UML Class Diagram

«interface»
DownloadDialogFragment.DownloadDialogListener

«interface»
BiometricAuthenticationDialogFragment.BiometricAuthenticationListener

«interface»
View.onClickListener

{abstract}
WebFragment

«interface»
LifecycleObserver

«interface»
View.OnLongClickListener

«interface»
CoroutineScope

{abstract}
LocaleAwareFragment

«interface»
SharedPreferences.OnSharedPreferenceChangeListener

BrowserFragment

- pendingDownload: Download?
- backgroundTransitionGroup: TransitionDrawableGroup?
- urlView: TextView?
- progressView: AnimatedProgressBar?
- blockView: FrameLayout?
- securityView: ImageView?
- menuView: ImageButton?
- statusBar: View?
- urlBar: View?
- popupTint: FrameLayout?
- swipeRefresh: SwipeRefreshLayout?
- menuWeakReference: WeakReference<BrowserMenu>?
- videoContainer: ViewGroup?
- isFullscreen: Boolean
- browserContainer: View?
- forwardButton: View?
- backButton: View?
- refreshButton: View?
- stopButton: View?
- findInPageView: View?
- findInPageViewHeight: Int
- findInPageQuery: TextView?
- findInPageResultTextView: TextView?
- findInPageNext: ImageButton?
- findInPagePrevious: ImageButton?
- findInPageCoordinator: FindInPageCoordinator
- closeFindInPage: ImageButton?
- fullscreenCallback: IWebView.FullscreenCallback?
- manager: DownloadManager?
- downloadBroadcastReceiver: DownloadBroadcastReceiver?
- biometricController: BiometricAuthenticationHandler?
- job: CompletableJob
+ coroutineContext: CoroutineContext
+ url: String
+ openedFromExternalLink: Boolean
+ session: Session
+ initialUrl: String?
- sessionObserver: Observer

+ onCreate(savedInstanceState: Bundle?): Unit
+ onPause(): Unit
+ onStop(): Unit
+ onResume(): Unit
+ inflateLayout(inflater:: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?): View
+ onViewCreated(view: View, savedInstanceState: Bundle?): Unit
- initialiseNormalBrowserUi(view: View): Unit
- initialiseCustomTabUi(view: View): Unit
+ onSaveInstanceState(outState: Bundle): Unit
+ createCallback(): Callback
- isDownloadFromLongPressImage(download: Download): Boolean
- switchToImmersiveMode(): Unit
- exitImmersiveModeIfNeeded(): unit
- onDestroy(): Unit
+ onRequestPermissionsResult(requestCode: Int, permissions: Array<String>, grantResults: IntArray):: Unit
~ showDownloadPromptDialog(download: Download): Unit
- showCrashReporter(crash: Crash): Unit
- hideCrashReporter(): Unit
+ crashReporterIsVisible(): Boolean
~ showAddToHomeScreenDialog(url: String, title: String): Unit
+ onFinishDownloadDialog(download: Download?, shouldDownload: Boolean): Unit
+ biometricCreateNewSessionWithLink(): Unit
+ biometricCreateNewSession(): Unit
+ onAuthSuccess(): Unit
+ onCreateViewCalled(): Unit
- displayBiometricPromptIfNeeded(): Unit
- queueDownload(download: Download?): Unit
+ onBackPressed(): Boolean
+ erase(): Unit
- shareCurrentUrl(): Unit
+ onClick(View): Unit
- updateToolbarButtonStates(Boolean): Unit
+ canGoForward(): Boolean
+ canGoBack(): Boolean
+ goBack(): Unit?
+ loadUrl(url: String): Unit
+ reload(): Unit
+ setBlockingUI(enabled: Boolean): Unit
+ setShouldRequestDesktop(enabled: Boolean): Unit
- showSecurityPopUp(): Unit
+ updateBlockingBadging(enabled: Boolean): Unit
+ onLongClick(view: View): Boolean
+ showFindInPage(): Unit
- hideFindInpage(): Unit
+ applyLocale(): Unit
- updateSecurityIcon(session: Session, securityInfo: SecurityInfo): Unit
- updateFindInPageResult(activeMatchOrdinal: Int, numbeOfMatches: Int)
+ handleTabCrash(crash: Crash): Unit

UrlInputFragment

- job: CompletableJob
+ coroutineContext: CoroutineContext
- shippedDomainsProvider: ShippedDomainsProvider
- customDomainsProvider: CustomDomainsProvider
- displayedPopupMenu: HomeMenu?
- session: Session?

