Browser Customization Guide

Customization Guide

Customer Support

MT6000

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Revision	Date	Author	Description
V1.0	2011-04-10	Peiyan Song	Initial Release
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1 Introduction

1.1 Purpose

Browser is a default feature on Android. here are three parts: Browser app, Webkit in framework, Webkit in native. Generally speaking, Webkit in framework and Webkit in native will be modified only in some complex or special function.

All customization code used in this document is in Browser app.

Before Android M, the code path is alps/packages/apps/Browser/

After Android M, the code path is vendor/mediatek/proprietary/packages/apps/Browser/

1.2 Scope

The document provide the programming details of the Menu & ContextMenu and Build-in Bookmark & HomePage.

1.3 Who Should Read This Document

This document is primarily intended for:

- Engineers with technical knowledge of the browser
- Customers who want to customize the default bookmark & homepage, and add Menu & ContextMenu

1.4 How to Use This Manual

This segment explains how information is distributed in this document, and presents some cues and examples to simplify finding and understanding information in this document. **Error! Reference source not found.** presents an overview of the chapters and appendices in this document.

Table 1-1. Chapter Overview

#	Chapter	Contents
1	Introduction	Describes the scope and layout of this document.

1.4.1 Terms and Conventions

This document uses special terms and typographical conventions to help you easily identify various information types in this document. These cues are designed to simply finding and understanding the information this document contains.

Table 1-2. Conventions

Convention	Usage	Example
[1]	Serial number of a document in the order of appearance in the References topic	Look up Chapter 2: System Architecture in [1]
void xx(zz)	Source code	static int __stdcall cb_download_bloader_init(void *usr_arg){}
☞	Important	

2 Customization items list

Customization items list is as follows:

1. Add or edit option menu
2. Add or edit context menu
3. Add or edit built-in bookmark
4. Set homepage

3 Abbreviations

Please note the abbreviations and their explanations provided in **Error! Reference source not found.**. They are used in many fundamental definitions and explanations in this document and are specific to the information that this document contains.

Table 3-1. Abbreviations

Abbreviations	Explanation
MTK	MediaTek, Asia’s largest fabless IC design company.

4 Overview

This chapter first gives a brief description of the modules of the system and the relationship of the modules.

4.1 Architecture

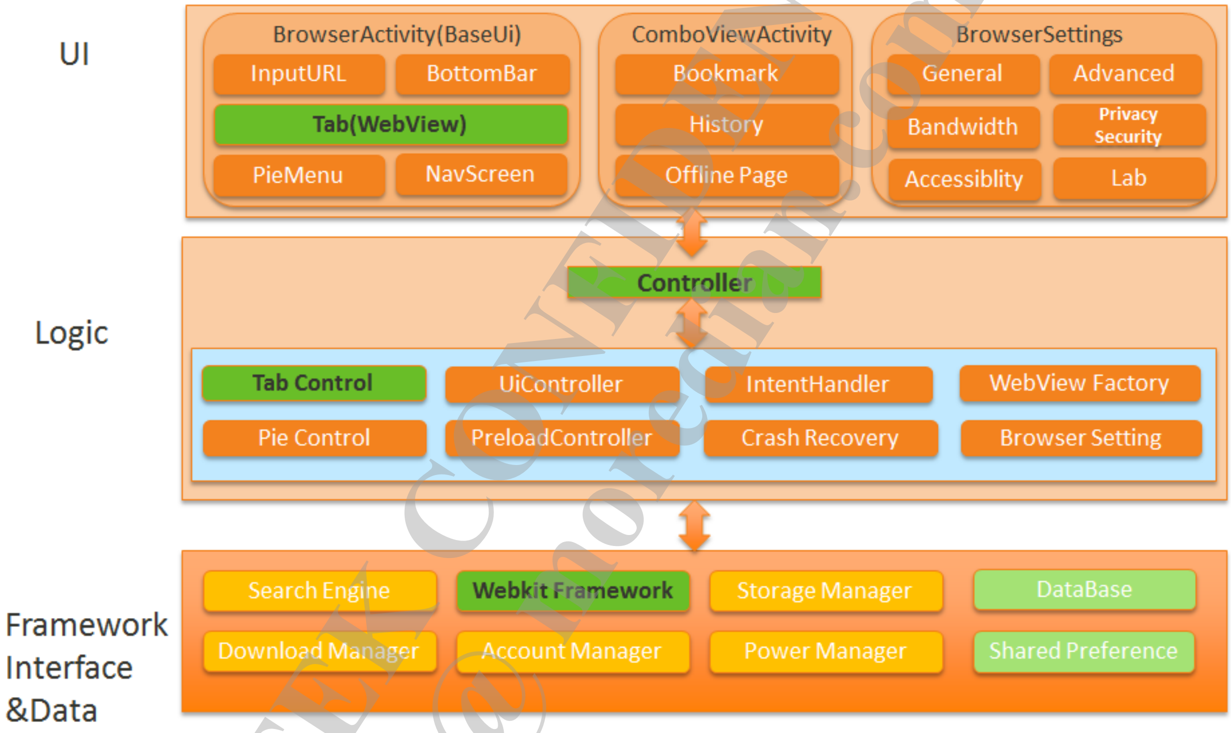
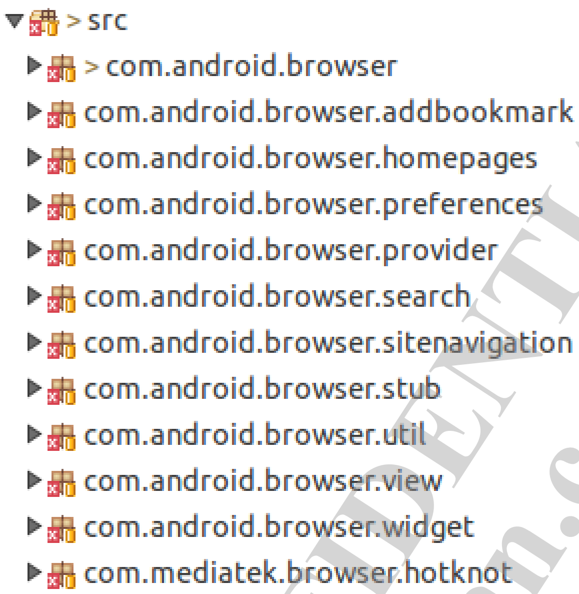


