# Test Project (Offline)

## BRICS-FS-09_Mobile Applications Development

## 2022 BRICS Skills Competition

# Table of Contents

1. Entry Form ..... 1

2. Competition content ..... 1

3. Project modules ..... 1

3.1 Project modules ..... 1

3.2 Introduction to Task Scenarios ..... 1

3.4 Task content ..... 1

4. Scoring criteria ..... 16

# 1. Entry Form

Individual entry (1 person).

# 2. Competition content

The competition consists of four modules to be completed in sequence. Participants are provided with task descriptions, material files, operating instructions, and the data sources or other technical infrastructure required to guarantee the independence and fairness of each task module. The competition consists of the following task modules.

1) Prototyping

2) Interface implementation

3）Functional development (cell phone side)

4) Function development (tablet side)

The competition tasks and scoring criteria can be changed only if the competition site cannot be completed and approved by the chief expert.

If participants do not comply with OHS environmental requirements or put themselves and other participants at risk, they may be disqualified from the competition.

After participants complete the module, the results will be scored.

# 3. Project Module

## *3.1 Project Module*

There are 4 modules in the mobile application development category, and the players are required to complete them within 10 hours. Specific project module names and time requirements refer to Table 1.

Table 1 List of project modules and time requirements

| Serial number | Module Name | Competition content completion time |
|---|---|---|
| 1 | Module A: Prototyping | 2h |
| 2 | Module B: Interface Implementation | 3h |
| 3 | Module C: Feature Development (Mobile Side) | 3h |
| 4 | Module D: Feature development (tablet side) | 2h |

## *3.2 Task scenario introduction*

A company wants to develop an app for whole house intelligence that provides a guide page, login and registration, home page, my rooms, settings, room TV management, etc. Your task is to do the page design, page implementation, mobile and tablet development for this App.

## *3.4 Task content*

## Module A: Prototyping

Participants should complete the prototype design according to the task requirements,

which include the following: The company wants to develop a whole house smart app, which can provide functions such as guide page, login and registration, home page, my room, settings, room TV management, etc. Your task is to design a page prototype for this App for cell phones.

**Basic requirements .**

1、 Use Adobe XD software to prototype the page design of the functional module with reference to the functional requirements of the module.

2. The drawing board size is 750×1334px, the height of status bar is 40px, the height of title bar is 88px, and the height of label bar is 98px.

3、When the content exceeds the height area, set the scroll area to display the content.

4、 The drawing board should be aligned, the page layout is reasonable and beautiful, and the content is complete; please reuse the style for the same function, and avoid one function and two styles.

5、The prototype should have interaction design content and good user experience.

6、 In meeting the basic prototyping needs, the player can add more designs for the improvement of user experience.

**Requirement 1: Prototype of [guide page] page**

1.App firstly shows the guide page when it is launched.

2. Design the guide page using the 3 images provided for the guide page.

3. 3 dots are displayed at the bottom of the guide page, the first page dot is selected by default, the color is solid white, the unselected dot is hollow white, prompting the user the current guide page location, click the dot, the page also switch.

4. When entering the final guide page, the upper part of the dot shows the [Open] button, click it to enter the login registration page.

**Requirement 2: Prototype of [Login and Registration] page**

1. The login page has "Smart Home" app name, "Mobile Login" button, "Login" button and "No Account? Click on "Sign me up" text.

2. The login and registration page needs a background design.

3. Click the [Mobile Login] button on the login registration page to jump to the [Mobile Login] page.

3-1. It has "Mobile Login" title, back button, cell phone number input box and send button.

3-2. Click the [Back] button to return to the login registration page.

3-3. Click the [Send] button to jump to the verification code page, which has a verification code input box and a submit button, click the submit button to jump to [Home].

4. Click the [Login] button on the login registration page to jump to the [Login] page.

4-1、 With "Login" title, back button, "Welcome back" text message, email input box, password input box, "Forgot password" text and login button.

4-2. Click the [Back] button to return to the login registration page.