+ onCreate(Bundle?): void
+ onActivityCreated(Bundle?): void
+ onResume(): void
+ onPause(): void
- updateTipsLabel(): void
- updateSubtitle(Tip?): void
- showFocusSubtitle(): void
+ onCreateView(LayoutInflater, ViewGroup?, Bundle?): View?
+ onViewCreated(View, Bundle?): void
+ onConfigurationChanged(Configuration?): void
+ onClick(View): void
+ addUrlToAutocomplete(String): void
+ onCommit(): void
- normalizeUrlAndSearchTerms(String): Triple<boolean, String, String?>
- onSearch(String, boolean, boolean): void
- openUrl(String, String?): void
- onFilter(String): void
- onTextChange(String, String): void

Companion

+ FRAGMENT_TAG: String
- duckDuckGo: String
- searchSuggestionsViewModel: SearchSuggestionsViewModel

+ createWithoutSession: UrlInputFragment
+ createWithSession(Session, View): UrlInputFragment
+ createWithBackground(): UrlInputFragment

SwitchPreferenceCompat

PrivacySecuritySettingsFragment

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onPause(): void
+ onSharedPreferenceChanged(SharedPreference, String): void
+ onPreferenceTreeClick(Preference): boolean
- updateBiometricsToggleAvailability(): void
- updateExceptionSettingAvailability(): void
- updateStealthToggleAvailability(): void

Companion

+ FRAGMENT_TAG: String

+ newInstance(): PrivacySecuritySettingsFragment

«interface»
SharedPreferences.OnSharedPreferenceChangeListener

{abstract}
PreferenceFragmentCompat

<<Interface>>
ActionBarUpdater

+ updateTitle(int): void
+ updateIcon(int): void

LearnMoreSwitchPreference

+ LearnMoreSwitchPreference(Context, AttributeSet)
+ onBindViewHolder(PreferenceViewHolder): void
+ getDescription(): String?
+ getLearnMoreUrl(): String

SafeBrowsingSwitchPreference

+ SafeBrowsingSwitchPreference(Context, AttributeSet)
+ getLearnMoreUrl(): String

{abstract}
BaseSettingsFragment

+ onViewCreated(View, Bundle): void
+ onAttach(Context): void
# getActionBarUpdater(): ActionBarUpdater
# navigateToFragment(Fragment): void

MozillaSettingsFragment

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onPause(): void
+ onPreferenceTreeClick(Preference): boolean
+ onSharedPreferenceChanged(SharedPreferences, String): void

Companion

+ newInstance(): MozillaSettingsFragment

AdvancedSettingsFragment

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onPause(): void
+ onSharedPreferenceChanged(SharedPreferences, String):

Companion

+ newInstance(): AdvancedSettingsFragment

GeneralSettingsFragment

- localUpdated: boolean
- progress: FrameLayout

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onPause(): void
+ onSharedPreferenceChanged(SharedPreferences, String): void
+ onDisplayPreferenceDialog(Preference): void
- hideLoading(): void
- showLoading(ViewGroup): void

Companion

+ newInstance(): GeneralSettingsFragment

InstalledSearchEnginesSettingsFragment

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onCreateOptionsMenu(Menu, MenuInflater): void
+ onPrepareOptionsMenu(Menu): void
+ onOptionsItemSelected(MenuItem): boolean
- restoreSearchEngines(): void
+ onPreferenceTreeClick(Preference): boolean
- refetchSearchEngines(): void

Companion

+ languageChanged: boolean

+ newInstance(): InstalledSearchEnginesSettingsFragment

ManualAddSearchEngineSettingsFragment

- activeAsyncTask: AsyncTask<Void, Void, Boolean>?
- menuItemForActiveAsyncTask: MenuItem?
- handler: Handler

