Augmented Education Website Code

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Chapter 4

Namespace Documentation

4.1 ARFE Namespace Reference

This is the over-arching namespace for all website related code.

Namespaces

- namespace Controllers

  This namespaces is a sub-namespace of the ARFE project namespace specifically for the ASP.NET Controllers.
- namespace Models

  The model classes that contain data representation objects for passing information between the web .cshtml code and the backend server code.
- namespace Tests

  The Main namespace containing unit testing code for the ARFE Web project

Classes

- class ApplicationSignInManager

  Creates a useful interface to the Microsoft.AspNet.Identity.UserManager< TUser > class for easily verifying user accounts with account userName/password verification handling.
- class ApplicationUserManager

  Creates a useful interface to the Microsoft.AspNet.Identity.UserManager< TUser > class for easily registering new user accounts with account parameter verification handling.
- class BlobManager

  This class is for managing all transactions between the AE website and Azure blob storage. All user containers, user blob creation/deletion, blob metadata, blob permissions, and blob listings are handled here.
- class BundleConfig

  Configure all of the javascript and css include bundles. Register these with the entire application for simple inclusion in the .cshtml files.
- class EmailService

  A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via email. This implementation is currently empty as no third party email verification is currently supported.
- class FileConverter

  The FileConverter class serves as an interface between the ASP.NET controllers and other C# classes to File↩ Conversion.exe. This is used throughout the application for managing file compatability and efficiency in both file storage and transfer.

- class FilterConfig

  A class for defining filtered attributes to the ASP.NET web request and response communication. For example, the [RequireHttps] filter could be applied here to demand all traffic is only allowed if is transferred over SSL.
- class MvcApplication
- class RouteConfig

  This class is for defining the valid url rout patterns for the application.
- class SearchQueries

  This class contains all of the linq queries for the search and order functionality.
- class SmsService

  A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via SMS text messaging. This implementation is currently empty as no third party SMS text messaging verification is currently supported.
- class Startup

  The application startup class is called upon launching the application.
- class UploadedFileCache

  A singleton class, constructed via the GetInstance method call. This class serves as a cache for tracking the location, details about, and automatic removal of files that are saved for intermediate storage between being uploaded to Azure blob storage, or converted to some other file type pending a download.

4.1.1 Detailed Description

This is the over-arching namespace for all website related code.

This namespaces is the ARFE project.

4.2 ARFE.Controllers Namespace Reference

This namespaces is a sub-namespace of the ARFE project namespace specifically for the ASP.NET Controllers.

Classes

- class AccountController

  A class derived from the Controller class that has all of the controller actions to manage user accounts.
- class FileTypeModel

  A POCO class for the file type combo box
- class HelpController

  A class derived from the Controller class that has all of the controller actions to dispaly the website's help pages.
- class ManageController

  A class derived from the Controller class that has all of the controller actions to manage user registration and authentication.
- class MobileAuthController

  The MobileAuthController serves as an API to the mobile application. The [Route] attribute allows this Controller to specify that to call any individual controller action within this class, you have to explicitly list the action method in the request URL.
- class PublicContentController

  A class derived from the Controller class that has all of the controller actions to dispaly and interact with the public file content on the website.
- class UploadController

  A class derived from the Controller class that has all of the controller actions to manage user file uploads.
- class UserContentController

  A class derived from the Controller class that has all of the controller actions to dispaly and interact with the user's file content on the website.

Enumerations

- enum **OrderingOption** { **NewestFirst** = 1, **OldestFirst** = 2, **Alphabetical** = 3, **ReverseAlphabetical** = 4 }

4.2.1 Detailed Description

This namespaces is a sub-namespace of the ARFE project namespace specifically for the ASP.NET Controllers.

4.3 ARFE.Models Namespace Reference

The model classes that contain data representation objects for passing information between the web .cshtml code and the backend server code.

Classes

- class AddPhoneNumberViewModel

  A model for registering a phone number to a user acount.
- class ApplicationDbContext

  This class inherits from and can override the Identity default Db that is automatically generated from the ApplicationUser class. If additionaly database fields are needed for the application database tables, they can be added here.
- class ApplicationUser

  This class holds the profile information for a user within the appliation. Profile data for the user can be added by adding more properties to the ApplicationUser class, please visit `https://go.microsoft.com/fwlink/?LinkID=317594` *to learn more.*
- class ChangePasswordViewModel

  A model to change a user's registered account password.
- class ConfigureTwoFactorViewModel

  A model for registering third party two-factor authentication providers. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.
- class ForgotPasswordViewModel

  A model for the user requesting a password reset via their registered email address.
- class IndexViewModel

  A model for returning user login and verification.
- class LoginViewModel

  A model for the user to log in to the website.
- class ManageLoginsViewModel

  A model for viewing and reporting current and past user login information.
- class RegisterViewModel

  A model for registering a new user.
- class ResetPasswordViewModel

  A model to reset a user's password.
- class SendCodeViewModel

  A model for sending a two-factor authentication message through a registered third party two-factor authentication provider.
- class SetPasswordViewModel

  A model for registering a user's password upon account creation.
- class VerifyCodeViewModel

  A model for verifying a two-factor authentication code that has been sent to a user.
- class VerifyPhoneNumberViewModel

  A model for verifying a user's phone number via two-factor authentication. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.

4.3.1 Detailed Description

The model classes that contain data representation objects for passing information between the web .cshtml code and the backend server code.

4.4 ARFE.Tests Namespace Reference

The Main namespace containing unit testing code for the ARFE Web project

Namespaces

- namespace Controllers

  The sub-namespace of the main namespace containing unit testing code for the ARFE Web project. This namespace is for testing the ARFE.Controllers code specifically.

Classes

- class BlobTests

  Unit tests covering the non-Azure-facing functionality of the BlobManager.cs file in ARFE.csproj
- class UploadedFileCacheTests

  Summary description for UploadedFileCacheTests

4.4.1 Detailed Description

The Main namespace containing unit testing code for the ARFE Web project

4.5 ARFE.Tests.Controllers Namespace Reference

The sub-namespace of the main namespace containing unit testing code for the ARFE Web project. This namespace is for testing the ARFE.Controllers code specifically.

Classes

- class HomeControllerTest

4.5.1 Detailed Description

The sub-namespace of the main namespace containing unit testing code for the ARFE Web project. This namespace is for testing the ARFE.Controllers code specifically.

4.6 AuthenticationTokenCache Namespace Reference

The namespace containing all code relating to the in memory cache used for mobile authentication.

Namespaces

- namespace Tests

  The namespace containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

Classes

- class TokenCache

  A class to manage tokens that are associated to user login information. This is used for mobile user authentication by verifying tokens, that the user explicitly requests, to that user's log in credentials. This system of token passing makes for simpler and more secure communication between the mobile application and the web service.

4.6.1 Detailed Description

The namespace containing all code relating to the in memory cache used for mobile authentication.

4.7 AuthenticationTokenCache.Tests Namespace Reference

The namespace containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

Classes

- class TokenCacheTests

  The class containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

4.7.1 Detailed Description

The namespace containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

4.8 Common Namespace Reference

This namespace is for containing all custom objects and methods that should be made publicly available and easily accessible for all other projects within the appliaction.

Classes

- class FileUIInfo

  A class that contains file representation information for displaying information about a user's files to the web interface.
- class SupportedFileTypes

  The list of file type extensions that are supported by the file conversion software that this application uses.

4.8.1 Detailed Description

This namespace is for containing all custom objects and methods that should be made publicly available and easily accessible for all other projects within the appliaction.

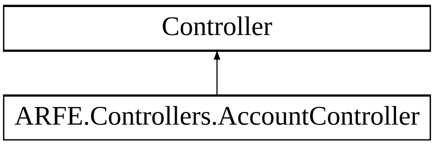
Chapter 5

Class Documentation

5.1 ARFE.Controllers.AccountController Class Reference

A class derived from the Controller class that has all of the controller actions to manage user accounts.

Inheritance diagram for ARFE.Controllers.AccountController:



Classes

- class **ChallengeResult**

Public Member Functions

- AccountController ()

  The default constructor.
- AccountController (ApplicationUserManager userManager, ApplicationSignInManager signInManager)

  An overloaded constructor that takes instances of the class properties as parameters.
- ActionResult Login (string returnUrl)

  The default Login method.
- async Task< ActionResult > Login (LoginViewModel model, string returnUrl)

  The login method that takes the completed login model object as login credentials and parameters.
- async Task< ActionResult > VerifyCode (string provider, string returnUrl, bool rememberMe)

  Third party code verification
- async Task< ActionResult > VerifyCode (VerifyCodeViewModel model)

  Third party code verification.
- ActionResult Register ()

  Register a new user.
- async Task< ActionResult > Register (RegisterViewModel model)

Register a new user.

- async Task< ActionResult > ConfirmEmail (string userId, string code)

  This method currently does nothing without third party email support.
- ActionResult ForgotPassword ()

  This mehtod currently does nothing without third party verification.
- async Task< ActionResult > ForgotPassword (ForgotPasswordViewModel model)

  This method currently does nothing without third party verification.
- ActionResult ForgotPasswordConfirmation ()

  This method currently does nothing without third party verification.
- ActionResult ResetPassword (string code)

  Default password reset view from two-factor auth code.
- async Task< ActionResult > ResetPassword (ResetPasswordViewModel model)

  Reset user password.
- ActionResult ResetPasswordConfirmation ()

  Redirect to a page after password reset
- async Task< ActionResult > SendCode (string returnUrl, bool rememberMe)

  This method currently does nothing without third party verification.
- async Task< ActionResult > SendCode (SendCodeViewModel model)

  This method currently does nothing without third party verification.
- ActionResult LogOff ()

  Log out.

Public Attributes

- ApplicationSignInManager SignInManager => _SignInManager ?? HttpContext.GetOwinContext().Get<ApplicationSignInMana

  A property reference to the ApplicationSignInManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.
- ApplicationUserManager UserManager => _UserManager ?? HttpContext.GetOwinContext().GetUser↩ Manager<ApplicationUserManager>()

  A property reference to the ApplicationUserManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

Protected Member Functions

- override void Dispose (bool disposing)

  Clean up any application resources used by this controller.

5.1.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to manage user accounts.

5.1.2 Constructor & Destructor Documentation

5.1.2.1 AccountController() [1/2]

```
ARFE.Controllers.AccountController.AccountController ( )
```

The default constructor.

5.1.2.2 AccountController() [2/2]

```
ARFE.Controllers.AccountController.AccountController (
            ApplicationUserManager userManager,
            ApplicationSignInManager signInManager )
```

An overloaded constructor that takes instances of the class properties as parameters.

Parameters

userManager	An instance of the ApplicationUserManager class.
signInManager	An instance of the ApplicationSignInManager class.

5.1.3 Member Function Documentation

5.1.3.1 ConfirmEmail()

```
async Task<ActionResult> ARFE.Controllers.AccountController.ConfirmEmail (
            string userId,
            string code )
```

This method currently does nothing without third party email support.

Parameters

user↩ Id	
code	

Returns

5.1.3.2 Dispose()

```
override void ARFE.Controllers.AccountController.Dispose (
            bool disposing )  [protected]
```

Clean up any application resources used by this controller.

Parameters

disposing	should dispose

5.1.3.3 ForgotPassword() [1/2]

```
ActionResult ARFE.Controllers.AccountController.ForgotPassword ( )
```

This mehtod currently does nothing without third party verification.

Returns

5.1.3.4 ForgotPassword() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.ForgotPassword (
            ForgotPasswordViewModel model )
```

This method currently does nothing without third party verification.

Parameters

model	

Returns

5.1.3.5 ForgotPasswordConfirmation()

```
ActionResult ARFE.Controllers.AccountController.ForgotPasswordConfirmation ( )
```

This method currently does nothing without third party verification.

Returns

5.1.3.6 Login() [1/2]

```
ActionResult ARFE.Controllers.AccountController.Login (
            string returnUrl )
```

The default Login method.

Parameters

returnUrl	The page url to redirect to after loggin in.

Returns

A web page redirect to the *returnUrl* address.

5.1.3.7 Login() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.Login (
            LoginViewModel model,
            string returnUrl )
```

The login method that takes the completed login model object as login credentials and parameters.