4-3. Click the [Login] button to jump to [Home].

5. Click [No account? Click on the [Click me to register] text to jump to the [Register] page.

5-1. It has "Register" title, back button, "Welcome to the Whole House Smart

App!" text, email input box, password input box, confirm password input box, and registration button.

5-2. Click the [Back] button to return to the login registration page.

5-3. Click the [Register] button to jump to the profile page, which has an avatar, change avatar button, "We're really glad to see you!" text, username input box and create account button, click [Create Account] button to jump to [Home].

**Requirement 3: Prototype of [Home] page**

1. Home title bar has menu button, home title, and message button.

2. The content of the home page shows "My Home", shows that the music is playing, and shows a song.

3. Use the table list (two columns) to display the device control buttons, the control buttons are lighting switch, monitoring switch, TV switch, audio switch, game switch, air conditioning switch.

4. Click the [Menu] button to open the menu option, which has options for user avatar and username, [Settings], [My Room], and [Close Menu] buttons.

4-1. Click [Settings] to enter the settings page.

4-2. Click [My Room] to enter the My Room page.

4-3. Click [Close Menu] to close the menu item.

4-4. Click [User avatar and user name] to go to the account page.

5. Click the [TV] switch to go to the [Room TV Management] page.

6. Click the [Message] switch to go to the [Message Management] page.

**Requirement 4: Prototype of [My Room] page**

1. Click the [My Room] option on the menu item of the homepage to enter the [My Room] page.

2. My Rooms page has "All Rooms" heading, back button and room list.

3. room list can be slid up and down, the list shows 4 rooms (living room, bathroom, bedroom, study).

4. The living room option has TV switch button, audio switch button, game switch button, light switch button, room door switch button, monitor switch button, all the buttons are sorted horizontally; click each switch to show the switch status.

5. Bathroom options with hot water switch button, ventilation switch button, light switch button, audio light switch button, all the buttons are sorted horizontally; click each switch to display the switch status.

6. The bedroom option has TV switch button, audio switch button, air conditioner switch button, curtain light switch button, light switch button, all the buttons are sorted horizontally; click each switch to show the switch status.

7. The study option has light switch button, air conditioner switch button, all the buttons are sorted horizontally; click each switch to show the switch status.

8. Click the [Back] button to return to [Home].

**Results Submission**

1. Please place the drawn XD prototype in the Module_A folder.

2. The Module_A folder needs to be committed to the Git server provided by the contest.

3. Module_A and its content will only be evaluated if submitted within the competition time of the module.

# Module B: Interface Implementation

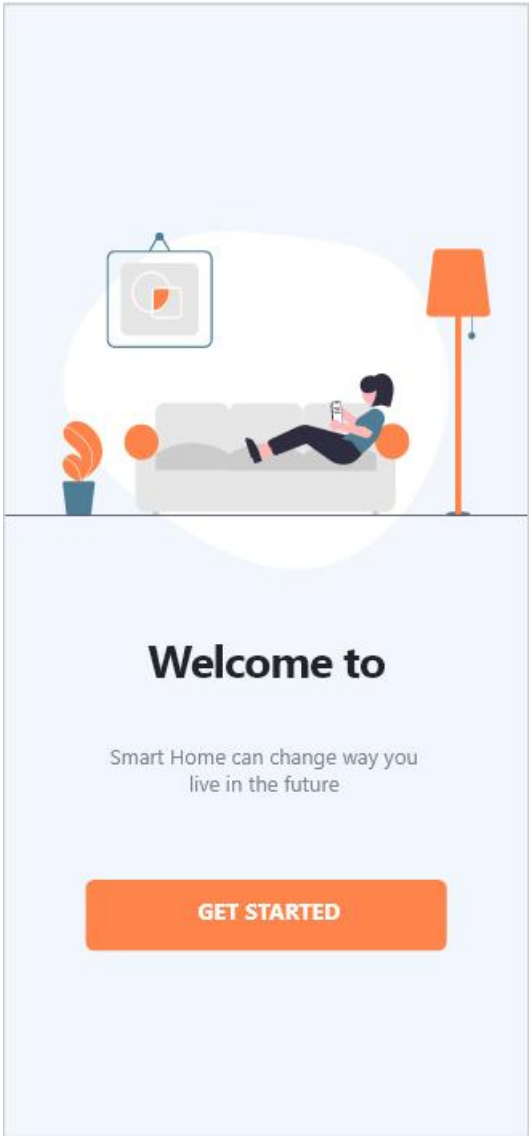
Participants should complete the interface implementation according to the task requirements, which include the following: Participants should complete the interface implementation according to the task requirements.

