Test Project

Module C2 - Implement

Mobile Applications Development

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Introduction

To present the development of China's five-thousand-year history, a historical knowledge app named DynastyAtlas is planned for development. The application will be centered on dynastic changes and major historical events, integrating timelines, historical figures, cultural topics, and historical materials to help users understand Chinese history from multiple perspectives, including time, events, and themes.

All requirement stories, images, and other materials in this Test Project are fictional, for competition use only, and have no real-world counterpart.

The designer has provided you with product prototypes. As a Mobile Application Developer, your task is to develop the corresponding app in strict accordance with the requirements of the prototypes and the videos.

Description of project and tasks

This development should be carried out in strict accordance with the prototype style and the requirements. The task is divided into two parts based on different equipment types:

	PART	NAME	COMPETITION TIME	MARKING DEVICES
	MC1	Functionality (phone)	2.5 hours	Emulator: Pixel 2 or iPhone 14
√	MC2	Functionality (tablet)	2.5 hours	Emulator: Pixel Tablet or iPad Pro 11-inch

Below is an overview of the prototypes. Please check the media-files for details.

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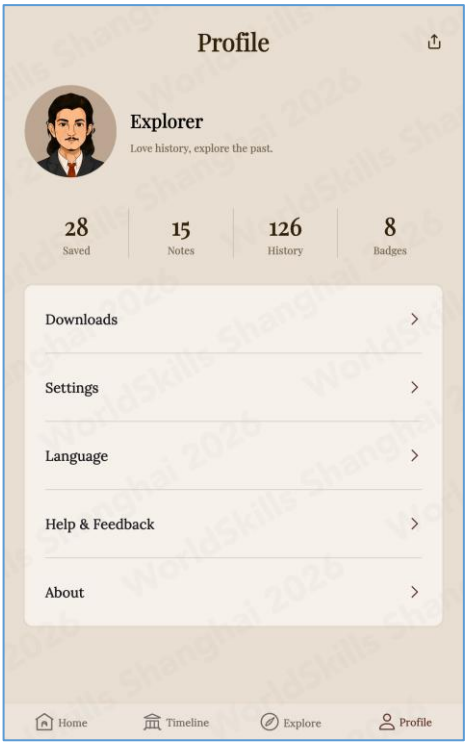
Home Page



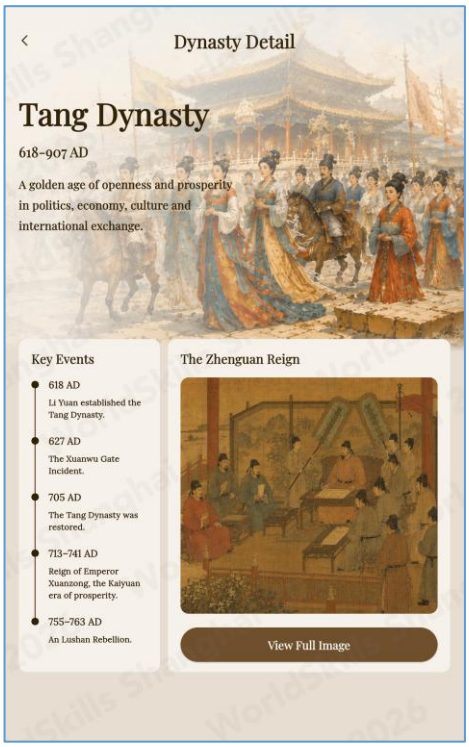
Timeline Page



Explore Page



Profile Page



Dynasty Detail Page

General Demands

1. All animation effects should be developed to match those shown in the videos;
2. The appearance must strictly follow the details of the prototypes. Functions not mentioned in the description do not need to be implemented;
3. All materials marked with the WorldSkills Shanghai 2026 watermark are provided solely for reference purposes. Use of these materials in the actual project development will result in zero marks for the corresponding section;
4. Use the provided font consistently throughout the application;
5. The application should include a bottom navigation bar containing the following navigation items:

   (a) "Home" navigation item that navigates to **Home Page**;
   (b) "Timeline" navigation item that navigates to **Timeline Page**;
   (c) "Explore" navigation item that navigates to **Explore Page**;
   (d) "Profile" navigation item that navigates to **Profile Page**;

6. The application should support Page navigation through horizontal swipe gestures;
7. Background music (*media-files/music/background.mp3*) should be played while the application is running.