Parameters

model	The login object with all of the user credentials and parameters.
returnUrl	The page url to redirect to after loggin in.

Returns

A web page redirect to the appropriate page following the login attempt.

5.1.3.8 LogOff()

```
ActionResult ARFE.Controllers.AccountController.LogOff ( )
```

Log out.

Returns

Web page redirect to the Public Content page.

5.1.3.9 Register() [1/2]

```
ActionResult ARFE.Controllers.AccountController.Register ( )
```

Register a new user.

Returns

A web page redirect to the Index page.

5.1.3.10 Register() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.Register (
            RegisterViewModel model )
```

Register a new user.

Parameters

model	The user-provided registration information.

Returns

A web page redirect to the appropriate url after user registration.

5.1.3.11 ResetPassword() [1/2]

```
ActionResult ARFE.Controllers.AccountController.ResetPassword (
            string code )
```

Default password reset view from two-factor auth code.

Parameters

code	Code provided from a two-factor auth provider.

Returns

A web page redirect to the appropriate page.

5.1.3.12 ResetPassword() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.ResetPassword (
            ResetPasswordViewModel model )
```

Reset user password.

Parameters

model	User-provided credentials and password reset.

Returns

A web page redirect to the appropriate confirmation page.

5.1.3.13 ResetPasswordConfirmation()

```
ActionResult ARFE.Controllers.AccountController.ResetPasswordConfirmation ( )
```

Redirect to a page after password reset

Returns

A web page redirect.

5.1.3.14 SendCode() [1/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.SendCode (
            string returnUrl,
            bool rememberMe )
```

This method currently does nothing without third party verification.

Parameters

returnUrl	
rememberMe	

Returns

5.1.3.15 SendCode() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.SendCode (
            SendCodeViewModel model )
```

This method currently does nothing without third party verification.

Parameters

model	

Returns

5.1.3.16 VerifyCode() [1/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.VerifyCode (
            string provider,
            string returnUrl,
            bool rememberMe )
```

Third party code verification

Parameters

provider	The provider name.
returnUrl	The redirect Url.
rememberMe	Remember the logged in user.

Returns

A web page redirect to the *returnUrl* address.

5.1.3.17 VerifyCode() [2/2]

```
async Task<ActionResult> ARFE.Controllers.AccountController.VerifyCode (
            VerifyCodeViewModel model )
```

Third party code verification.

Parameters

model	The user-provided code verification information.

Returns

A web page redirect to the appropriate page after code verification.

5.1.4 Member Data Documentation

5.1.4.1 SignInManager

```
ApplicationSignInManager ARFE.Controllers.AccountController.SignInManager => _SignInManager ??
HttpContext.GetOwinContext().Get<ApplicationSignInManager>()
```

A property reference to the ApplicationSignInManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

5.1.4.2 UserManager

```
ApplicationUserManager ARFE.Controllers.AccountController.UserManager => _UserManager ??  Http↩
Context.GetOwinContext().GetUserManager<ApplicationUserManager>()
```

A property reference to the ApplicationUserManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

The documentation for this class was generated from the following file:

- ARFE/Controllers/AccountController.cs

5.2 ARFE.Models.AddPhoneNumberViewModel Class Reference

A model for registering a phone number to a user acount.

Properties

- string Number `[get, set]`

  The user's newly registered phone number.

5.2.1 Detailed Description

A model for registering a phone number to a user acount.

5.2.2 Property Documentation

5.2.2.1 Number

```
string ARFE.Models.AddPhoneNumberViewModel.Number  [get], [set]
```

The user's newly registered phone number.

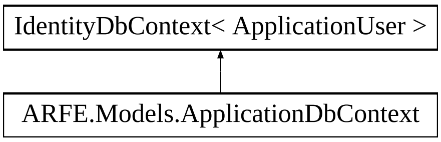
The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.3 ARFE.Models.ApplicationDbContext Class Reference

This class inherits from and can override the Identity default Db that is automatically generated from the ApplicationUser class. If additionaly database fields are needed for the application database tables, they can be added here.

Inheritance diagram for ARFE.Models.ApplicationDbContext:


IdentityDbContext< ApplicationUser >
ARFE.Models.ApplicationDbContext

Public Member Functions

- ApplicationDbContext ()

  Default constructor that creates an instance from the DefaultConnection of the Identity registered Db.

Static Public Member Functions

- static ApplicationDbContext Create ()

  A statically available method to generate a new default instance of this class.

5.3.1 Detailed Description

This class inherits from and can override the Identity default Db that is automatically generated from the ApplicationUser class. If additionaly database fields are needed for the application database tables, they can be added here.

5.3.2 Constructor & Destructor Documentation

5.3.2.1 ApplicationDbContext()

```
ARFE.Models.ApplicationDbContext.ApplicationDbContext ( )
```

Default constructor that creates an instance from the DefaultConnection of the Identity registered Db.

5.3.3 Member Function Documentation

5.3.3.1 Create()

```
static ApplicationDbContext ARFE.Models.ApplicationDbContext.Create ( )  [static]
```

A statically available method to generate a new default instance of this class.

Returns

A new default instance of this class.

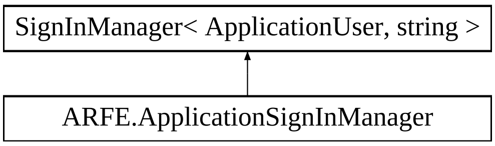
The documentation for this class was generated from the following file:

- ARFE/Models/IdentityModels.cs

5.4 ARFE.ApplicationSignInManager Class Reference

Creates a useful interface to the Microsoft.AspNet.Identity.UserManager<TUser> class for easily verifying user accounts with account userName/password verification handling.

Inheritance diagram for ARFE.ApplicationSignInManager:


SignInManager< ApplicationUser, string >
ARFE.ApplicationSignInManager

Public Member Functions

- ApplicationSignInManager (ApplicationUserManager userManager, IAuthenticationManager authenticationManager)

  Constructor, serves as a pass-through entity to the parent class constructor.
- override Task< ClaimsIdentity > CreateUserIdentityAsync (ApplicationUser user)

  Creates a user identity object that represents a validated user and their credentials.

Static Public Member Functions

- static ApplicationSignInManager Create (IdentityFactoryOptions< ApplicationSignInManager > options, I↩ OwinContext context)

    A method to register a new user sign in validator.

5.4.1 Detailed Description

Creates a useful interface to the Microsoft.AspNet.Identity.UserManager<TUser> class for easily verifying user accounts with account userName/password verification handling.

5.4.2 Constructor & Destructor Documentation

5.4.2.1 ApplicationSignInManager()

```
ARFE.ApplicationSignInManager.ApplicationSignInManager (
            ApplicationUserManager userManager,
            IAuthenticationManager authenticationManager )
```

Constructor, serves as a pass-through entity to the parent class constructor.

Parameters

userManager	A reference to the ApplicationUserManager class.
authenticationManager	An instance of the Microsoft.Owin.Security.IAuthenticationManager class.

5.4.3 Member Function Documentation

5.4.3.1 Create()

```
static ApplicationSignInManager ARFE.ApplicationSignInManager.Create (
            IdentityFactoryOptions< ApplicationSignInManager > options,
            IOwinContext context )  [static]
```

A method to register a new user sign in validator.

Parameters

options	The user configuration option.
context	Serves as the configuration and user verification context.

Returns

A reference to the ApplicationSignInManager class.

5.4.3.2 CreateUserIdentityAsync()

```
override Task<ClaimsIdentity> ARFE.ApplicationSignInManager.CreateUserIdentityAsync (
            ApplicationUser user )
```

Creates a user identity object that represents a validated user and their credentials.

Parameters

user	The registed user to create the identity object for.

Returns

The authenticated user's identity object.

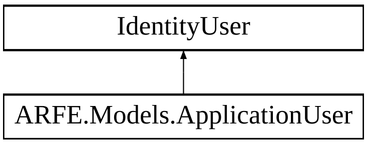
The documentation for this class was generated from the following file:

- ARFE/App_Start/IdentityConfig.cs

5.5 ARFE.Models.ApplicationUser Class Reference

This class holds the profile information for a user within the appliation. Profile data for the user can be added by adding more properties to the ApplicationUser class, please visit https://go.microsoft.com/fwlink/?LinkID=317594 to learn more.

Inheritance diagram for ARFE.Models.ApplicationUser:



Public Member Functions

- async Task< ClaimsIdentity > GenerateUserIdentityAsync (UserManager< ApplicationUser > manager)

  Create and register new users within the application and store their credentials.

5.5.1 Detailed Description

This class holds the profile information for a user within the appliation. Profile data for the user can be added by adding more properties to the ApplicationUser class, please visit https://go.microsoft.com/fwlink/?LinkID=317594 to learn more.

5.5.2 Member Function Documentation

5.5.2.1 GenerateUserIdentityAsync()

```
async Task<ClaimsIdentity> ARFE.Models.ApplicationUser.GenerateUserIdentityAsync (
            UserManager< ApplicationUser > manager )
```

Create and register new users within the application and store their credentials.

Parameters

manager	The class object used for user state interaction and representation.

Returns

A new claim identity for the newly created user.

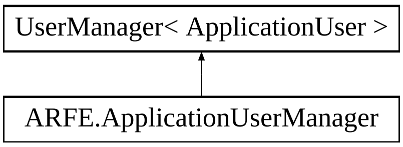
The documentation for this class was generated from the following file:

- ARFE/Models/IdentityModels.cs

5.6 ARFE.ApplicationUserManager Class Reference

Creates a useful interface to the Microsoft.AspNet.Identity.UserManager<TUser> class for easily registering new user accounts with account parameter verification handling.

Inheritance diagram for ARFE.ApplicationUserManager:



Public Member Functions

- ApplicationUserManager (IUserStore< ApplicationUser > store)

  Constructor, serves as a pass-through entity to the parent class constructor.

Static Public Member Functions

- static ApplicationUserManager Create (IdentityFactoryOptions< ApplicationUserManager > options, I↩ OwinContext context)

  A method to register a new user with validated credentials.

5.6.1 Detailed Description

Creates a useful interface to the Microsoft.AspNet.Identity.UserManager<TUser> class for easily registering new user accounts with account parameter verification handling.

5.6.2 Constructor & Destructor Documentation

5.6.2.1 ApplicationUserManager()

```
ARFE.ApplicationUserManager.ApplicationUserManager (
             IUserStore< ApplicationUser > store )
```

Constructor, serves as a pass-through entity to the parent class constructor.

Parameters

store	An instance of Microsoft.AspNet.Identity.IUserStore<TUser>, which serves as the collection of application registered users.

5.6.3 Member Function Documentation

5.6.3.1 Create()