**Basic requirements.**

1、Use Android Studio as the development tool, version number 4.0 and above, refer to the module functional requirements, write code to achieve.

2、The interface layout is reasonable and beautiful, with complete content and good user experience.

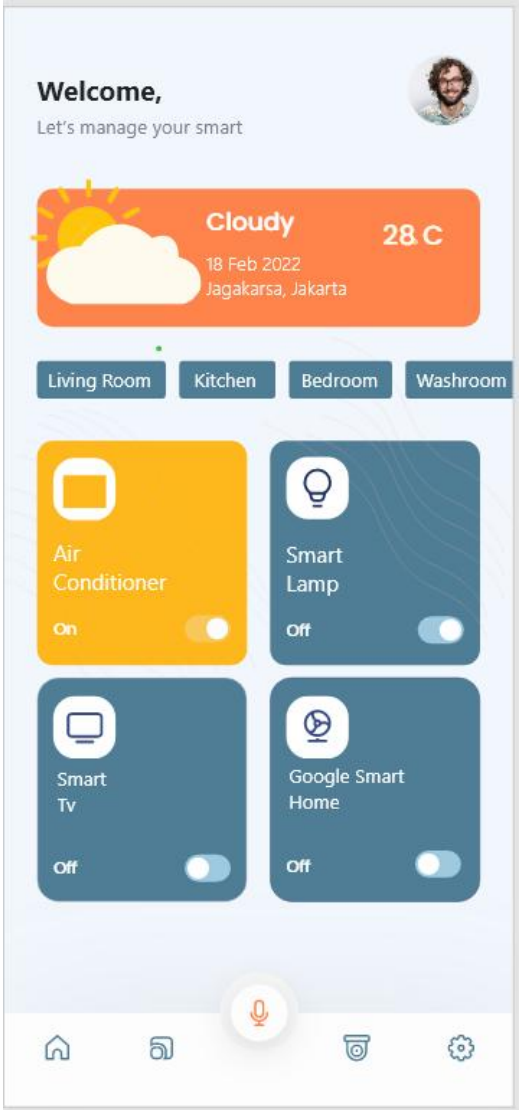
**Requirement 1: Coding to implement [guide page]**



1. guide the page interface, coding according to the prototype diagram to achieve the effect.