+ onCreatePreferences(Bundle, String): void
+ onResume(): void
+ onPause(): void
+ onCreateOptionsMenu(Menu, MenuInflater): void
+ onOptionsItemSelected(MenuItem): boolean
+ onDestoryView(): void
- setUiIsValidatingAsync(boolean, MenuItem?): void
- enableAllSubviews(boolean, ViewGroup): void
- findManualAddSearchEnginePreference(int): ManualAddSearchEnginePreference

Companion

- LOGTAG: String
- SEARCH_QUERY_VALIDATION_TIMEOUT_MILLIS: int
- VALID_RESPONSE_CODE_UPPER_BOUND: int
- DISABLED_ALPHA: Float
- LOADING_INDICATOR_DELAY: Long

+ isValidSearchQueryURL(String): boolean

ValidateSearchEngineAsyncTask

- engineName: String
- query: String
- fragmentWeakReference: WeakReference

+ ValidateSearchEngineAsyncTask(ManualAddSearchEngineSettingsFragment, String, String)
# doInBackground(Void?): boolean
# onPostExecute(boolean): void
- showServerError(ManualAddSearchEngineSettingsFragment): void

Biometrics

+ hasFingerprintHardware(Context): boolean
+ isBiometricsEnabled(Context): boolean

AppCompatDialogFragment

«interface»
LifecycleObserver

{abstract}
FingerprintManagerCompat.AuthenticationCallback

BiometricAuthenticationDialogFragment

+ openedFromExternalLink: boolean

+ newSessionButton: Button?

+ onCreate(Bundle?): void
+ onCancel(DialogInterface): void
+ onCreateView(LayoutInflater, ViewGroup?, Bundle?): View
+ onResume(): void
- biometricNewSessionButtonClicked(): void
+ dispalyError(): void
+ onAuthenticated(): void
+ onFailure(): void
+ updateNewSessionButton(): void
- resetErrorText(): void

BiometricAuthenticationHandler

- fingerprintManager: FingerprintManagerCompat
- cancellationSignal: CancellationSignal?
- selfCancelled: boolean
- keyStore: KeyStore?
- keyGenerator: KeyGenerator?
- cryptoObject: CryptoObject?
- needsAuth: boolean
- biometricFragment: BiometricAuthenticationDialogFragment?

+ BiometricAuthenticationHandler(Context)
- initCipher(Cipher, String): boolean
- createKey(String, boolean?): boolean
- startListening(CryptoObject, boolean): void
+ stopListening(): void
+ startAuthentication(boolean): void
+ onAuthenticationError(int, CharSequence?): void
+ onAuthenticationSucceeded(AuthenticationResult?): void
+ onAuthenticationHelp(int, CharSequence?): void
+ onAuthenticationFailed(): void
+ onPause(): void

Companion

+ FRAGMENT_TAG: String

<<Interface>>
BiometricAuthenticationListener

+ biometricCreateNewSession(): void
+ onAuthSuccess(): void
+ biometricCreateNewSessionWithLink(): void

Companion

- DEFAULT_KEY_NAME

Fragment

CoroutineScope

Preference

AutocompleteListFragment

- job: CompletableJob
+ coroutineContext: CoroutineContext
+ itemTouchHelper: ItemTouchHelper

+ onCreate(savedInstanceState: Bundle?): Unit
+ isSelectionMode(): Boolean
+ onCreateView(inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?): View
+ onViewCreated(view: View, savedInstanceBundle: Bundle?): View
+ onResume(): Unit
+ onPause(): Unit
+ onCreateOptionsMenu(menu: Menu, inflater: MenuInflater): Unit
+ onPrepareOptionsMenu(Menu): Unit
+ onOptionsItemSelected(MenuItem): Boolean

AutocompletePreference

+ summaryView: TextView?

