on interface are descriptive, users can easily tell what the link is used for from precise and brief description. Different links and titles have different font size, like in the main page of community forum, so different parts are divided into modules and users can tell each module's content from first view. For the lay out, menu organization we followed and modified from some popular websites' (like NGA etc.) design since there is similarity between target user's age and interface's goals. Some thumbnail images are used to make the interface clearer and more readable.

For the font size/color and screen size, users can adjust to 3-4 possible choices, and all choices will keep the interface clean and in order. (8 golden rules) Consistency are kept in interface's design: using same font and color for most contents, the only exception to consistency might be some places like titles to distinguish from normal content.

In most situations users are required to use click instead of type when they need to input, drop-down menus and icons will be used to minimize users' input actions (design guidelines), so as to prevent possible errors from user side(8 golden rules) and increase productivity. Users should be able to return to main interface(the arrow icon in mockup) whenever they want and cancel last operation by 'undo' function(not presented in mockup yet), so no matter what things they click on, they can make reversal actions. Users will see a different present of cursor or button minor change (like color change: grey out invalid option, and brief text hint) to receive informative feedback (8 golden rules), to be aware of their user operations are valid and effective or get relevant information on time, which is related to design theory of 'affordances' and 'signifier'.

Fitts's law is followed when designing interface, we put some basic and important function buttons like sign-in/out and return at corner so users can easily access them. In setting interface (shown in mockup), you can see that users can modify settings by clicking on whole stripe (not just the right button), which is also based on Fitts's law.

In terms of user characteristics, I think our application is good since the target is undergraduate students that able to read and operate online web pages with basic actions, and our interface design is totally understandable even to the users that first time using it.