Figure 4-1. Browser Architecture

4.2 Source Code Organization



```
▼ > src
  ▶ > com.android.browser
  ▶ com.android.browser.addbookmark
  ▶ com.android.browser.homepages
  ▶ com.android.browser.preferences
  ▶ com.android.browser.provider
  ▶ com.android.browser.search
  ▶ com.android.browser.sitenavigation
  ▶ com.android.browser.stub
  ▶ com.android.browser.util
  ▶ com.android.browser.view
  ▶ com.android.browser.widget
  ▶ com.mediatek.browser.hotknot
```

Figure 4-2. Source Code Directory Structure

The description of the directories and their subdirectories is given below:

com/android/browser	Contains the top-level source directory
com/android/browser/Controller	Contains the browser entity

5 Detailed Customization Procedure

5.1 Add or edit option menu

The Figure 5-1 are the option menu in browser.One type option menu item have icon and text in left picture.

The other one type option menu item only have text like right picture.

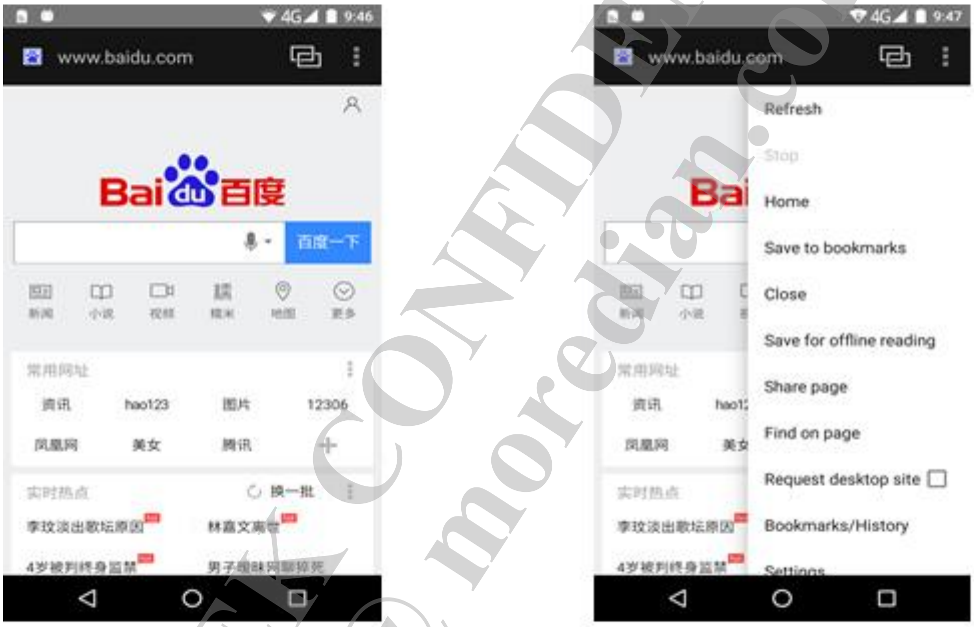


Figure 5-1. Option Menu

5.1.1 Modify Resource file

To modify the icon or text of option menu or item order, you can find related code as follows (res/menu/browser.xml):