```
static ApplicationUserManager ARFE.ApplicationUserManager.Create (
             IdentityFactoryOptions< ApplicationUserManager > options,
             IOwinContext context )  [static]
```

A method to register a new user with validated credentials.

Parameters

options	The user configuration option.
context	Serves as the configuration and user verification context.

Returns

A reference to the ApplicationUserManager class.

The documentation for this class was generated from the following file:

- ARFE/App_Start/IdentityConfig.cs

5.7 ARFE.BlobManager Class Reference

This class is for managing all transactions between the AE website and Azure blob storage. All user containers, user blob creation/deletion, blob metadata, blob permissions, and blob listings are handled here.

Public Member Functions

- BlobManager ()

  Default constructor. No special parameters or attributes are needed to use this class.
- CloudBlobContainer GetOrCreateBlobContainer (string userName)

  Given the user name, get a reference to the user's associated blob container, or create a container if none exists.
- string FormatBlobContainerName (string userName)

  Azure Blob Containers have a rigid rule set on Container name format. `https://blogs.msdn.microsoft.com/jmstall/2014/06/12/azure-storage-naming-rules/` *Only lowercase letters, numbers, and dashes are allowed. Only one consecutive dash allowed. Dash must be surrounded by numers or letters. Name must be between 3 and 63 characters in length*
- bool UploadBlobToUserContainer (string userName, string fileName, string filePath, string description="", bool overwrite=false)

  Upload a file as a blob to cloud storage in the provided user's blob container.
- bool DeleteBlobByNameInUserContainer (string userName, string blobName)

  Delete a blob by name stored in the user's container. Blob's stored in the public container can only be deleted by the owner (handled by the UI).
- string ConvertAndDownloadBlobFromUserContainer (string userName, string fileName, string requestExtension, string path)

  Attempt to download the requested file from blob storage. If the file does not exist, perform the appropriate file conversion and give a downloadable link to the converted file that matches the user's request.
- List< Uri > ListBlobUrisInUserContainer (string userName)

  Get a list of blob Uris within the blob container for a given user name.
- List< Tuple< string, Uri > > ListBlobNamesToUrisInUserContainer (string userName)

  Get a list of associations of blob names to Uris for a given user name/container.
- bool UploadBlobToPublicContainer (string userName, string fileName, string filePath, string description="", bool overwrite=false)

  Given the current logged in user name and the name of the file to upload, and the local path to the file, upload the file to the public blob container as a new blob owned by the user.
- List< FileUIInfo > ListPrivateBlobInfoForUI (string userName)

  Iterate through all blobs in a given user's container. For each blob get the meta information (blob Name, author name, description, last modify time) about that blob as a POCO (Plain Old C# Object) and create a list of all of the blob's information.
- List< FileUIInfo > ListPublicBlobInfoForUI ()

  Make a call to ListPrivateBlobInfoForUI(string) with the userName "public" to query the public container.
- List< Tuple< string, Uri > > ListBlobNamesToUrisInPublicContainer ()

  Get a list of associations of blob names to Uris within the public container
- List< Uri > ListBlobUrisInPublicContainerOwnedBy (string userName)

  Gets a list of all blob Uris in the public container and filters by the ones that are owned by the provided user name.
- List< Tuple< string, Uri > > ListBlobNamesToUrisInPublicContainerOwnedBy (string userName)

  Get all Uris for blobs owned by the given user name by calling ListBlobUrisInPublicContainerOwnedBy(string). For each Uri. The blob name is the last portion of the string following the last '/' character.

Static Public Member Functions

- static void RemoveExpiredTemporaryBlobs ()

  Lazily delete blobs that are stored as the result of conversion requests. Maintain the small .fbx files but delete the extras as they become old.

5.7.1 Detailed Description

This class is for managing all transactions between the AE website and Azure blob storage. All user containers, user blob creation/deletion, blob metadata, blob permissions, and blob listings are handled here.

5.7.2 Constructor & Destructor Documentation

5.7.2.1 BlobManager()

```
ARFE.BlobManager.BlobManager ( )
```

Default constructor. No special parameters or attributes are needed to use this class.

5.7.3 Member Function Documentation

5.7.3.1 ConvertAndDownloadBlobFromUserContainer()

```
string ARFE.BlobManager.ConvertAndDownloadBlobFromUserContainer (
             string userName,
             string fileName,
             string requestExtension,
             string path )
```

Attempt to download the requested file from blob storage. If the file does not exist, perform the appropriate file conversion and give a downloadable link to the converted file that matches the user's request.

Parameters

userName	The name of the user/blob container for the download request.
fileName	The name of the blob for the download request.
requestExtension	The requested file type.
path	The file path for download/conversion if necessary.

Returns

5.7.3.2 DeleteBlobByNameInUserContainer()

```
bool ARFE.BlobManager.DeleteBlobByNameInUserContainer (
             string userName,
             string blobName )
```

Delete a blob by name stored in the user's container. Blob's stored in the public container can only be deleted by the owner (handled by the UI).

Parameters

userName	The name of the user/container to delete the blob from.
blobName	The name of the blob to delete.

Returns

5.7.3.3 FormatBlobContainerName()

```
string ARFE.BlobManager.FormatBlobContainerName (
             string userName )
```

Azure Blob Containers have a rigid rule set on Container name format. `https://blogs.msdn.microsoft.com/jmstall/2014/06/12/azure-storage-naming-rules/` Only lowercase letters, numbers, and dashes are allowed. Only one consecutive dash allowed. Dash must be surrounded by numers or letters. Name must be between 3 and 63 characters in length

Parameters

userName	Container names are created from the user's user name.

Returns

- string.Empty - The provided name was unsalvageable.
- The appropriately formatted container name.

5.7.3.4 GetOrCreateBlobContainer()

```
CloudBlobContainer ARFE.BlobManager.GetOrCreateBlobContainer (
             string userName )
```

Given the user name, get a reference to the user's associated blob container, or create a container if none exists.

Parameters

userName	The name of the user and associated blob container.

Returns

- The blob container if able to reference or create it.
- Null if unable to reference or create the container.

5.7.3.5 ListBlobNamesToUrisInPublicContainer()

```
List<Tuple<string, Uri> > ARFE.BlobManager.ListBlobNamesToUrisInPublicContainer ( )
```

Get a list of associations of blob names to Uris within the public container

Returns

A list of tuples of blob names and their associated Uris from the public container

5.7.3.6 ListBlobNamesToUrisInPublicContainerOwnedBy()

```
List<Tuple<string, Uri> > ARFE.BlobManager.ListBlobNamesToUrisInPublicContainerOwnedBy (
             string userName )
```

Get all Uris for blobs owned by the given user name by calling ListBlobUrisInPublicContainerOwnedBy(string). For each Uri. The blob name is the last portion of the string following the last '/' character.

Parameters

userName	The name of the user to filter by.

Returns

A list of object pairs of (blob Name, blob Uri) for each blob in the public container owned by the user.

5.7.3.7 ListBlobNamesToUrisInUserContainer()

```
List<Tuple<string, Uri> > ARFE.BlobManager.ListBlobNamesToUrisInUserContainer (
             string userName )
```

Get a list of associations of blob names to Uris for a given user name/container.

Parameters

userName	The user/container name.

Returns

A list of associations of blob names to Uris.

5.7.3.8 ListBlobUrisInPublicContainerOwnedBy()

```
List<Uri> ARFE.BlobManager.ListBlobUrisInPublicContainerOwnedBy (
            string userName )
```

Gets a list of all blob Uris in the public container and filters by the ones that are owned by the provided user name.

Parameters

userName	The name of the owner to filter the list by.

Returns

A list of all Uris to blobs that are owned by the user with the provided user name.

5.7.3.9 ListBlobUrisInUserContainer()

```
List<Uri> ARFE.BlobManager.ListBlobUrisInUserContainer (
            string userName )
```

Get a list of blob Uris within the blob container for a given user name.

Parameters

userName	The user name to look up associated blob Uris.

Returns

The list of blob Uris for the give user.

5.7.3.10 ListPrivateBlobInfoForUI()

```
List<FileUIInfo> ARFE.BlobManager.ListPrivateBlobInfoForUI (
            string userName )
```

Iterate through all blobs in a given user's container. For each blob get the meta information (blob Name, author name, description, last modify time) about that blob as a POCO (Plain Old C# Object) and create a list of all of the blob's information.

Parameters

userName	The name of the user/blob container.

Returns

A list of POCOs containing blob metaData information.

5.7.3.11 ListPublicBlobInfoForUI()

```
List<FileUIInfo> ARFE.BlobManager.ListPublicBlobInfoForUI ( )
```

Make a call to ListPrivateBlobInfoForUI(string) with the userName "public" to query the public container.

Returns

A list of POCOs containing blob metaData information.

5.7.3.12 RemoveExpiredTemporaryBlobs()

```
static void ARFE.BlobManager.RemoveExpiredTemporaryBlobs ( )  [static]
```

Lazily delete blobs that are stored as the result of conversion requests. Maintain the small .fbx files but delete the extras as they become old.

5.7.3.13 UploadBlobToPublicContainer()

```
bool ARFE.BlobManager.UploadBlobToPublicContainer (
             string userName,
             string fileName,
             string filePath,
             string description = "",
             bool overwrite = false )
```

Given the current logged in user name and the name of the file to upload, and the local path to the file, upload the file to the public blob container as a new blob owned by the user.

Parameters

userName	Name of the owner
fileName	Name of the file
filePath	Path to the file

Returns

- True: The file was successfully uploaded.
- False: The file failed to upload.

5.7.3.14 UploadBlobToUserContainer()

```
bool ARFE.BlobManager.UploadBlobToUserContainer (
             string userName,
             string fileName,
             string filePath,
             string description = "",
             bool overwrite = false )
```

Upload a file as a blob to cloud storage in the provided user's blob container.

Parameters

userName	The name of the user and associated blob container.
fileName	The name of the file to upload to blob storage.
filePath	The path to the file to upload to blob storage.
description	The user's description of the file.
overwrite	Whether or not to overwrite any previously existing blobs with the same name.

Returns

The documentation for this class was generated from the following file:

- ARFE/BlobManager.cs

5.8 ARFE.Tests.BlobTests Class Reference

Unit tests covering the non-Azure-facing functionality of the BlobManager.cs file in ARFE.csproj

Public Member Functions

- void Test_Constructor ()

  Test the validity of the using alias at the top of this file (using BlobMan = ARFE.BlobManager;) and the correctness of the constructor of the BlobManager class.
- void Test_FormatBlobContainerName ()

  Test that the method for formatting blob container names follows Microsoft naming procedures available at `https://blogs.msdn.microsoft.com/jmstall/2014/06/12/azure-storage-naming-rules/`

5.8.1 Detailed Description

Unit tests covering the non-Azure-facing functionality of the BlobManager.cs file in ARFE.csproj

Calls to Azure storage are unable to be made from this test project. The BlobManager class is unable to appropriately access the configuration string required from the Web.config file, located at ARFE/Web.config, without the application startup sequence. Azure-facing functionality of the BlobManager.cs file must be manually tested.

5.8.2 Member Function Documentation

5.8.2.1 Test_Constructor()

```
void ARFE.Tests.BlobTests.Test_Constructor ( )
```

Test the validity of the using alias at the top of this file (using BlobMan = ARFE.BlobManager;) and the correctness of the constructor of the BlobManager class.

5.8.2.2 Test_FormatBlobContainerName()

```
void ARFE.Tests.BlobTests.Test_FormatBlobContainerName ( )
```

Test that the method for formatting blob container names follows Microsoft naming procedures available at `https://blogs.msdn.microsoft.com/jmstall/2014/06/12/azure-storage-naming-rules/`

The documentation for this class was generated from the following file:

- ARFE.Tests/BlobTests.cs

5.9 ARFE.BundleConfig Class Reference

Configure all of the javascript and css include bundles. Register these with the entire application for simple inclusion in the .cshtml files.

Static Public Member Functions

- static void RegisterBundles (BundleCollection bundles)

  The collection of script bundles to register with the application. For more information on bundling, visit `https://go.microsoft.com/fwlink/?LinkId=301862`

5.9.1 Detailed Description

Configure all of the javascript and css include bundles. Register these with the entire application for simple inclusion in the .cshtml files.

5.9.2 Member Function Documentation

5.9.2.1 RegisterBundles()

```
static void ARFE.BundleConfig.RegisterBundles (
            BundleCollection bundles )  [static]
```

The collection of script bundles to register with the application. For more information on bundling, visit https://go.microsoft.com/fwlink/?LinkId=301862

Parameters

bundles	

The documentation for this class was generated from the following file:

- ARFE/App_Start/BundleConfig.cs

5.10 ARFE.Models.ChangePasswordViewModel Class Reference

A model to change a user's registered account password.

Properties

- string OldPassword `[get, set]`

  The property field for the user's current password that they are changing.
- string NewPassword `[get, set]`

  The property field for the user's new password that they wish to set.
- string ConfirmPassword `[get, set]`

  The property field for the confirmed re-entry of the user's new password that they wish to set.

5.10.1 Detailed Description

A model to change a user's registered account password.

5.10.2 Property Documentation

5.10.2.1 ConfirmPassword