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Pages Demands

1. Home Page



Elements include

1. Top background image
2. Title "Chinese History"
3. Text "Explore the Past, Understand the Present"
4. Red seal icon
5. Dynasties Area (with rounded corners):
6. Text "Dynasties"

   (a) "View All" text and a right arrow icon
   (b) Dynasties list, including the following items:

      (i) Dynasty image
      (ii) Dynasty name
      (iii) Start and end dates of the dynasties

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7. Featured Topics Area:

   (a) Text "Featured Topics"
   (b) Featured Topics list, including the following items:

      (i) Featured Topics image
      (ii) Featured Topics Text

8. Daily Quote Area:

   (a) Text "Daily Quote"
   (b) Background image
   (c) Book image
   (d) Text "Is it not a pleasure to learn and then practice what you have learned?"
   (e) A horizontal divider and the text "The Analects of Confucius"

9. The corner radius and shadow effects of the Featured Topics cards and the image in the Daily Quote Area should match the prototype.

Functional requirements

1. Implement the scroll opening animation for the Page elements (following the reference video *animations/scroll_animation.mp4*):

   (a) At the beginning, the scroll shall be in a closed state with a black background surrounding it;
   (b) The scroll gradually unfolds, revealing the Page elements progressively;
   (c) After all Page elements are fully displayed, the top background image scales up;
   (d) After the top background image has scaled up, the text "Explore the Past, Understand the Present" gradually appears from left to right with a gradient fade-in effect;

2. Dynasties list displays the data correctly based on the provided resource file *data/dynasties.json*;
3. Featured Topics list displays the data correctly based on the provided resource file *data/featured.json*;
4. Daily Quote Area should continuously display a looping falling leaves animation (following the reference video *animations/leaves_fall_off.mp4*):

   (a) Leaves gradually fall from the top of the area;
   (b) The falling leaves exhibit a swaying motion during descent.

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2. Timeline Page



Elements include

1. Yellow curve and circular points
2. Dynasty time line list, including the following elements:

   (a) Start year of the dynasty text
   (b) Dynasty image
   (c) Title text
   (d) Description text

3. The yellow curve and circular points should be drawn in accordance with the prototype
4. The shadow effects of the timeline list items should match the prototype

Functional requirements

1. The timeline list should display data correctly based on the provided resource file: *data/timeline.json*;
2. When the fourth timeline item is tapped, navigate to **Dynasty Detail Page**.
3. When entering the page, a timeline animation should be displayed (according to the reference video: animations/timeline.mp4):

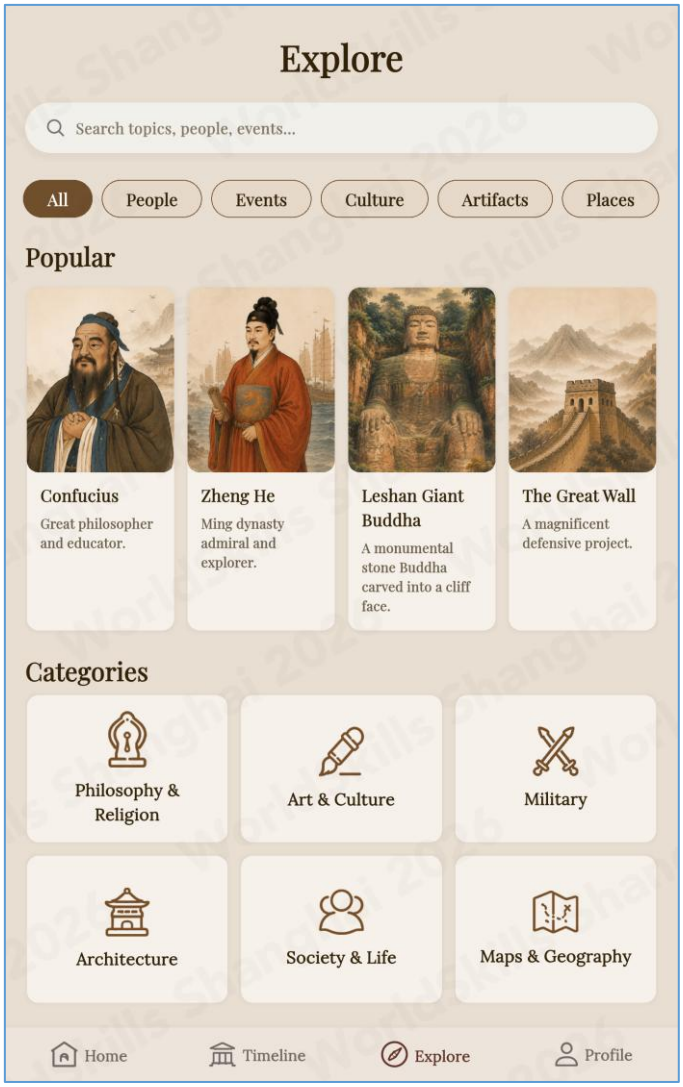
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(a) Initially, all images in the timeline list should be covered by a dark semi-transparent overlay, while the highlighted yellow curve extends from the top toward the bottom;
(b) When the highlighted yellow curve reaches a timeline point, the dark overlay on the corresponding image should gradually disappear;
(c) After the dark overlay has completely disappeared, the shadow overlay of the corresponding list item should expand from the correct position and in the correct direction, while the list item text fades in during the expansion;