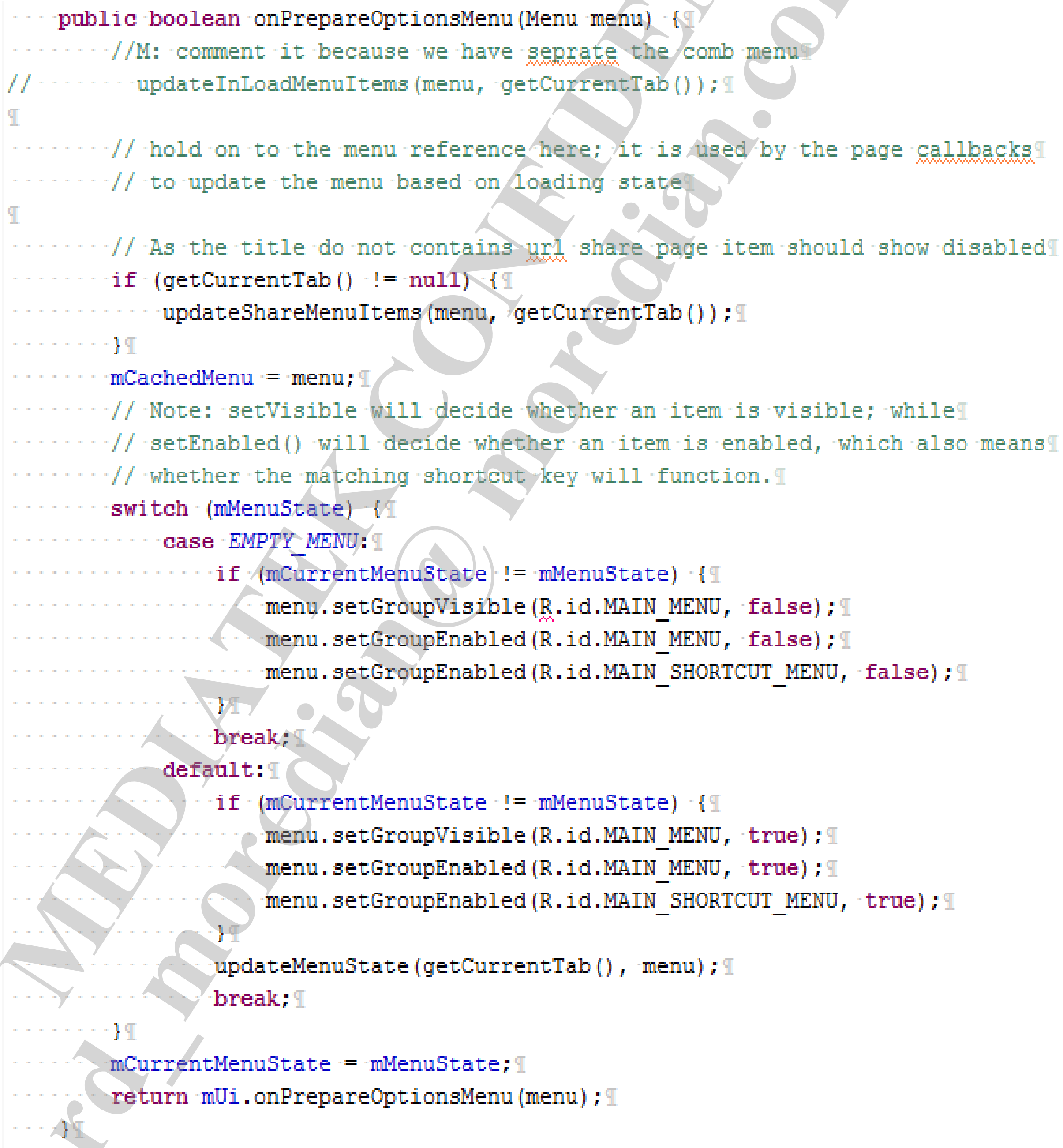
```
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <group android:id="@+id/MAIN_MENU">
        <group android:id="@+id/NAV_MENU"
               android:visible=”@bool/menu_show_navigation”>
               <item android:id="@+id/reload_menu_id"
                     android:title="@string/reload"
                     android:icon="@*android:drawable/ic_menu_refresh"
                     android:visible="true" />
               <item android:id="@+id/forward_menu_id"
```

```
                                  android:title="@string/forward"
                                  android:icon="@*android:drawable/ic_menu_forward" />
```

5.1.2 Change Code logic

After those modifications, the menu item will display normally.If you want to set menu item to be visible or invisible, enable or disable in java code.

You can find related code as follows(src/com/android/browser/Controller.java)