```
string ARFE.Models.ChangePasswordViewModel.ConfirmPassword  [get], [set]
```

The property field for the confirmed re-entry of the user's new password that they wish to set.

5.10.2.2 NewPassword

```
string ARFE.Models.ChangePasswordViewModel.NewPassword  [get], [set]
```

The property field for the user's new password that they wish to set.

5.10.2.3 OldPassword

```
string ARFE.Models.ChangePasswordViewModel.OldPassword  [get], [set]
```

The property field for the user's current password that they are changing.

The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.11 ARFE.Models.ConfigureTwoFactorViewModel Class Reference

A model for registering third party two-factor authentication providers. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.

Properties

- string SelectedProvider `[get, set]`

  The name of the third party two-fator authentication provider.
- ICollection< System.Web.Mvc.SelectListItem > Providers `[get, set]`

  A List of third party two-fator authentication provider that can be used as a combo-box for user selection on a web page UI.

5.11.1 Detailed Description

A model for registering third party two-factor authentication providers. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.

5.11.2 Property Documentation

5.11.2.1 Providers

```
ICollection<System.Web.Mvc.SelectListItem> ARFE.Models.ConfigureTwoFactorViewModel.Providers
[get], [set]
```

A List of third party two-fator authentication provider that can be used as a combo-box for user selection on a web page UI.

5.11.2.2 SelectedProvider

```
string ARFE.Models.ConfigureTwoFactorViewModel.SelectedProvider  [get], [set]
```

The name of the third party two-fator authentication provider.

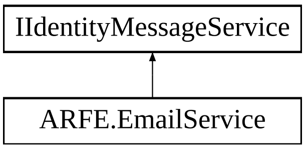
The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.12 ARFE.EmailService Class Reference

A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via email. This implementation is currently empty as no third party email verification is currently supported.

Inheritance diagram for ARFE.EmailService:



Public Member Functions

- Task SendAsync (IdentityMessage message)

  This method is required to be overwritten by the inheritance pattern of the Microsoft.AspNet.Identity.IIdentity←MessageService class. As no third party email verification is currently supported, the method just returns 0 to the caller.

5.12.1 Detailed Description

A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via email. This implementation is currently empty as no third party email verification is currently supported.

5.12.2 Member Function Documentation

5.12.2.1 SendAsync()

```
Task ARFE.EmailService.SendAsync (
             IdentityMessage message )
```

This method is required to be overwritten by the inheritance pattern of the Microsoft.AspNet.Identity.IIdentity←MessageService class. As no third party email verification is currently supported, the method just returns 0 to the caller.

Parameters

message	The message to send via the registered email provider.

Returns

0

The documentation for this class was generated from the following file:

- ARFE/App_Start/IdentityConfig.cs

5.13 ARFE.FileConverter Class Reference

The FileConverter class serves as an interface between the ASP.NET controllers and other C# classes to File←Conversion.exe. This is used throughout the application for managing file compatability and efficiency in both file storage and transfer.

Public Member Functions

- FileConverter (string inputFolder, string outputFolder)

  Public constructor that requires parameters for both the file path location of the file to convert and the file path location for the files produced by the conversion process.
- bool ConvertToFBX (string fileName)

  First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .fbx file.
- bool ConvertToDAE (string fileName)

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .dae file.

- bool ConvertToOBJ (string fileName)

  First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .obj file.
- bool ConvertToSTL (string fileName)

  First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .stl file.
- bool ConvertToPLY (string fileName)

  First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .ply file.

Public Attributes

- string InputFolder => _InputFolder

  Public read-only property defined with an expression-bodied member. The property is the file path location of the file to convert.
- string OutputFolder => _OutputFolder

  Public read-only property defined with an expression-bodied member. The property is the file path location of the files produced by the conversion process.
- string BasePath => _AppDomainPath

  Public read-only property defined with an expression-bodied member. The property is the base directory of the AppDomainPath.

5.13.1 Detailed Description

The FileConverter class serves as an interface between the ASP.NET controllers and other C# classes to File↩ Conversion.exe. This is used throughout the application for managing file compatability and efficiency in both file storage and transfer.

5.13.2 Constructor & Destructor Documentation

5.13.2.1 FileConverter()

```
ARFE.FileConverter.FileConverter (
             string inputFolder,
             string outputFolder )
```

Public constructor that requires parameters for both the file path location of the file to convert and the file path location for the files produced by the conversion process.

Parameters

inputFolder	The file path location of the file to convert.
outputFolder	The file path location for the files produced by the conversion process.

5.13.3 Member Function Documentation

5.13.3.1 ConvertToDAE()

```
bool ARFE.FileConverter.ConvertToDAE (
            string fileName )
```

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .dae file.

Parameters

fileName	The name of the file to convert in the InputFolder directory.

Returns

- True: The file was converted successfully.
- False: The file was not converted successfully.

5.13.3.2 ConvertToFBX()

```
bool ARFE.FileConverter.ConvertToFBX (
            string fileName )
```

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .fbx file.

Parameters

fileName	The name of the file to convert in the InputFolder directory.

Returns

- True: The file was converted successfully.
- False: The file was not converted successfully.

5.13.3.3 ConvertToOBJ()

```
bool ARFE.FileConverter.ConvertToOBJ (
            string fileName )
```

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .obj file.

Parameters

fileName	The name of the file to convert in the InputFolder directory.

Returns

- True: The file was converted successfully.
- False: The file was not converted successfully.

5.13.3.4 ConvertToPLY()

```
bool ARFE.FileConverter.ConvertToPLY (
             string fileName )
```

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .ply file.

Parameters

fileName	The name of the file to convert in the InputFolder directory.

Returns

- True: The file was converted successfully.
- False: The file was not converted successfully.

5.13.3.5 ConvertToSTL()

```
bool ARFE.FileConverter.ConvertToSTL (
             string fileName )
```

First checks if the file is of a supported type, by calling ValidateExtension(string). If the file type is supported, a call to FileConversion.exe is made to convert the file to a .stl file.

Parameters

fileName	The name of the file to convert in the InputFolder directory.

Returns

- True: The file was converted successfully.
- False: The file was not converted successfully.

5.13.4 Member Data Documentation

5.13.4.1 BasePath

```
string ARFE.FileConverter.BasePath => _AppDomainPath
```

Public read-only property defined with an expression-bodied member. The property is the base directory of the AppDomainPath.

5.13.4.2 InputFolder

```
string ARFE.FileConverter.InputFolder => _InputFolder
```

Public read-only property defined with an expression-bodied member. The property is the file path location of the file to convert.

5.13.4.3 OutputFolder

```
string ARFE.FileConverter.OutputFolder => _OutputFolder
```

Public read-only property defined with an expression-bodied member. The property is the file path location of the files produced by the conversion process.

The documentation for this class was generated from the following file:

- ARFE/FileConverter.cs

5.14 FileTypeModel Class Reference

Properties

- string **FileType** `[get, set]`
- IEnumerable< SelectListItem > **FileTypes** `[get, set]`

The documentation for this class was generated from the following file:

- ARFE/Controllers/PublicContentController.cs

5.15 ARFE.Controllers.FileTypeModel Class Reference

A POCO class for the file type combo box

Properties

- string FileType `[get, set]`

  The selected file type
- List< SelectListItem > FileTypes `[get, set]`

  The list of file type options.

5.15.1 Detailed Description

A POCO class for the file type combo box

5.15.2 Property Documentation

5.15.2.1 FileType

```
string ARFE.Controllers.FileTypeModel.FileType  [get], [set]
```

The selected file type

5.15.2.2 FileTypes

```
List<SelectListItem> ARFE.Controllers.FileTypeModel.FileTypes  [get], [set]
```

The list of file type options.

The documentation for this class was generated from the following file:

- ARFE/Controllers/UserContentController.cs

5.16 Common.FileUIInfo Class Reference

A class that contains file representation information for displaying information about a user's files to the web interface.

Public Member Functions

- FileUIInfo (string fileName="", string author="", string description="", DateTime uploaded=new DateTime())

  A constructor that takes any or all parameters to fill the defining object properties.

Properties

- string FileName `[get, set]`

  The name of the file.
- string Author `[get, set]`

  The name of the owner of the file.
- string Description `[get, set]`

  The user-provided description of the file.
- DateTime UploadDate `[get, set]`

  The UTC time when the file was uploaded to Azure Blob storage.

5.16.1 Detailed Description

A class that contains file representation information for displaying information about a user's files to the web interface.

5.16.2 Constructor & Destructor Documentation

5.16.2.1 FileUIInfo()

```
Common.FileUIInfo.FileUIInfo (
            string fileName = "",
            string author = "",
            string description = "",
            DateTime uploaded = new DateTime() )
```

A constructor that takes any or all parameters to fill the defining object properties.

Parameters

fileName	The name of the file. The default value is empty.
author	The name of the owner of the file. the default value is empty.
description	The user-provided description of the file. The default value is empty.
uploaded	The UTC time when the file was uploaded to Azure Blob storage.

5.16.3 Property Documentation

5.16.3.1 Author

```
string Common.FileUIInfo.Author [get], [set]
```

The name of the owner of the file.

5.16.3.2 Description

```
string Common.FileUIInfo.Description  [get], [set]
```

The user-provided description of the file.

5.16.3.3 FileName

```
string Common.FileUIInfo.FileName  [get], [set]
```

The name of the file.

5.16.3.4 UploadDate

```
DateTime Common.FileUIInfo.UploadDate  [get], [set]
```

The UTC time when the file was uploaded to Azure Blob storage.

The documentation for this class was generated from the following file:

- Common/CommonClasses.cs

5.17 ARFE.FilterConfig Class Reference

A class for defining filtered attributes to the ASP.NET web request and response communication. For example, the [RequireHttps] filter could be applied here to demand all traffic is only allowed if is transferred over SSL.

Static Public Member Functions

- static void RegisterGlobalFilters (GlobalFilterCollection filters)

  Register the filters to the ASP.NET application

5.17.1 Detailed Description

A class for defining filtered attributes to the ASP.NET web request and response communication. For example, the [RequireHttps] filter could be applied here to demand all traffic is only allowed if is transferred over SSL.

5.17.2 Member Function Documentation

5.17.2.1 RegisterGlobalFilters()

```
static void ARFE.FilterConfig.RegisterGlobalFilters (
             GlobalFilterCollection filters )  [static]
```

Register the filters to the ASP.NET application

Parameters

filters	The collection of filters to add to the application.

The documentation for this class was generated from the following file:

- ARFE/App_Start/FilterConfig.cs

5.18 ARFE.Models.ForgotPasswordViewModel Class Reference

A model for the user requesting a password reset via their registered email address.

Properties

- string Email `[get, set]`
  The user's registered email address.

5.18.1 Detailed Description

A model for the user requesting a password reset via their registered email address.

5.18.2 Property Documentation

5.18.2.1 Email

```
string ARFE.Models.ForgotPasswordViewModel.Email [get], [set]
```

The user's registered email address.

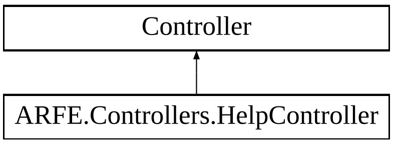
The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.19 ARFE.Controllers.HelpController Class Reference

A class derived from the Controller class that has all of the controller actions to dispaly the website's help pages.

Inheritance diagram for ARFE.Controllers.HelpController:



Public Member Functions

- ActionResult Help ()

  The Index controller action is the default action called when the UserContent page is browsed to.

5.19.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to dispaly the website's help pages.

5.19.2 Member Function Documentation

5.19.2.1 Help()