2. Click the [GET START] button to go to the home page.

**Requirement 2: Coding to implement [Home]**




1. Follow the prototype diagram for coding to achieve the effect.

2. Weather pictures with animation effect. (Sun rotation)

3. Automatically change the weather temperature every 3 seconds.

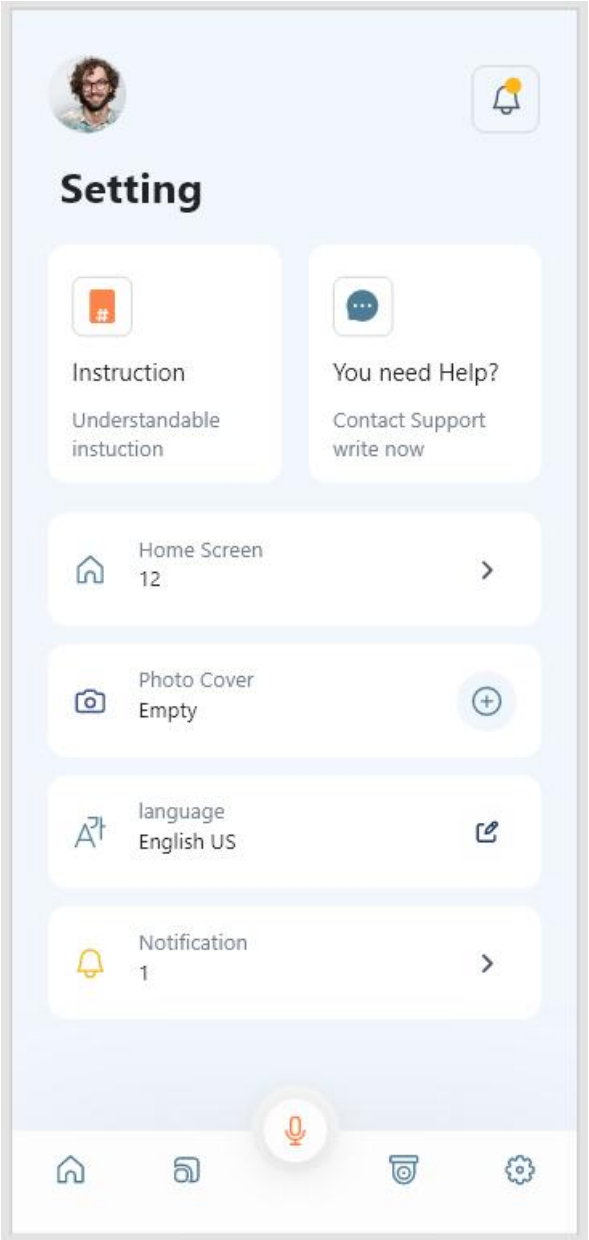
4. Display 6 room names horizontally, you can slide the room names left and right.

5. Click on the room name to switch between different room devices, and the devices follow the table layout (2*2), showing four devices.

6. Click the device switch, with the switch effect.

7. Click the Settings button at the bottom to jump to the settings page; click the Home button at the bottom to jump to the home page.

**Requirement 3: Coding implementation [setup]**




1. Follow the prototype diagram for coding to achieve the effect.

**Results submitted.**

1、Please create the project package name according to the specification: vip. zhonghui. b.

2、You need to compress the project and place it in the "Module_B" folder.

3. You need to rename the generated APK to Module_B.apk and place it in the "Module_B" folder.

4. Please commit the "Module_B" folder to the Git server.

# Module C: Feature Development (Mobile Side)

The contestants should complete the functional development (mobile terminal) according to the task requirements, the task includes the following content: a company wants to develop a whole house smart App, the designer has developed the prototype design drawings, has provided the API and related resources needed to develop this task, the contestants need to use it to develop and finally complete a whole house smart APP application, the application can login registration, personal center, house management and other functions.

**Basic requirements .**

1、Use Android Studio as the development tool, version number 4.2.2, refer to the module functional requirements, write code to achieve.

2、 The interface layout is reasonable and beautiful, with complete content and good user experience.