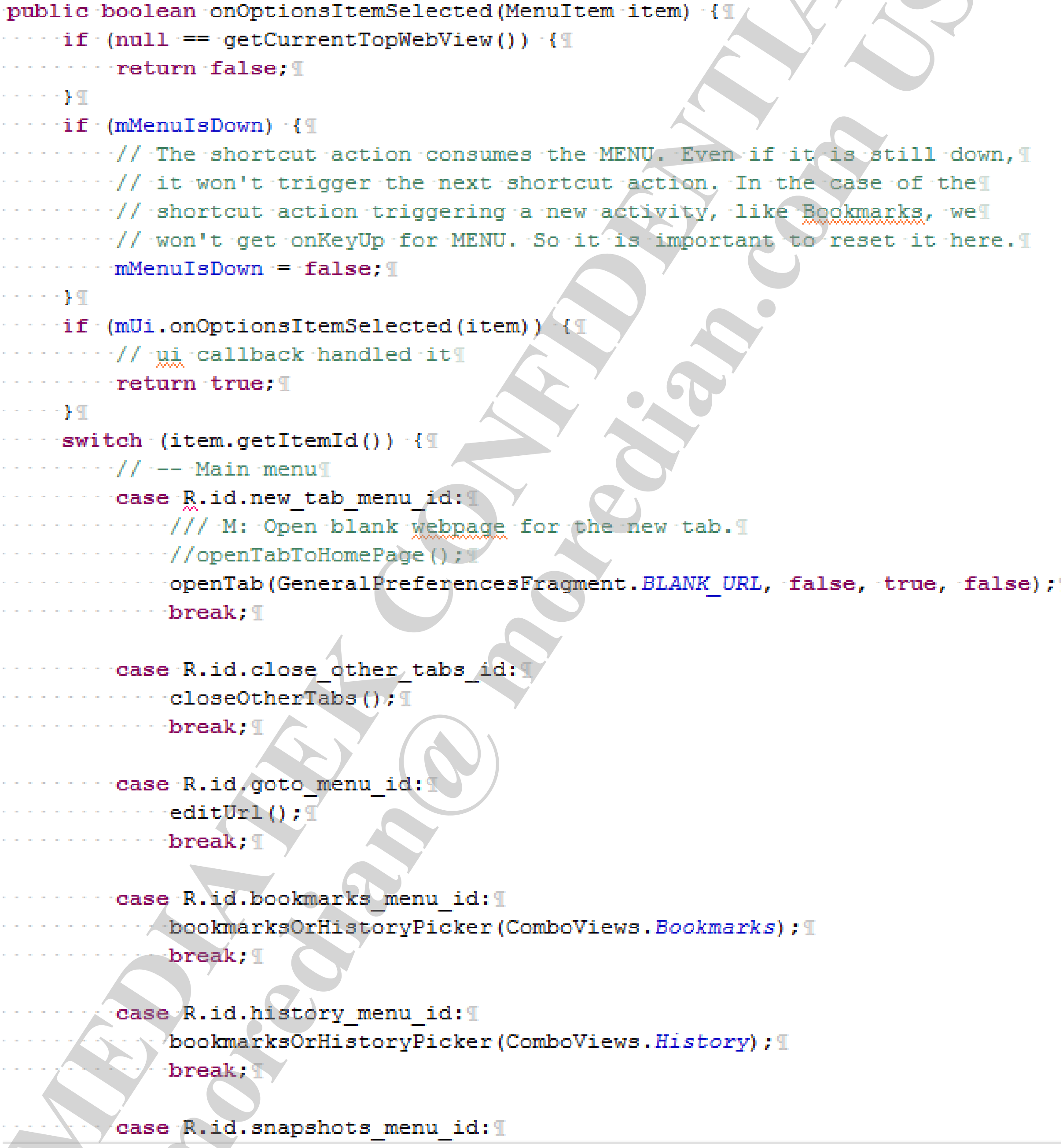


```
    public boolean onPrepareOptionsMenu(Menu menu) {
        //M: comment it because we have seprate the comb menu
//          updateInLoadMenuItems(menu, getCurrentTab());

        // hold on to the menu reference here; it is used by the page callbacks
        // to update the menu based on loading state

        // As the title do not contains url share page item should show disabled
        if (getCurrentTab() != null) {
            updateShareMenuItems(menu, getCurrentTab());
        }
        mCachedMenu = menu;
        // Note: setVisible will decide whether an item is visible; while
        // setEnabled() will decide whether an item is enabled, which also means
        // whether the matching shortcut key will function.
        switch (mMenuState) {
            case EMPTY_MENU:
                if (mCurrentMenuState != mMenuState) {
                    menu.setGroupVisible(R.id.MAIN_MENU, false);
                    menu.setGroupEnabled(R.id.MAIN_MENU, false);
                    menu.setGroupEnabled(R.id.MAIN_SHORTCUT_MENU, false);
                }
                break;
            default:
                if (mCurrentMenuState != mMenuState) {
                    menu.setGroupVisible(R.id.MAIN_MENU, true);
                    menu.setGroupEnabled(R.id.MAIN_MENU, true);
                    menu.setGroupEnabled(R.id.MAIN_SHORTCUT_MENU, true);
                }
                updateMenuState(getCurrentTab(), menu);
                break;
        }
        mCurrentMenuState = mMenuState;
        return mUi.onPrepareOptionsMenu(menu);
    }
```

5.1.3 Add menu function

The next step, we have to add function which will be called when menu item is pressed.