```
ActionResult ARFE.Controllers.HelpController.Help ( )
```

The Index controller action is the default action called when the UserContent page is browsed to.

Returns

A view to the "Index.cshtml" page in the Views/Help/ folder.

The documentation for this class was generated from the following file:

- ARFE/Controllers/HelpController.cs

5.20 ARFE.Tests.Controllers.HomeControllerTest Class Reference

The documentation for this class was generated from the following file:

- ARFE.Tests/Controllers/HomeControllerTest.cs

5.21 ARFE.Models.IndexViewModel Class Reference

A model for returning user login and verification.

Properties

- bool HasPassword `[get, set]`

  A property for whether the returning site visitor has a registered password.
- IList< UserLoginInfo > Logins `[get, set]`

  A property for the list of returning site visitor log in records.
- string PhoneNumber `[get, set]`

  A property for the returning site visitor's registered phone number.
- bool TwoFactor `[get, set]`

  A property for if the returning site visitor turned on two-factor authentication.
- bool BrowserRemembered `[get, set]`

  A property for if the returning site visitor wants their browser usage remembered.

5.21.1 Detailed Description

A model for returning user login and verification.

5.21.2 Property Documentation

5.21.2.1 BrowserRemembered

```
bool ARFE.Models.IndexViewModel.BrowserRemembered [get], [set]
```

A property for if the returning site visitor wants their browser usage remembered.

5.21.2.2 HasPassword

```
bool ARFE.Models.IndexViewModel.HasPassword [get], [set]
```

A property for whether the returning site visitor has a registered password.

5.21.2.3 Logins

```
IList<UserLoginInfo> ARFE.Models.IndexViewModel.Logins [get], [set]
```

A property for the list of returning site visitor log in records.

5.21.2.4 PhoneNumber

```
string ARFE.Models.IndexViewModel.PhoneNumber [get], [set]
```

A property for the returning site visitor's registered phone number.

5.21.2.5 TwoFactor

```
bool ARFE.Models.IndexViewModel.TwoFactor [get], [set]
```

A property for if the returning site visitor turned on two-factor authentication.

The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.22 ARFE.Models.LoginViewModel Class Reference

A model for the user to log in to the website.

Properties

- string Email `[get, set]`
  The user's email account that has been registered with their account.
- string Password `[get, set]`
  The user's acount password.
- bool RememberMe `[get, set]`
  If the user wants their sign-in information to be automatically verified.

5.22.1 Detailed Description

A model for the user to log in to the website.

5.22.2 Property Documentation

5.22.2.1 Email

```
string ARFE.Models.LoginViewModel.Email [get], [set]
```

The user's email account that has been registered with their account.

5.22.2.2 Password

```
string ARFE.Models.LoginViewModel.Password  [get], [set]
```

The user's acount password.

5.22.2.3 RememberMe

```
bool ARFE.Models.LoginViewModel.RememberMe  [get], [set]
```

If the user wants their sign-in information to be automatically verified.

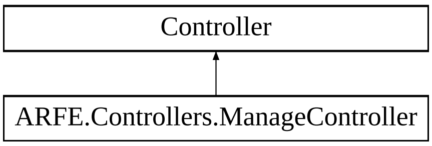
The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.23 ARFE.Controllers.ManageController Class Reference

A class derived from the Controller class that has all of the controller actions to manage user registration and authentication.

Inheritance diagram for ARFE.Controllers.ManageController:



Public Types

- enum **ManageMessageId** {
  AddPhoneSuccess, **ChangePasswordSuccess**, **SetTwoFactorSuccess**, **SetPasswordSuccess**, **RemoveLoginSuccess**, **RemovePhoneSuccess**, **Error** }

Public Member Functions

- ManageController ()

  The default constructor.
- ManageController (ApplicationUserManager userManager, ApplicationSignInManager signInManager)

  An overloaded constructor that takes instances of the class properties as parameters.
- async Task< ActionResult > **Index** (ManageMessageId? message)
- async Task< ActionResult > **RemoveLogin** (string loginProvider, string providerKey)
- ActionResult **AddPhoneNumber** ()
- async Task< ActionResult > **AddPhoneNumber** (AddPhoneNumberViewModel model)
- async Task< ActionResult > **EnableTwoFactorAuthentication** ()
- async Task< ActionResult > **DisableTwoFactorAuthentication** ()
- async Task< ActionResult > **VerifyPhoneNumber** (string phoneNumber)
- async Task< ActionResult > **VerifyPhoneNumber** (VerifyPhoneNumberViewModel model)
- async Task< ActionResult > **RemovePhoneNumber** ()
- ActionResult **ChangePassword** ()
- async Task< ActionResult > **ChangePassword** (ChangePasswordViewModel model)
- ActionResult **SetPassword** ()
- async Task< ActionResult > **SetPassword** (SetPasswordViewModel model)
- async Task< ActionResult > **ManageLogins** (ManageMessageId? message)
- ActionResult **LinkLogin** (string provider)
- async Task< ActionResult > **LinkLoginCallback** ()

Public Attributes

- ApplicationSignInManager SignInManager => _SignInManager ?? HttpContext.GetOwinContext().Get<ApplicationSignInMana

  A property reference to the ApplicationSignInManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.
- ApplicationUserManager UserManager => _UserManager ?? HttpContext.GetOwinContext().GetUser↩ Manager<ApplicationUserManager>()

  A property reference to the ApplicationUserManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

Protected Member Functions

- override void **Dispose** (bool disposing)

5.23.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to manage user registration and authentication.

5.23.2 Constructor & Destructor Documentation

5.23.2.1 ManageController() [1/2]

```
ARFE.Controllers.ManageController.ManageController ( )
```

The default constructor.

5.23.2.2 ManageController() [2/2]

```
ARFE.Controllers.ManageController.ManageController (
            ApplicationUserManager userManager,
            ApplicationSignInManager signInManager )
```

An overloaded constructor that takes instances of the class properties as parameters.

Parameters

userManager	An instance of the ApplicationUserManager class.
signInManager	An instance of the ApplicationSignInManager class.

5.23.3 Member Data Documentation

5.23.3.1 SignInManager

```
ApplicationSignInManager ARFE.Controllers.ManageController.SignInManager => _SignInManager ??
HttpContext.GetOwinContext().Get<ApplicationSignInManager>()
```

A property reference to the ApplicationSignInManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

5.23.3.2 UserManager

```
ApplicationUserManager ARFE.Controllers.ManageController.UserManager => _UserManager ??  Http←
Context.GetOwinContext().GetUserManager<ApplicationUserManager>()
```

A property reference to the ApplicationUserManager class. This reference is either to the instance provided by the ManageController(ApplicationUserManager, ApplicationSignInManager) constructor, or to the default instance that exists within the context of Microsoft.Owin.

The documentation for this class was generated from the following file:

- ARFE/Controllers/ManageController.cs

5.24 ARFE.Models.ManageLoginsViewModel Class Reference

A model for viewing and reporting current and past user login information.

Properties

- IList< UserLoginInfo > CurrentLogins `[get, set]`

  A property for the list of currently logged in users.
- IList< AuthenticationDescription > OtherLogins `[get, set]`

  a property for the list of previously logged in users.

5.24.1 Detailed Description

A model for viewing and reporting current and past user login information.

5.24.2 Property Documentation

5.24.2.1 CurrentLogins

```
IList<UserLoginInfo> ARFE.Models.ManageLoginsViewModel.CurrentLogins [get], [set]
```

A property for the list of currently logged in users.

5.24.2.2 OtherLogins

```
IList<AuthenticationDescription> ARFE.Models.ManageLoginsViewModel.OtherLogins [get], [set]
```

a property for the list of previously logged in users.

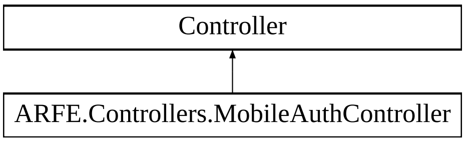
The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.25 ARFE.Controllers.MobileAuthController Class Reference

The MobileAuthController serves as an API to the mobile application. The [Route] attribute allows this Controller to specify that to call any individual controller action within this class, you have to explicitly list the action method in the request URL.

Inheritance diagram for ARFE.Controllers.MobileAuthController:



Public Member Functions

- MobileAuthController ()

  The default constructor either instantiates the TokenCache or gets a reference to it. The reference is stored in the _TokenCache private member.
- async Task< string > RequestAuthToken ()

  Read the userName and password values from the JSON and create a unique Authorization Token string associated to the user credentials and stored in a cache. This method is only accessible via an Http POST request.
- async Task< string > ListFiles (int descriptor, int? pageNumber)

  Return a list of files that a mobile user has access to denoted by an ownership descriptor value. The discriptor values are
- async Task< string > DownloadFile ()

  Using the Authentication Token and the FileUri, both provided in the HTTP header as fileUri: [fileUri], token: [token] Authenticate the user from the provided token, and request to Azure Blob storage to get a downloadable file URI for the file. This method is only accessible via an Http GET request.

Public Attributes

- ApplicationUserManager UserManager => HttpContext.GetOwinContext().Get<ApplicationUserManager>()

  A reference to the applications UserManager for password validation.

5.25.1 Detailed Description

The MobileAuthController serves as an API to the mobile application. The [Route] attribute allows this Controller to specify that to call any individual controller action within this class, you have to explicitly list the action method in the request URL.

5.25.2 Constructor & Destructor Documentation

5.25.2.1 MobileAuthController()

```
ARFE.Controllers.MobileAuthController.MobileAuthController ( )
```

The default constructor either instantiates the TokenCache or gets a reference to it. The reference is stored in the _TokenCache private member.

5.25.3 Member Function Documentation

5.25.3.1 DownloadFile()

```
async Task<string> ARFE.Controllers.MobileAuthController.DownloadFile ( )
```

Using the Authentication Token and the FileUri, both provided in the HTTP header as fileUri: [fileUri], token: [token] Authenticate the user from the provided token, and request to Azure Blob storage to get a downloadable file URI for the file. This method is only accessible via an Http GET request.

Returns

The JSON response containing the downloadable file URI.

5.25.3.2 ListFiles()

```
async Task<string> ARFE.Controllers.MobileAuthController.ListFiles (
            int descriptor,
            int? pageNumber )
```

Return a list of files that a mobile user has access to denoted by an ownership descriptor value. The discriptor values are

- 0: ALL (All public and private files that the mobile user has access to.)
- 1: OWNED_ALL (All public and private files that the mobile user owns)
- 2: OWNED_PRIVATE (All of the private files owned by the mobile user)
- 3: OWNED_PUBLIC (All of the public files owned by the mobile user)
- 4: NOT_OWNED_PUBLIC (All of the public files not owned by the mobile user)

If a *pageNumber* value is supplied, the response list will be paginated with at most 10 results per page, and the correct page of values will be returned. This method is only accessible via an Http GET request.

Parameters

descriptor	The file descriptor value
pageNumber	The page index to return. If null, return all pages.

Returns

The JSON response of the requested file names to associated non-downloadable URIs.

5.25.3.3 RequestAuthToken()

```
async Task<string> ARFE.Controllers.MobileAuthController.RequestAuthToken ( )
```

Read the userName and password values from the JSON and create a unique Authorization Token string associated to the user credentials and stored in a cache. This method is only accessible via an Http POST request.

Returns

JSON response of the Authentication Token

5.25.4 Member Data Documentation

5.25.4.1 UserManager