**Requirement 1: Coding to implement [login]**


1. The login page has Logo, User Name input box, Password input box, [Register]

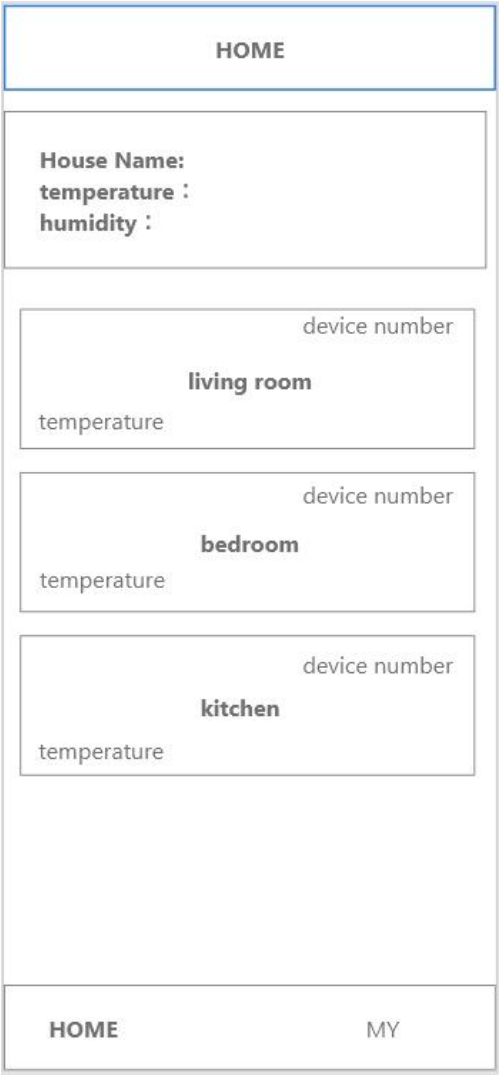
button, [Forget Password] button and [LOGIN] button.

2. The right side of the password input box has a [show/hide] button, click it to show and hide the password.

3. Click the user registration button to jump to the registration page.

4. After entering the correct user name and password, click the [LOGIN] button to jump to the home page; user name or password input error, need to have a prompt message.

**Requirement 2: Coding to implement [Home]**




1. According to the above layout effect, complete the page layout development of the homepage.

2. The bottom of the display [HOME] and [MY] navigation bar, click can jump to the corresponding interface.

3. The title [HOME] is displayed at the top of the homepage.

4. The upper part of the home page displays the room name, temperature and humidity.

5. Use the list to display the name of the room, the temperature of each room, and the number of devices; click to enter the corresponding house.

**Requirement 3: Coding implementation [Personal Center**


1. According to the above layout effect, complete the development of my page layout.

2. Show user avatar and username.

3. Use the list to display 4 items, which are [Housing management], [Personal Information Management], [Clear Cache], [Logout], click the corresponding button to jump to the corresponding function page.

4. Click [Clear Cache] to bring up the Clear dialog box, click [Yes] to clear the cache, click [No] to cancel the dialog box.

5. Click [Log out] to exit the APP.

**Result Submission**

1、Please create the project package name according to the specification: vip. zhonghui. c.

2、You need to compress the project and place it in the "Module_C" folder.

3. You need to rename the generated APK to Module_C.apk and place it in the "Module_C" folder.

4. Please commit the "Module_C" folder to the Git server.

5. Please use the API together with the API specification document and Postman.

# Module D: Feature development (tablet side)

Contestants should complete the functional development (tablet end) according to the task requirements, the task includes the following content: a company wants to develop a whole house smart App tablet application, the designer has developed the prototype design drawings, has provided the API and related resources needed to develop this task, the contestant needs to use it to develop and finally complete a whole house smart APP tablet application, the application can login and register, personal center and other functions.

**Basic requirements.**

1、Use Android Studio as the development tool, version number 4.2.2, refer to the module functional requirements, write code to achieve.

2、 The interface layout is reasonable and beautiful, with complete content and good user experience.