You can find related code as follows (src/com/android/browser/Controller.java)



```
public boolean onOptionsItemSelected(MenuItem item) {
    if (null == getCurrentTopWebView()) {
        return false;
    }
    if (mMenuIsDown) {
        // The shortcut action consumes the MENU. Even if it is still down,
        // it won't trigger the next shortcut action. In the case of the
        // shortcut action triggering a new activity, like Bookmarks, we
        // won't get onKeyUp for MENU. So it is important to reset it here.
        mMenuIsDown = false;
    }
    if (mUi.onOptionsItemSelected(item)) {
        // ui callback handled it
        return true;
    }
    switch (item.getItemId()) {
        // -- Main menu
        case R.id.new_tab_menu_id:
            /// M: Open blank webpage for the new tab.
            //openTabToHomePage();
            openTab(GeneralPreferencesFragment.BLANK_URL, false, true, false);
            break;

        case R.id.close_other_tabs_id:
            closeOtherTabs();
            break;

        case R.id.goto_menu_id:
            editUrl();
            break;

        case R.id.bookmarks_menu_id:
            bookmarksOrHistoryPicker(ComboViews.Bookmarks);
            break;

        case R.id.history_menu_id:
            bookmarksOrHistoryPicker(ComboViews.History);
            break;

        case R.id.snapshots_menu_id:
```

5.2 Add or edit context menu

If you long press on hyperlink, image, phone number, geo etc, context menu will show.Like the picture below:

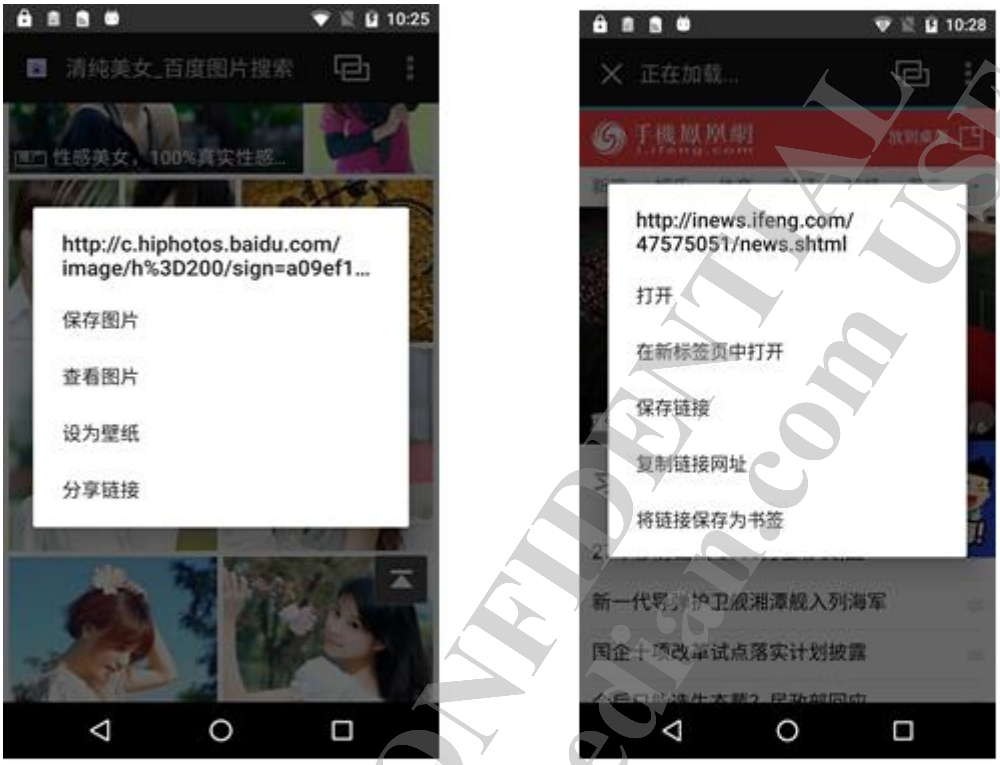


Figure 5-2. Context menu of image (Left) Context menu of hyperlink (Right)