```
ApplicationUserManager ARFE.Controllers.MobileAuthController.UserManager => HttpContext.Get↩
OwinContext().Get<ApplicationUserManager>()
```

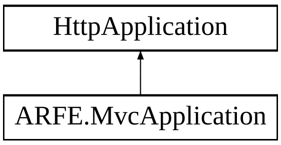
A reference to the applications UserManager for password validation.

The documentation for this class was generated from the following file:

- ARFE/Controllers/MobileAuthController.cs

5.26 ARFE.MvcApplication Class Reference

Inheritance diagram for ARFE.MvcApplication:



Protected Member Functions

- void **Application_Start** ()

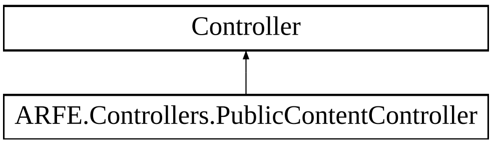
The documentation for this class was generated from the following file:

- ARFE/Global.asax.cs

5.27 ARFE.Controllers.PublicContentController Class Reference

A class derived from the Controller class that has all of the controller actions to dispaly and interact with the public file content on the website.

Inheritance diagram for ARFE.Controllers.PublicContentController:



Public Member Functions

- ActionResult Index ()

  The Index controller action is the default action called when the UserContent page is browsed to.
- ActionResult Search (int OrderType, string SearchType, string TextCriteria, string StartDateCrit, string End↵ DateCrit)

  The controller action responsible for the filtering and ordering the files, based on the user input.
- ActionResult ContentSelect (FileTypeModel model, string downloadType)

  The controller action responsible for the sub-menu button clicks on the menu that corresponds to the content that the user owns but is publicly available. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only.

5.27.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to dispaly and interact with the public file content on the website.

5.27.2 Member Function Documentation

5.27.2.1 ContentSelect()

```
ActionResult ARFE.Controllers.PublicContentController.ContentSelect (
            FileTypeModel model,
            string downloadType )
```

The controller action responsible for the sub-menu button clicks on the menu that corresponds to the content that the user owns but is publicly available. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only.

Parameters

model	A FileTypeModel object representing the file selected.
downloadType	The selected file type for potential conversion

Returns

A view redirection to refresh the content of the Public Content page.

5.27.2.2 Index()

```
ActionResult ARFE.Controllers.PublicContentController.Index ( )
```

The Index controller action is the default action called when the UserContent page is browsed to.

Returns

A view to the "Index.cshtml" page in the Views/PublicContent/ folder.

5.27.2.3 Search()

```
ActionResult ARFE.Controllers.PublicContentController.Search (
             int OrderType,
             string SearchType,
             string TextCriteria,
             string StartDateCrit,
             string EndDateCrit )
```

The controller action responsible for the filtering and ordering the files, based on the user input.

Parameters

OrderType	An integer that references the Ordering Option enum
SearchType	A string containing "name" or "date". The denotes which type of search is begin submitted.

Parameters

TextCriteria	User inputted search string for the linq query

Parameters

StartDateCrit	A string containing the lower bound date for the date search

Parameters

EndDateCrit	A string containing the upper bound date for the date search

Returns

A view to the "Index.cshtml" page in the Views/PublicContent/ folder.

The documentation for this class was generated from the following file:

- ARFE/Controllers/PublicContentController.cs

5.28 ARFE.Models.RegisterViewModel Class Reference

A model for registering a new user.

Properties

- string Email `[get, set]`

  The user's email that they wish to register with their account.
- string Password `[get, set]`

  The user's account password.
- string ConfirmPassword `[get, set]`

  The user's account password, entered a second time to verify that the Password field was entered corretly.

5.28.1 Detailed Description

A model for registering a new user.

5.28.2 Property Documentation

5.28.2.1 ConfirmPassword

```
string ARFE.Models.RegisterViewModel.ConfirmPassword [get], [set]
```

The user's account password, entered a second time to verify that the Password field was entered corretly.

5.28.2.2 Email

```
string ARFE.Models.RegisterViewModel.Email [get], [set]
```

The user's email that they wish to register with their account.

5.28.2.3 Password

```
string ARFE.Models.RegisterViewModel.Password [get], [set]
```

The user's account password.

The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.29 ARFE.Models.ResetPasswordViewModel Class Reference

A model to reset a user's password.

Properties

- string Email `[get, set]`

  The user's email address that has been registered with their account.
- string Password `[get, set]`

  The user's new password that they wish to set.
- string ConfirmPassword `[get, set]`

  The user's new account password, entered a second time to verify that the Password field was entered corretly.
- string Code `[get, set]`

  The two-factor authentication code that had been sent to the user that will allow them to reset their password without knowing their old password.

5.29.1 Detailed Description

A model to reset a user's password.

5.29.2 Property Documentation

5.29.2.1 Code

```
string ARFE.Models.ResetPasswordViewModel.Code  [get], [set]
```

The two-factor authentication code that had been sent to the user that will allow them to reset their password without knowing their old password.

5.29.2.2 ConfirmPassword

```
string ARFE.Models.ResetPasswordViewModel.ConfirmPassword  [get], [set]
```

The user's new account password, entered a second time to verify that the Password field was entered corretly.

5.29.2.3 Email

```
string ARFE.Models.ResetPasswordViewModel.Email  [get], [set]
```

The user's email address that has been registered with their account.

5.29.2.4 Password

```
string ARFE.Models.ResetPasswordViewModel.Password  [get], [set]
```

The user's new password that they wish to set.

The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.30 ARFE.RouteConfig Class Reference

This class is for defining the valid url rout patterns for the application.

Static Public Member Functions

- static void RegisterRoutes (RouteCollection routes)
  The configuration for url route patterns used within the application.

5.30.1 Detailed Description

This class is for defining the valid url rout patterns for the application.

5.30.2 Member Function Documentation

5.30.2.1 RegisterRoutes()

```
static void ARFE.RouteConfig.RegisterRoutes (
             RouteCollection routes )  [static]
```

The configuration for url route patterns used within the application.

Parameters

routes	The collection of acceptable url route patterns.

The documentation for this class was generated from the following file:

- ARFE/App_Start/RouteConfig.cs

5.31 ARFE.SearchQueries Class Reference

This class contains all of the linq queries for the search and order functionality.

Static Public Member Functions

- static List< Common.FileUIInfo > FilterByFileNameOrderByNameAscending (List< Common.FileUIInfo > fileList, string SearchCriteria)

  This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them in alphebetical order and return it in a list.
- static List< Common.FileUIInfo > FilterByFileNameOrderByNameDescending (List< Common.FileUIInfo > fileList, string SearchCriteria)

  This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them in reverse alphebetical order and return it in a list.
- static List< Common.FileUIInfo > FilterByFileNameOrderByDateAscending (List< Common.FileUIInfo > fileList, string SearchCriteria)

  This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them by date ascending and return it in a list.
- static List< Common.FileUIInfo > FilterByFileNameOrderByDateDescending (List< Common.FileUIInfo > fileList, string SearchCriteria)

  This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them by date in desending order and return it in a list.
- static List< Common.FileUIInfo > FilterDateOrderByNameAscending (List< Common.FileUIInfo > fileList, DateTime startDate, DateTime endDate)

  This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them in alphebetical order and return it in a list.
- static List< Common.FileUIInfo > FilterDateOrderByNameDescending (List< Common.FileUIInfo > fileList, DateTime startDate, DateTime endDate)

  This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them in reverse alphebetical order and return it in a list.
- static List< Common.FileUIInfo > FilterDateOrderByDateAscending (List< Common.FileUIInfo > fileList, DateTime startDate, DateTime endDate)

  This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them oldest first and return it in a list.
- static List< Common.FileUIInfo > FilterDateOrderByDateDescending (List< Common.FileUIInfo > fileList, DateTime startDate, DateTime endDate)

  This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them by newest first and return it in a list.

5.31.1 Detailed Description

This class contains all of the linq queries for the search and order functionality.

5.31.2 Member Function Documentation

5.31.2.1 FilterByFileNameOrderByDateAscending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterByFileNameOrderByDateAscending (
            List< Common.FileUIInfo > fileList,
            string SearchCriteria )  [static]
```

This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them by date ascending and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered
SearchCriteria	A string holding the search criteria

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.2 FilterByFileNameOrderByDateDescending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterByFileNameOrderByDateDescending (
             List< Common.FileUIInfo > fileList,
             string SearchCriteria )  [static]
```

This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them by date in desending order and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered
SearchCriteria	A string holding the search criteria

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.3 FilterByFileNameOrderByNameAscending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterByFileNameOrderByNameAscending (
             List< Common.FileUIInfo > fileList,
             string SearchCriteria )  [static]
```

This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them in alphebetical order and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered
SearchCriteria	A string holding the search criteria

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.4 FilterByFileNameOrderByNameDescending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterByFileNameOrderByNameDescending (
             List< Common.FileUIInfo > fileList,
             string SearchCriteria )  [static]
```

This function takes in a list of fileUIInfo and search string. It uses linq to find the files with the name containing that string, order them in reverse alphebetical order and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered
SearchCriteria	A string holding the search criteria

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.5 FilterDateOrderByDateAscending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterDateOrderByDateAscending (
             List< Common.FileUIInfo > fileList,
             DateTime startDate,
             DateTime endDate )  [static]
```

This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them oldest first and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered.
startDate	A datetime object holding the lower bound date.
endDate	A datetime object holding the upper bound date.

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.6 FilterDateOrderByDateDescending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterDateOrderByDateDescending (
             List< Common.FileUIInfo > fileList,
             DateTime startDate,
             DateTime endDate )  [static]
```

This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them by newest first and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered.
startDate	A datetime object holding the lower bound date.
endDate	A datetime object holding the upper bound date.

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.7 FilterDateOrderByNameAscending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterDateOrderByNameAscending (
            List< Common.FileUIInfo > fileList,
            DateTime startDate,
            DateTime endDate )  [static]
```

This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them in alphebetical order and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered.
startDate	A datetime object holding the lower bound date.
endDate	A datetime object holding the upper bound date.

Returns

A filtered and ordered list of FIleUIInfo objects

5.31.2.8 FilterDateOrderByNameDescending()

```
static List<Common.FileUIInfo> ARFE.SearchQueries.FilterDateOrderByNameDescending (
            List< Common.FileUIInfo > fileList,
            DateTime startDate,
            DateTime endDate )  [static]
```

This function takes in a list of fileUIInfo, a start and end date. It uses linq to find the files between the start and end date, then order them in reverse alphebetical order and return it in a list.

Parameters

fileList	A list of FileUIInfo objects that need to be filtered and ordered.
startDate	A datetime object holding the lower bound date.
endDate	A datetime object holding the upper bound date.

Returns

A filtered and ordered list of FIleUIInfo objects

The documentation for this class was generated from the following file:

- ARFE/SearchQueries.cs

5.32 ARFE.Models.SendCodeViewModel Class Reference

A model for sending a two-factor authentication message through a registered third party two-factor authentication provider.

Properties

- string SelectedProvider `[get, set]`

  The name of the user-seleted third party two-factor authentication provider.
- ICollection< System.Web.Mvc.SelectListItem > Providers `[get, set]`

  The list of available third party two-factor authentication providers.
- string ReturnUrl `[get, set]`

  The redirection Url to send the user to after having verified their acount information via the two-factor authentication code.
- bool RememberMe `[get, set]`

  The user's preference to have their account automatically verified, when possible.

5.32.1 Detailed Description

A model for sending a two-factor authentication message through a registered third party two-factor authentication provider.

5.32.2 Property Documentation

5.32.2.1 Providers

```
ICollection<System.Web.Mvc.SelectListItem> ARFE.Models.SendCodeViewModel.Providers [get],
[set]
```

The list of available third party two-factor authentication providers.

5.32.2.2 RememberMe

```
bool ARFE.Models.SendCodeViewModel.RememberMe  [get], [set]
```

The user's preference to have their account automatically verified, when possible.

5.32.2.3 ReturnUrl

```
string ARFE.Models.SendCodeViewModel.ReturnUrl  [get], [set]
```

The redirection Url to send the user to after having verified their acount information via the two-factor authentication code.

5.32.2.4 SelectedProvider

```
string ARFE.Models.SendCodeViewModel.SelectedProvider  [get], [set]
```

The name of the user-seleted third party two-factor authentication provider.

The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.33 ARFE.Models.SetPasswordViewModel Class Reference

A model for registering a user's password upon account creation.

Properties

- string NewPassword `[get, set]`

  The property field for the user's new password that they wish to set.
- string ConfirmPassword `[get, set]`

  The property field for the confirmed re-entry of the user's new password that they wish to set.

5.33.1 Detailed Description

A model for registering a user's password upon account creation.