    After the highlighted yellow curve has fully extended to the bottom, it should gradually retract from the top toward the bottom until it completely disappears;

(d) Only the highlighted yellow curve animation should repeat continuously.

3. Explore Page



Elements include

1. Title "Explore"
2. Search input field with placeholder text "Search topics, people, events..."
3. Navigation tag group (with rounded corners)
4. Popular Area:

   (a) Text "Popular"
   (b) Popular list, including the following elements:

      (i) Popular image
      (ii) Title text
      (iii) Description text

5. Categories Area:

   (a) Text "Categories"
   (b) Categories list, including the following elements:

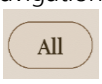
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(i) Categories icon
(ii) Categories text

6. The corner radius and shadow effects of the search input field, Popular list items, and Categories list items should match the prototype

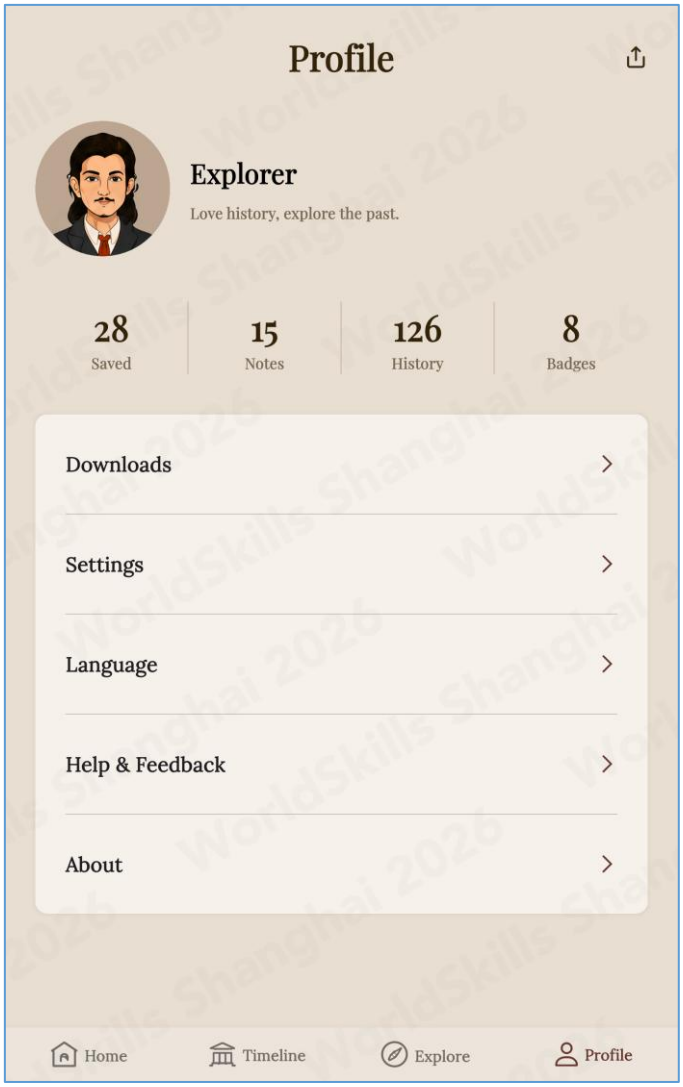
Functional requirements

1. When a navigation tag option is tapped, it should be highlighted to indicate the selected state: 

(selected) 

(unselected)
2. Popular list should display the data correctly based on the provided resource file: *data/populars.json*.