5.2.1 Modify resource file

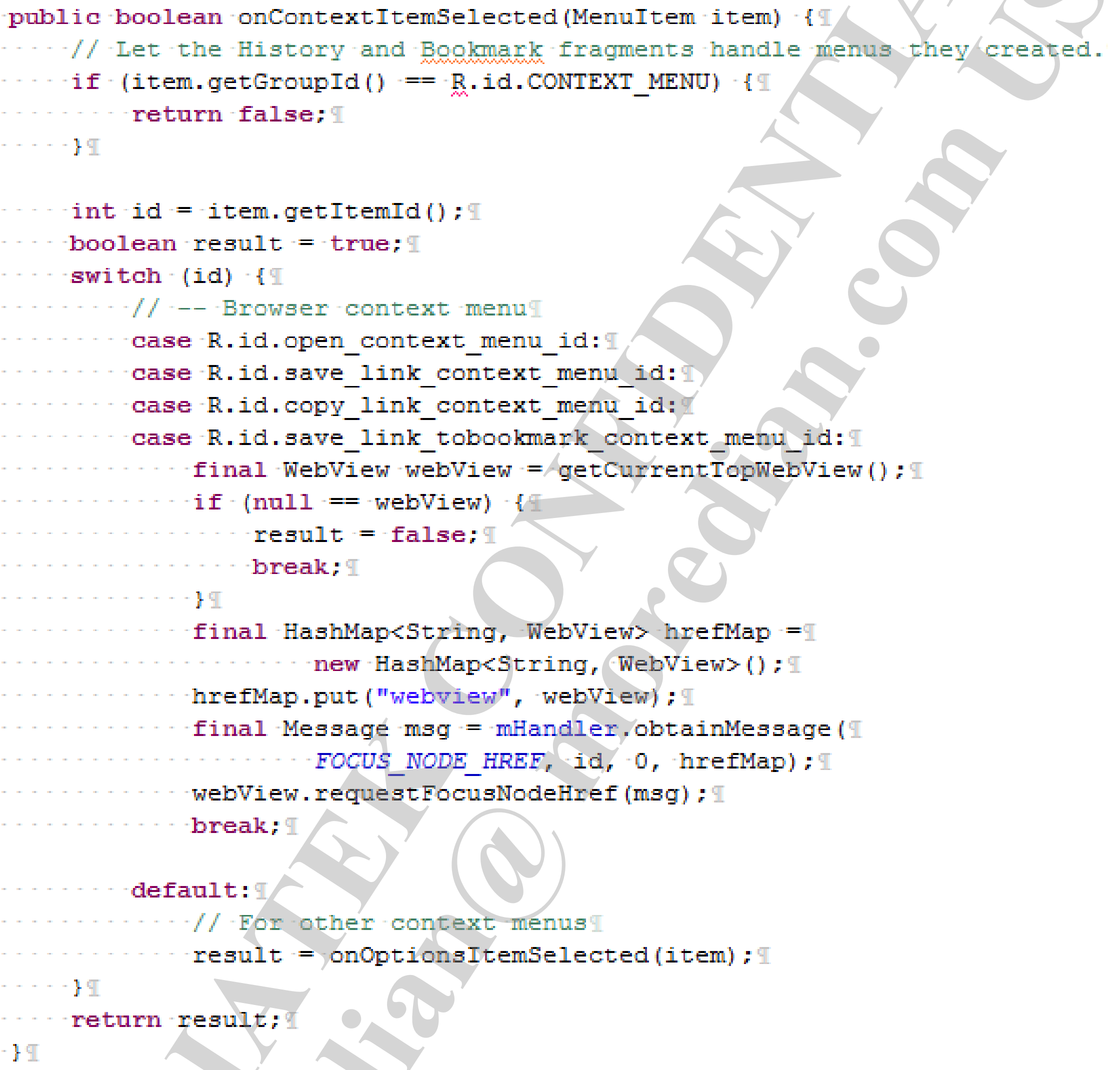
To modify the text of context menu or item order, you can find related code as follows (res/menu/browsercontext.xml):

```
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <group android:id="@+id/PHONE_MENU">
        <item android:id="@+id/dial_context_menu_id"
            android:title="@string/contextmenu_dial_dot"/>
        <item android:id="@+id/add_contact_context_menu_id"
            android:title="@string/contextmenu_add_contact"/>
        <item android:id="@+id/copy_phone_context_menu_id"
            android:title="@string/contextmenu_copy"/>
    </group>
    <group android:id="@+id/NO_PHONE_MENU">
        <item android:id="@+id/add_contact_no_phone_context_menu_id"
            android:title="@string/contextmenu_add_contact"/>
        <item android:id="@+id/copy_no_phone_context_menu_id"
            android:title="@string/contextmenu_copy"/>
    </group>
    <group android:id="@+id/EMAIL_MENU">
        <item android:id="@+id/email_context_menu_id"
            android:title="@string/contextmenu_send_mail"/>
        <item android:id="@+id/copy_mail_context_menu_id"
            android:title="@string/contextmenu_copy"/>
    </group>
```

5.2.2 Add contex menu function

The next step, we have to add function which will be called when menu item is pressed.

You can find related code as follows (src/com/android/browser/Controller.java)



```
public boolean onContextItemSelected(MenuItem item) {
    // Let the History and Bookmark fragments handle menus they created.
    if (item.getGroupId() == R.id.CONTEXT_MENU) {
        return false;
    }

    int id = item.getItemId();
    boolean result = true;
    switch (id) {
        // -- Browser context menu
        case R.id.open_context_menu_id:
        case R.id.save_link_context_menu_id:
        case R.id.copy_link_context_menu_id:
        case R.id.save_link_tobookmark_context_menu_id:
            final WebView webView = getCurrentTopWebView();
            if (null == webView) {
                result = false;
                break;
            }
            final HashMap<String, WebView> hrefMap =
                    new HashMap<String, WebView>();
            hrefMap.put("webview", webView);
            final Message msg = mHandler.obtainMessage(
                    FOCUS_NODE_HREF, id, 0, hrefMap);
            webView.requestFocusNodeHref(msg);
            break;

        default:
            // For other context menus
            result = onOptionsItemSelected(item);
    }
    return result;
}
```

5.3 Add or edit built-in bookmark

There are two types of bookmarks in Browser: open market bookmarks and operator bookmarks

5.3.1 Add or edit open market bookmarks

To edit open market bookmarks, you can edit following files:

1, Edit <string-array name=”bookmarks”> in the res/values/strings.xml, add a bookmark. If you define other languages please also modify res/value-xxx/string.xml file.