5.33.2 Property Documentation

5.33.2.1 ConfirmPassword

```
string ARFE.Models.SetPasswordViewModel.ConfirmPassword  [get], [set]
```

The property field for the confirmed re-entry of the user's new password that they wish to set.

5.33.2.2 NewPassword

```
string ARFE.Models.SetPasswordViewModel.NewPassword  [get], [set]
```

The property field for the user's new password that they wish to set.

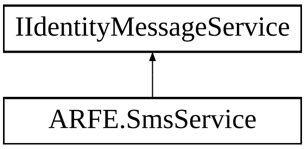
The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

5.34 ARFE.SmsService Class Reference

A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via SMS text messaging. This implementation is currently empty as no third party SMS text messaging verification is currently supported.

Inheritance diagram for ARFE.SmsService:



Public Member Functions

- Task SendAsync (IdentityMessage message)

  This method is required to be overwritten by the inheritance pattern of the Microsoft.AspNet.Identity.IIdentityMessageService class. As no third party SMS text messaging verification is currently supported, the method just returns 0 to the caller.

5.34.1 Detailed Description

A class derived from the Microsoft.AspNet.Identity.IIdentityMessageService class to implement third party account verification via SMS text messaging. This implementation is currently empty as no third party SMS text messaging verification is currently supported.

5.34.2 Member Function Documentation

5.34.2.1 SendAsync()

```
Task ARFE.SmsService.SendAsync (
             IdentityMessage message )
```

This method is required to be overwritten by the inheritance pattern of the Microsoft.AspNet.Identity.IIdentityMessageService class. As no third party SMS text messaging verification is currently supported, the method just returns 0 to the caller.

Parameters

message	The message to send via the registered SMS provider.

Returns

0

The documentation for this class was generated from the following file:

- ARFE/App_Start/IdentityConfig.cs

5.35 ARFE.Startup Class Reference

The application startup class is called upon launching the application.

Public Member Functions

- void ConfigureAuth (IAppBuilder app)

  Application startup configuration via Microsoft.AspNet.Identity For more information on configuring authentication, please visit `https://go.microsoft.com/fwlink/?LinkId=301864`
- void Configuration (IAppBuilder app)

  Method called automatically upon startup. Initial app setup logic and configuration goes here.
- void TimerInit ()

  Create a timer that will fire a clean-up event every 15 minutes.

5.35.1 Detailed Description

The application startup class is called upon launching the application.

5.35.2 Member Function Documentation

5.35.2.1 Configuration()

```
void ARFE.Startup.Configuration (
             IAppBuilder app )
```

Method called automatically upon startup. Initial app setup logic and configuration goes here.

Parameters

app	The AE web app

5.35.2.2 ConfigureAuth()

```
void ARFE.Startup.ConfigureAuth (
             IAppBuilder app )
```

Application startup configuration via Microsoft.AspNet.Identity For more information on configuring authentication, please visit `https://go.microsoft.com/fwlink/?LinkId=301864`

Parameters

app	The application being configured.

5.35.2.3 TimerInit()

```
void ARFE.Startup.TimerInit ( )
```

Create a timer that will fire a clean-up event every 15 minutes.

The documentation for this class was generated from the following files:

- ARFE/App_Start/Startup.Auth.cs
- ARFE/Startup.cs

5.36 Common.SupportedFileTypes Class Reference

The list of file type extensions that are supported by the file conversion software that this application uses.

Static Public Attributes

- static List< string > FileList => new List<string> { ".dae", ".fbx", ".obj", ".ply", ".stl" }

  The list of supported file types.

5.36.1 Detailed Description

The list of file type extensions that are supported by the file conversion software that this application uses.

5.36.2 Member Data Documentation

5.36.2.1 FileList

```
List<string> Common.SupportedFileTypes.FileList => new List<string> { ".dae", ".fbx", ".obj",
".ply", ".stl" }  [static]
```

The list of supported file types.

The documentation for this class was generated from the following file:

- Common/CommonClasses.cs

5.37 AuthenticationTokenCache.TokenCache Class Reference

A class to manage tokens that are associated to user login information. This is used for mobile user authentication by verifying tokens, that the user explicitly requests, to that user's log in credentials. This system of token passing makes for simpler and more secure communication between the mobile application and the web service.

Public Member Functions

- string GenerateToken (string userName, string password)

  Given a user's user name and password credentials, generate a new authentication token associated with those credentials. The token will be valid for two hours. The users credentials are not validated at this point, they are only stored. If incorrect credentials are supplied then the application will catch that internally via ASP.NET Identity.
- Tuple< string, string > ValidateToken (string token)

  Verify that a token exists within the current state of the in-memory storage. If it does and the token has yet to expire, return a tuple of the associated user name and password that the token was created with. If it does not exist or the token has expired, the response is null.

Static Public Member Functions

- static TokenCache Init ()

  A static initialization method that calls a private constructor internally to ensure a static single instance of this object is maintained throughout the run-time life of the application.

5.37.1 Detailed Description

A class to manage tokens that are associated to user login information. This is used for mobile user authentication by verifying tokens, that the user explicitly requests, to that user's log in credentials. This system of token passing makes for simpler and more secure communication between the mobile application and the web service.

5.37.2 Member Function Documentation

5.37.2.1 GenerateToken()

```
string AuthenticationTokenCache.TokenCache.GenerateToken (
                string userName,
                string password )
```

Given a user's user name and password credentials, generate a new authentication token associated with those credentials. The token will be valid for two hours. The users credentials are not validated at this point, they are only stored. If incorrect credentials are supplied then the application will catch that internally via ASP.NET Identity.

Parameters

userName	The user provided user name.
password	The user provided password.

Returns

A new base64 encoded string of unique bytes.

5.37.2.2 Init()

```
static TokenCache AuthenticationTokenCache.TokenCache.Init ( )  [static]
```

A static initialization method that calls a private constructor internally to ensure a static single instance of this object is maintained throughout the run-time life of the application.

Returns

The once-constructed instance of the TokenCache.

5.37.2.3 ValidateToken()

```
Tuple<string, string> AuthenticationTokenCache.TokenCache.ValidateToken (
            string token )
```

Verify that a token exists within the current state of the in-memory storage. If it does and the token has yet to expire, return a tuple of the associated user name and password that the token was created with. If it does not exist or the token has expired, the response is null.

Parameters

token	The randomized string provided by the GenerateToken(string, string) method.

Returns

- A tuple of the associated user name and password - the token is valid.
- Null - the token is invalid or expired.

The documentation for this class was generated from the following file:

- AuthenticationTokenCache/TokenCache.cs

5.38 AuthenticationTokenCache.Tests.TokenCacheTests Class Reference

The class containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

Public Member Functions

- void Test_PrivateConstructor ()

  Test that the constructor of the TokenCache is in fact private. Calling Activator.CreateInstance will try to call the object constructor but will throw a MissingMethodException since one hasn't been made publicly accessible due to the fact that it's a singleton cache.
- void Test_Init ()

  Test that the publicly available static Init() method creates an instance of the TokenCache object.
- void Test_Insert ()

  Test that inserting user info to the cache creates a non-empty string token.
- void Test_ValidateSingle ()

  Test that the token produced for a users information is able to successfully retrieve the same user information.
- void Test_Singleton ()

  Test that creating two separate variables of type TokenCache with the static Init() method sets each variable to the same static instance of the TokenCache object.
- void Test_BadTokenReturnsNull ()

  Test that users information can be supplied but providing an invalid token will not return any user's information.
- void Test_ValidateMultiple ()

  Test that the cache successfully handles more than one user's information.
- void Test_MultipleTokensToSameUser ()

  Test that a single user can get multiple tokens that will all remain valid.

5.38.1 Detailed Description

The class containing all tests that pertain to the AuthenticationTokenCache.TokenCache class and it's methods.

5.38.2 Member Function Documentation

5.38.2.1 Test_BadTokenReturnsNull()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_BadTokenReturnsNull ( )
```

Test that users information can be supplied but providing an invalid token will not return any user's information.

5.38.2.2 Test_Init()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_Init ( )
```

Test that the publicly available static Init() method creates an instance of the TokenCache object.

5.38.2.3 Test_Insert()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_Insert ( )
```

Test that inserting user info to the cache creates a non-empty string token.

5.38.2.4 Test_MultipleTokensToSameUser()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_MultipleTokensToSameUser ( )
```

Test that a single user can get multiple tokens that will all remain valid.

5.38.2.5 Test_PrivateConstructor()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_PrivateConstructor ( )
```

Test that the constructor of the TokenCache is in fact private. Calling Activator.CreateInstance will try to call the object constructor but will throw a MissingMethodException since one hasn't been made publicly accessible due to the fact that it's a singleton cache.

5.38.2.6 Test_Singleton()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_Singleton ( )
```

Test that creating two separate variables of type TokenCache with the static Init() method sets each variable to the same static instance of the TokenCache object.

5.38.2.7 Test_ValidateMultiple()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_ValidateMultiple ( )
```

Test that the cache successfully handles more than one user's information.

5.38.2.8 Test_ValidateSingle()

```
void AuthenticationTokenCache.Tests.TokenCacheTests.Test_ValidateSingle ( )
```

Test that the token produced for a users information is able to successfully retrieve the same user information.

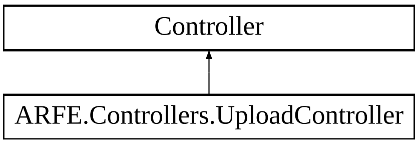
The documentation for this class was generated from the following file:

- AuthTokenCache.Tests/TokenCacheTests.cs

5.39 ARFE.Controllers.UploadController Class Reference

A class derived from the Controller class that has all of the controller actions to manage user file uploads.

Inheritance diagram for ARFE.Controllers.UploadController:



Public Member Functions

- ActionResult Index ()

  The call to load the index page of the file upload section of the website.
- ActionResult UploadFile ()

  This method is functionally the same as calling the Index method. If Upload() is called as a get action - do nothing. The [HttpGet] assembly tag is used to register this method as elligible for GET requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.
- ActionResult UploadFile (HttpPostedFileBase baseFile, HttpPostedFileBase matFile, bool publicFile, string altFileName, string fileDescription)

  Allows a user to upload a file from their computer via the web browser. The file is checked for validity and if found valid, is saved to temporary local storage and makes a request to upload the file to Azure Blob storage. If the file is not valid or already exists in blob storage, an error message is displayed to the user. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.
- ActionResult OverWriteUpload (string overWrite, string uploadFileName)

  This controller action is only to be called after the UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string) controller action has been called and has returned an error that the file already exists in Azure Blob storage. This controller action gives the user the option to overwrite the previously existing file with the current one. If the value of overWrite is true, this method performs the same action as UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string). The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

5.39.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to manage user file uploads.

5.39.2 Member Function Documentation

5.39.2.1 Index()

```
ActionResult ARFE.Controllers.UploadController.Index ( )
```

The call to load the index page of the file upload section of the website.

Returns

A view that refreshes the web page to the current url location.

5.39.2.2 OverWriteUpload()

```
ActionResult ARFE.Controllers.UploadController.OverWriteUpload (
             string overWrite,
             string uploadFileName )
```

This controller action is only to be called after the UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string) controller action has been called and has returned an error that the file already exists in Azure Blob storage. This controller action gives the user the option to overwrite the previously existing file with the current one. If the value of *overWrite* is true, this method performs the same action as UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string). The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

overWrite	A boolean status indicating whether a file that has the same name as the new one should be overwritten in order to save the new one.
uploadFileName	The name of the file saved in temporary storage from the UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string) call prior. This will either be the baseFile.FileName or the altFileName if one was provided.

Returns

The current web page view with a message as to the status of the file upload.

5.39.2.3 UploadFile() [1/2]

```
ActionResult ARFE.Controllers.UploadController.UploadFile ( )
```

This method is functionally the same as calling the Index method. If Upload() is called as a get action - do nothing. The [HttpGet] assembly tag is used to register this method as elligible for GET requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Returns

A view that refreshes the web page to the current url location.

5.39.2.4 UploadFile() [2/2]