4. Profile Page



Elements include

1. Title "Profile"
2. Share icon
3. User information area:
   (a) User avatar
   (b) Text "Explorer"
   (c) Text "Love history, explore the past."
4. Statistics Area (with rounded corners):
   (a) "Saved" text and Saved count
   (b) "Notes" text and Notes count
   (c) "History" text and History count
   (d) "Badges" text and Badges count
   (e) Three divider lines in the middle
5. Settings options area:

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(a) "Downloads" text and a right arrow icon
(b) "Settings" text and a right arrow icon
(c) "Language" text and a right arrow icon
(d) "Help & Feedback" text and a right arrow icon
(e) "About" text and a right arrow icon
(f) A divider line should be displayed between each item

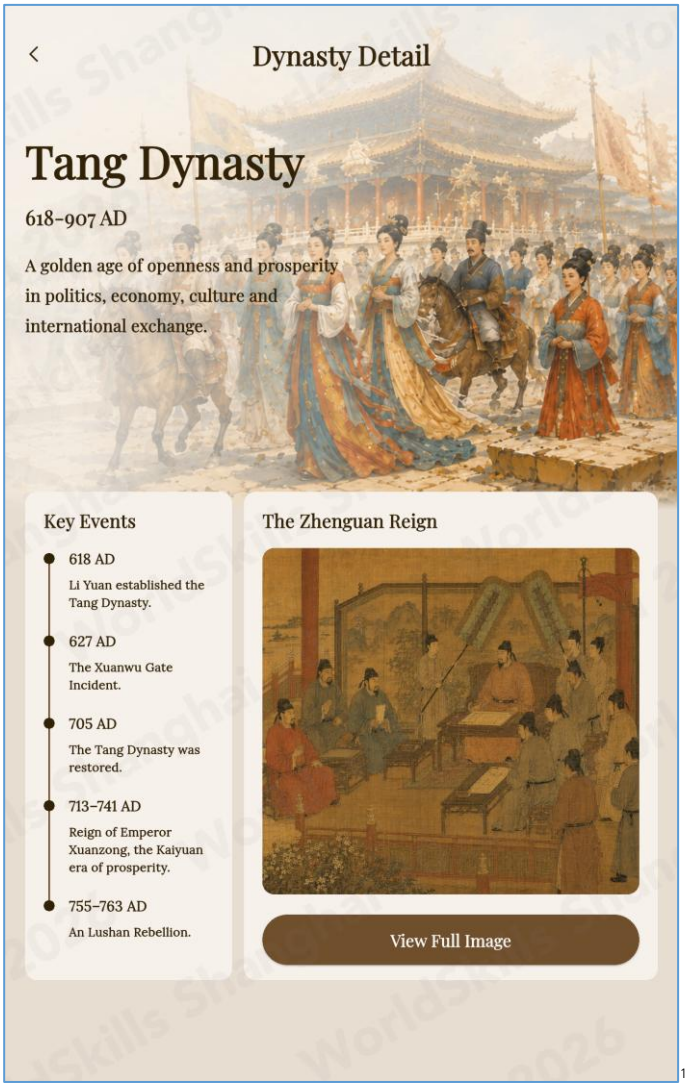
Functional requirements

1. The interface elements should implement the following animation effect (according to the reference video: *animations/entrance_animation.mp4*):

   (a) At the beginning, only a brown background is displayed;
   (b) When the Page is loading, the interface elements gradually appear from the center of the screen using a circular expansion effect.

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5. Dynasty Detail Page



[1]

Elements include

1. Title "Dynasty Detail"
2. Back icon button
3. background image
4. Dynasty information area:
   (a) Dynasty name
   (b) Start and end dates
   (c) Dynasty description text
5. Key Events Area:
   (a) Text "Key Events"
   (b) Left-side circular dot and vertical line

[1]

(c) Time text
(d) Key Events description text

6. The Zhenguan Reign Area:

(a) "The Zhenguan Reign" text
(b) Zhenguan Image
(c) "View Full Image" button

7. The corner radius and shadow effects of the Key Events Area and The Zhenguan Reign Area should match the prototype

Functional requirements

8. Tap Back icon button to return to the previous Page;
9. Apply a white transparent overlay effect to the background image (refer to the prototype);
10. Dynasty information area should correctly display the data provided in *data/dynasty_detail.json*;
11. Key Events area should correctly display the data provided in *data/dynasty_detail.json*;
12. When View Full Image button is tapped, Zhenguan Image should be displayed in full-screen mode.

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Instructions to the Competitor

1. Please create the project with correct package name (Android) / Organization Identifier (iOS). The naming convention: edu.ws2026.mc2XX.pm
2. You should save the project in the folder XX_MC2
3. You should rename the generated apk (Android) / app (iOS) file as XX_MC2.apk (Android) / XX_MC2.app (iOS) and save it in the root of the XX_MC2 folder
4. The whole XX_MC2 folder should be pushed to the provided remote Git repository in time
5. Note: "XX" refers to your workstation code

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