Item 1 is bookmark name; item 2 is url.

```
    <string-array name="bookmarks">
             … …
         <item>Google</item>
         <item>http://www.google.com/</item>
    </string-array>
```

2, Prepare screenshot (135*120) and icon (48*48) for a bookmark, and add them into the res/raw folder.

Following picture shows the display of screen shot and icon.

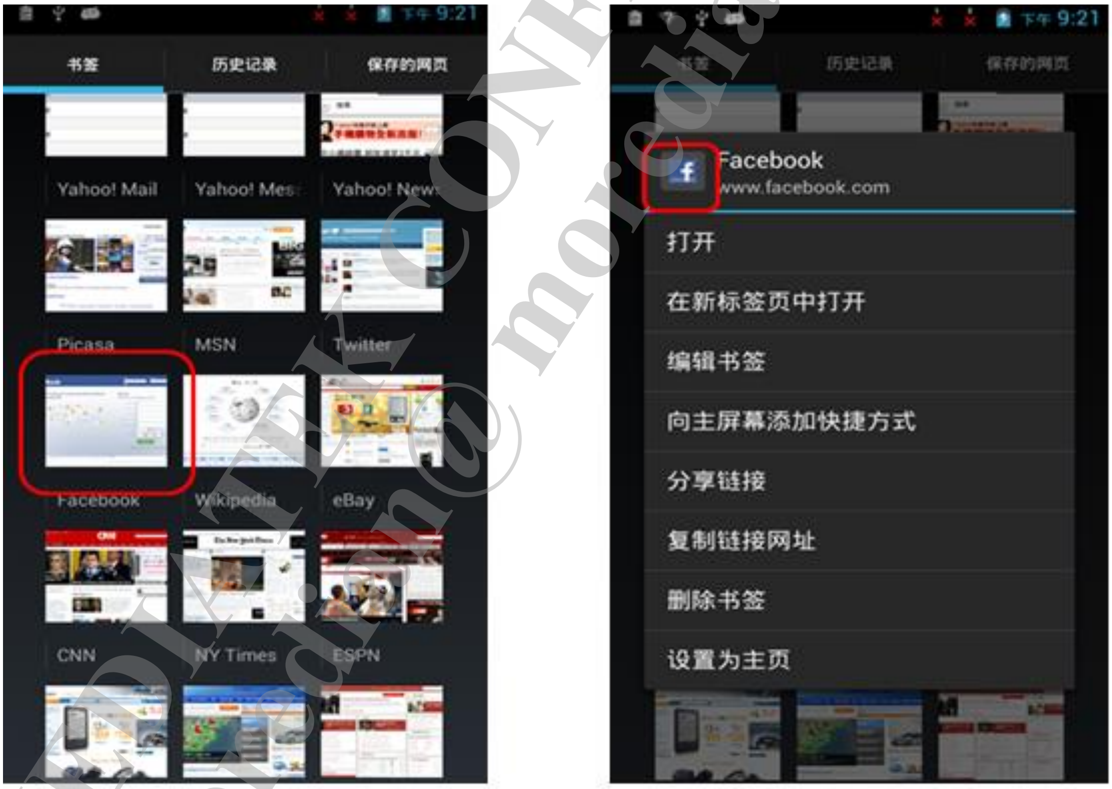


Figure 5-3. Open market bookmarks

3, Edit <array name=”bookmark_preloads”> in the res/values/bookmarks_icons.xml,

add screenshot and icon for a bookmark.

Item 1 is icon; item 2 is screenshot

```
    <array name="bookmark_preloads">
```

```
             … …
         <item>@raw/favicon_google</item>
         <item>@raw/thumb_google</item>
    </array>
```

5.3.2 Add or edit operator bookmarks

To edit operator bookmarks, you can edit following files:

1, Edit bookmark array <bookmarks_for_op0x> in the mediate/operator/OP0x/packages/apps/Plugins/res/values/strings.xml

For CMCC: OP01, CU: OP02, CT: OP09,

If you define other languages please also modify res/value-xxx/string.xml file.

```
    <string-array name="bookmarks_for_op01">
             … …
         <item>移动MM</item>
         <item>http://mm.10086.cn/</item>
    </string-array>
```

2, Prepare screenshot (135*120) and icon (48*48) for a bookmark, and add them into the res/raw folder.