+ AutocompletePreference(context: Context?, attrs: AttributeSet?)
+ onBindViewHolder(holder: PreferenceViewHolder?): Unit

CustomDomains

AutocompleteRemoveFragment

- job: CompletableJob
+ coroutineContext: CoroutineContext

+ onCreateOptionsMenu(menu: Menu, inflater: MenuInflater): Unit
+ onOptionsItemSelected(MenuItem): Boolean
+ isSelectionMode(): Boolean
- removeSelectedDomains(context: Context): Unit
+ onResume(): Unit
+ onPause(): Unit

AutocompleteAddFragment

- job: CompletableJob
+ coroutineContext: CoroutineContext

+ onCreate(savedInstanceState: Bundle?): Unit
+ onCreateView(inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?): View
+ onViewCreated(view: View, savedInstanceBundle: Bundle?): View
+ onResume(): Unit
+ onPause(): Unit
+ onCreateOptionsMenu(menu: Menu, inflater: MenuInflater): Unit
+ onOptionsItemSelected(MenuItem): Boolean
- saveDomainAndClose(context: Context, domain: String): Unit

AutocompleteDomainFormatter

- HOST_INDEX: Int
- urlMatcher: Regex

+ format(url: String): String

AutocompleteSettingsFragment

+ onCreatePreferences(p0: Bundle?, p1: String?)
+ onPreferenceTreeClick(preference: Preference): Boolean
+ onSharedPreferenceChanged(sharedPreferences: SharedPreferences, key: String?): Unit
+ onResume(): Unit
+ onPause(): Unit

SearchSuggestionsFragment

- job: CompletableJob
+ coroutineContext: CoroutineContext
+ searchSuggestionsViewModel: SearchSuggestionsViewModel

+ onCreate(savedInstanceState: Bundle?): Unit
+ onResume(): Unit
+ onPause(): Unit
+ onActivityCreated(savedInstanceState: Bundle?) : Unit
+ onCreateView(inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bund
+ onViewCreated(view: View, savedInstanceState: Bundle?): View?
- buildEnableSearchSuggestionsSubtitle(): SpannableString

RecyclerView

SuggestionViewHolder

- clickListener: (String) -> Unit
+ suggestionText:: TextView

+ SuggestionViewHolder(itemView: View, clickListener: (String) -> Unit): Unit
+ bind(suggestion: SpannableStringBuilder) :Unit

SuggestionsAdapter

- clickListener: (String) -> Unit
- suggestions: List<SpannableStringBuilder>
- pendingJob: Job?

+ SuggestionsAdapater(clickListener: (String) -> Unit)
+ refresh(suggestions: List<SpannableStringBuilder>: Unit
+ onBindViewHolder(holder: RecyclerView.ViewHolder, position: Int, payloads: MutableList
+ getItemCount(): Int
+ getItemViewType(position: Int): Int
+ onCreateViewHolder(parent: ViewGroup, viewType: Int): RecyclerView.ViewHolder

SearchSuggestionsPreferences

- context: Context
- settings: Settings
- preferences: SharedPreferences!

+ searchSuggestionsEnabled(): Boolean
+ hasUserToggledSearchSuggestions(): Boolean
+ userHasDismissedNoSuggestionsMessage(): Boolean
+ getSearchEngine(): SearchEngine
+ enableSearchSuggestions(): Unit
+ disableSearchSuggestions(): Unit
+ dismissNoSuggestionsMessage(): Unit

SearchSuggestionsFetcher

- job: CompletableJob
+ coroutineContext: CoroutineContext
- client: SearchSuggestionClient?
- httpClient: OkHttpClient
- fetchChannel: Channel<String>
- _results: MutableLiveData<SuggestionResult>
+ results: LiveData<SuggestionResult>
+ canProvideSearchSuggestions: Boolean

+ SearchSuggestionsFetcher(searchEngine: SearchEngine): CoroutineScope
+ requestSuggestions(query: String): Unit
+ updateSearchEngine(searchEngine: SearchEngine): Unit
- getSuggestions(query: String): Job
- fetch(url: String): String?

SuggestionResult

+ query: String
+ suggestions: List<String>

+ SuggestionResult(query: String, suggestions: List<String>): Unit