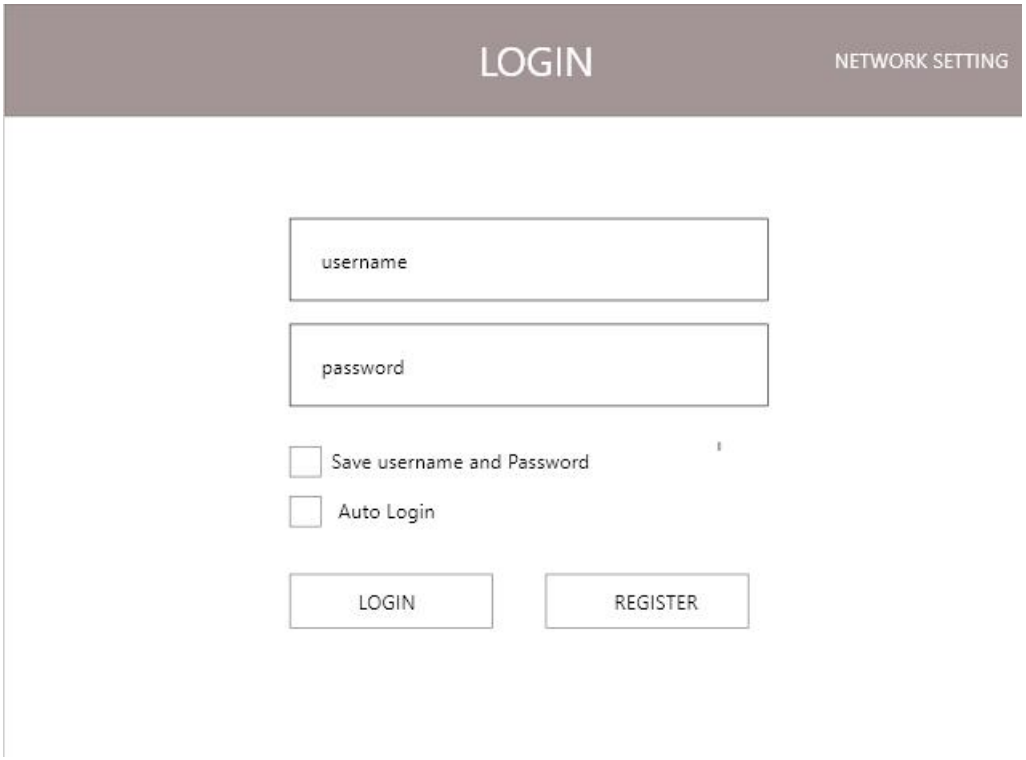
**Requirement 1: Coding to implement [guide page]**

1. Guide page interface.

2. Launch the app and enter the guide page.

3. Wait for 3 seconds and then automatically jump to the login page.

**Requirement 2: Coding to implement [login]**




1. Login page user [LOGIN] title, [NETWORK SETTING] button, user name input box, password input box, [Save username and Password] check box, [Auto Login] check box [LOGIN] button and [REGISTER] button.

2. User name input box can only input letters and numbers, the maximum input 10 digits.

3. The password input box needs to hide the cipher text display, the maximum input 18 digits.

4. Check the [Save username and Password] checkbox to remember the current username and password, and automatically fill in the username and password next time you enter the system, and automatically check the [Save username and Password] checkbox; uncheck the [Save username and Password] checkbox If you uncheck the [Save username and Password] checkbox, the next time you enter the system, the username and password will not be filled.

3. Click the [NETWORK SETTING] button to bring up the network settings dialog box.

4. Click the [REGISTER] button to jump to the registration page.

5. After entering the correct user name and password, click [LOGIN], you can jump to the home page; user name or password input error, need to have a prompt message.

**Requirement 3: Coding to implement the [Network Settings] dialog box**


1. Enter the network settings dialog box by clicking the "[NETWORK SETTING]" button on the login screen.

2. The input items in the page include server ip address input box, port number input box, [save] button and [cancel] button.

3. Click the Cancel button to return to the login page.

4. Click the [Save] button to remember the ip address and port number, and the next time you open the dialog box will be filled automatically.

**Results submitted.**

1、Please create the project package name according to the specification: vip. zhonghui. d.

2、You need to compress the project and place it in the "Module_D" folder.

3. You need to rename the generated APK to Module_D.apk and place it in the "Module_D" folder.

4. Please commit the "Module_D" folder to the Git server.

5. Please use the API together with the API specification document and Postman.

## 4. Scoring criteria

**Table Scoring Criteria**

| Modules | Specifications | Score |
|---|---|---|
| A | Prototyping | 20.00 |
| B | Interface Implementation | 25.00 |
| C | C1 Function Development (Mobile) | 35.00 |
| D | Function development (tablet side) | 20.00 |
| **Total** | | 100.00 |