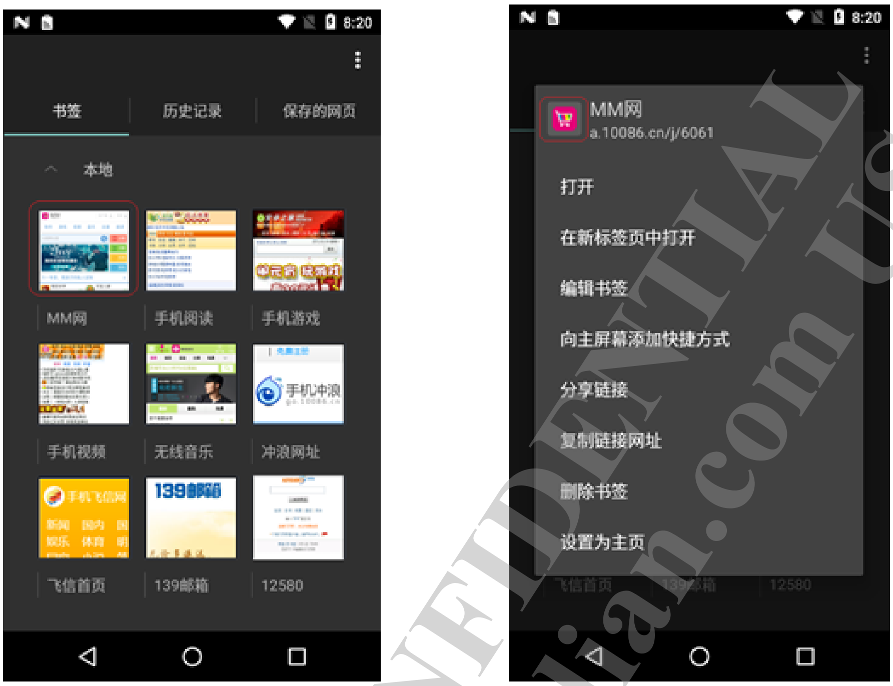


Figure 5-4. Operator Bookmarks

3, Edit <array name="bookmark_preloads_op0x"> in the res/values/bookmarks_icons.xml, (For CMCC: OP01, CU: OP02, CT: OP09)

add screenshot and icon for a bookmark.

Item 1 is icon; item 2 is screenshot

```
    <array name="bookmark_preloads_for_op01">
              … …
         <item>@raw/favicon_10086</item>
         <item>@raw/thumb_10086</item>
    </array>
```

5.4 Set homepage

There are 3 situation to edit default homepage.

If your project support site navigation feature (BrowserFeatureOption.BROWSER_SITE_NAVIGATION_SUPPORT = true), you can modify res/values/mtk_strings.xml

```
    <string name="homepage_base_site_navigation" translatable = "false">
        http://www.homepage.com/
    </string>
```

If your project doesn’t support site navigation feature (BrowserFeatureOption.BROWSER_SITE_NAVIGATION_SUPPORT = false), you can modify res/values/strings.xml

```
    <string name="homepage_base" translatable = “false”>
        http://www.homepage.com/
    </string>
```

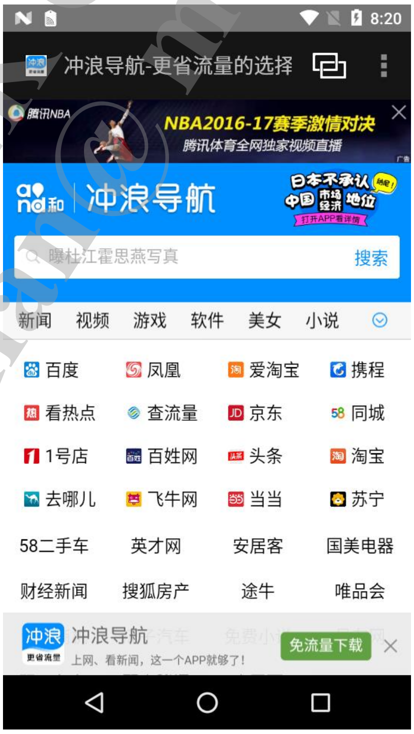
If your project is a operator version, please modify the getCustomerHomepage() method in the operator plug-in.

For example, we modify the homepage for CMCC version.

Modify getCustomerHomepage() in the file mediate/operator/OP01/packages/apps/Plugins/src/com/mediate/browser/plugin/Op01BrowserSmallFeatureEx.java

```
     Public String getCustomerHomepage(){
         Return getResources().getString(R.string.xxx);
    }
```

Note: define R.string.xxx in the mediate/operator/OP01/packages/apps/Plugins/res/values/strings.xml



百度	凤凰	爱淘宝	携程
看热点	查流量	京东	同城
1号店	百姓网	头条	淘宝
去哪儿	飞牛网	当当	苏宁
58二手车	英才网	安居客	国美电器
财经新闻	搜狐房产	途牛	唯品会

Figure 5-5. Operator homepage