```
ActionResult ARFE.Controllers.UploadController.UploadFile (
            HttpPostedFileBase baseFile,
            HttpPostedFileBase matFile,
            bool publicFile,
            string altFileName,
            string fileDescription )
```

Allows a user to upload a file from their computer via the web browser. The file is checked for validity and if found valid, is saved to temporary local storage and makes a request to upload the file to Azure Blob storage. If the file is not valid or already exists in blob storage, an error message is displayed to the user. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

baseFile	The file to be uploaded to Azure Blob storage.
matFile	If *baseFile* is a '.obj' file, this may be an accompanying '.mat' materials file.
publicFile	A boolean indicator for if the user wants this file to be publicly available via the website interface.
altFileName	If supplied, will be the alternate file name that the uploaded file will be saved as.
fileDescription	A user-provided description of the file.

Returns

The current web page view with a message as to the status of the file upload.

The documentation for this class was generated from the following file:

- ARFE/Controllers/UploadController.cs

5.40 ARFE.UploadedFileCache Class Reference

A singleton class, constructed via the GetInstance method call. This class serves as a cache for tracking the location, details about, and automatic removal of files that are saved for intermediate storage between being uploaded to Azure blob storage, or converted to some other file type pending a download.

Public Member Functions

- bool SaveFile (HttpPostedFileBase file, string userName, string fileName, string altFileName="", string description="", bool isPublic=false)

  Create a unique sub-directory for the file to save the file in. Information about the file associated with the unique sub-directory will be added to the thread-safe s_UsedGuids and s_FileDataByGuid members for tracking lifespan and information regarding the temporary file(s) stored.
- Guid SaveFile (CloudBlockBlob file, string userName, string fileName)

  Create a unique sub-directory for the file to save the file in. Information about the file associated with the unique sub-directory will be added to the thread-safe s_UsedGuids and s_FileDataByGuid members for tracking lifespan and information regarding the temporary file(s) stored.

- void RemoveFileTracking (Guid fileGuid)

  For a provided Guid representing a sub-directory, remove the Guid from s_UsedGuids and remove the Guid:FileData record from s_FileDataByGuid. An immediate removal is not guaranteed from either members due to their thread-safe design. Removal is retried at most 50 times each.
- Guid FindContainingFolderGUIDForFile (string userName, string uploadFileName)

  Check each FileData(Guid, string, string, string, string, bool) in s_FileDataByGuid values. Attempt to match user name and file name. If multiple matches are found, which should almost never be the case, the most recent is assumed.
- string GetFileDescription (string userName, string uploadFileName)

  Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. From the Guid, get the FileData from s_FileDataByGuid. Use the FileData to access the user provided file description.
- bool IsSavedFilePublic (string userName, string uploadFileName)

  Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. From the Guid, get the FileData from s_FileDataByGuid. Use the FileData to access the user provided public/private flag.
- bool DeleteAndRemoveFile (string userName, string uploadFileName)

  Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. Use the Guid to delete the sub-directory and all of its contents. Call RemoveFileTracking(Guid) to free the Guid from tracking.
- void MarkForDelete (string userName, string uploadFileName)

  Mark a FileData(Guid, string, string, string, string, bool) record for deletion by calling FileData.MarkForDelete to set its expiration time to some time in the past.
  The next time that entries are examined for expiration, it should be deleted.

Static Public Member Functions

- static UploadedFileCache GetInstance ()

  A publicly available method for creating a single instance of this cache if one doesn't already exist, or getting a reference to the single instance.
- static void DeleteOldFiles ()

  A publicly available static method for cleaning the root upload directory. This method is called at timed intervals from Startup.Timer_Elapsed(object, System.Timers.ElapsedEventArgs).

Properties

- string BasePath `[get, set]`

  The publicly accessible property for the root directory for file upload/download intermediate storage. This property can only be set once and upon being set, purges the supplied directory path of all unneccessary files and folders.

5.40.1 Detailed Description

A singleton class, constructed via the GetInstance method call. This class serves as a cache for tracking the location, details about, and automatic removal of files that are saved for intermediate storage between being uploaded to Azure blob storage, or converted to some other file type pending a download.

5.40.2 Member Function Documentation

5.40.2.1 DeleteAndRemoveFile()

```
bool ARFE.UploadedFileCache.DeleteAndRemoveFile (
            string userName,
            string uploadFileName )
```

Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. Use the Guid to delete the sub-directory and all of its contents. Call RemoveFileTracking(Guid) to free the Guid from tracking.

Parameters

userName	The name of the user who saved the file.
uploadFileName	The name of the file that was saved.

Returns

- True : The sub-directory that the file is in was deleted.
- False : The sub-directory was not deleted, but was marked for deletion.

5.40.2.2 DeleteOldFiles()

```
static void ARFE.UploadedFileCache.DeleteOldFiles ( ) [static]
```

A publicly available static method for cleaning the root upload directory. This method is called at timed intervals from Startup.Timer_Elapsed(object, System.Timers.ElapsedEventArgs).

5.40.2.3 FindContainingFolderGUIDForFile()

```
Guid ARFE.UploadedFileCache.FindContainingFolderGUIDForFile (
            string userName,
            string uploadFileName )
```

Check each FileData(Guid, string, string, string, string, bool) in s_FileDataByGuid values. Attempt to match user name and file name. If multiple matches are found, which should almost never be the case, the most recent is assumed.

Parameters

userName	The name of the user who owns the file.
uploadFileName	The file name (or alternate file name) that the file was saved as.

Returns

- Guid : The Guid that is the name of the sub-directory that the file is in.

- Guid.Empty : File not found.

5.40.2.4 GetFileDescription()

```
string ARFE.UploadedFileCache.GetFileDescription (
             string userName,
             string uploadFileName )
```

Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. From the Guid, get the FileData from s_FileDataByGuid. Use the FileData to access the user provided file description.

Parameters

userName	The name of the user who saved the file.
uploadFileName	The name of the file that was saved.

Returns

- Description : The user-provided description of the file.
- String.Empty : File Not Found

5.40.2.5 GetInstance()

```
static UploadedFileCache ARFE.UploadedFileCache.GetInstance ( )  [static]
```

A publicly available method for creating a single instance of this cache if one doesn't already exist, or getting a reference to the single instance.

Returns

A reference to the single instance of this cache class.

5.40.2.6 IsSavedFilePublic()

```
bool ARFE.UploadedFileCache.IsSavedFilePublic (
             string userName,
             string uploadFileName )
```

Get the Guid that is the sub-directory name of the file from the FindContainingFolderGUIDForFile(string, string) method. From the Guid, get the FileData from s_FileDataByGuid. Use the FileData to access the user provided public/private flag.

Parameters

userName	The name of the user who saved the file.
uploadFileName	The name of the file that was saved.

Returns

- IsPublic : The user-provided public/private flag value.
- Default : False, meaning private.

5.40.2.7 MarkForDelete()

```
void ARFE.UploadedFileCache.MarkForDelete (
            string userName,
            string uploadFileName )
```

Mark a FileData(Guid, string, string, string, string, bool) record for deletion by calling FileData.MarkForDelete to set its expiration time to some time in the past.
The next time that entries are examined for expiration, it should be deleted.

Parameters

userName	The name of the user who saved the file.
uploadFileName	The name of the file that was saved.

5.40.2.8 RemoveFileTracking()

```
void ARFE.UploadedFileCache.RemoveFileTracking (
            Guid fileGuid )
```

For a provided Guid representing a sub-directory, remove the Guid from s_UsedGuids and remove the Guid:File↩ Data record from s_FileDataByGuid. An immediate removal is not guaranteed from either members due to their thread-safe design. Removal is retried at most 50 times each.

Parameters

fileGuid	The Guid to stop tracking.

5.40.2.9 SaveFile() [1/2]

```
bool ARFE.UploadedFileCache.SaveFile (
            HttpPostedFileBase file,
            string userName,
            string fileName,
            string altFileName = "",
            string description = "",
            bool isPublic = false )
```

Create a unique sub-directory for the file to save the file in. Information about the file associated with the unique sub-directory will be added to the thread-safe s_UsedGuids and s_FileDataByGuid members for tracking lifespan and information regarding the temporary file(s) stored.

Parameters

file	The file uploaded to the website via HTTP POST in the Controllers.UploadController.UploadFile(HttpPostedFileBase, HttpPostedFileBase, bool, string, string) method or the Controllers.UploadController.UploadFile method.
userName	The name of the user uploading the file.
fileName	The name of the file being uploaded.
altFileName	An alternative file name that the file should be saved as instead, provided by the user.
description	A description of the file provided by user.
isPublic	A flag indicating if the file should be uploaded to the public blob container of the user's private blob container.

Returns

- True: The file was uploaded successfully.
- False: The file failed to upload.

5.40.2.10 SaveFile() [2/2]

```
Guid ARFE.UploadedFileCache.SaveFile (
            CloudBlockBlob file,
            string userName,
            string fileName )
```

Create a unique sub-directory for the file to save the file in. Information about the file associated with the unique sub-directory will be added to the thread-safe s_UsedGuids and s_FileDataByGuid members for tracking lifespan and information regarding the temporary file(s) stored.

Parameters

file	The file being downloaded from the BlobManager.ConvertBlobToBlob(CloudBlockBlob, string, string, string, string) method.
userName	The name of the user uploading the file.
fileName	The name of the file being uploaded.

Returns

- Guid : The Guid that is the name of the sub-directory that the file was saved to.
- Guid.Empty : The file could not be saved.

5.40.3 Property Documentation

5.40.3.1 BasePath

```
string ARFE.UploadedFileCache.BasePath  [get], [set]
```

The publicly accessible property for the root directory for file upload/download intermediate storage. This property can only be set once and upon being set, purges the supplied directory path of all unneccessary files and folders.

The documentation for this class was generated from the following file:

- ARFE/UploadedFileCache.cs

5.41 ARFE.Tests.UploadedFileCacheTests Class Reference

Summary description for UploadedFileCacheTests

Public Member Functions

- void Test_PrivateConstructor ()

  Test that the constructor of the UploadedFileCache is in fact private. Calling Activator.CreateInstance will try to call the object constructor but will throw a MissingMethodException since one hasn't been made publicly accessible due to the fact that it's a singleton cache.
- void Test_Init ()

  Test that the publicly available static init method, UploadedFileCache.GetInstance, creates an instance of the UploadedFileCache object.

Properties

- TestContext TestContext `[get, set]`

  Gets or sets the test context which provides information about and functionality for the current test run. /summary>

5.41.1 Detailed Description

Summary description for UploadedFileCacheTests

5.41.2 Member Function Documentation

5.41.2.1 Test_Init()

```
void ARFE.Tests.UploadedFileCacheTests.Test_Init ( )
```

Test that the publicly available static init method, UploadedFileCache.GetInstance, creates an instance of the UploadedFileCache object.

5.41.2.2 Test_PrivateConstructor()

```
void ARFE.Tests.UploadedFileCacheTests.Test_PrivateConstructor ( )
```

Test that the constructor of the UploadedFileCache is in fact private. Calling Activator.CreateInstance will try to call the object constructor but will throw a MissingMethodException since one hasn't been made publicly accessible due to the fact that it's a singleton cache.

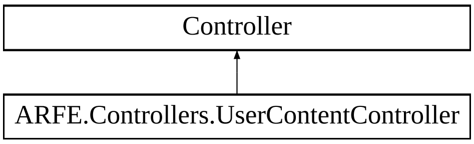
The documentation for this class was generated from the following file:

- ARFE.Tests/UploadedFileCacheTests.cs

5.42 ARFE.Controllers.UserContentController Class Reference

A class derived from the Controller class that has all of the controller actions to dispaly and interact with the user's file content on the website.

Inheritance diagram for ARFE.Controllers.UserContentController:



Public Member Functions

- ActionResult Index ()

  The Index controller action is the default action called when the UserContent page is browsed to. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.
- ActionResult PrivateContentSelect (FileTypeModel model, string downloadType)

  The controller action responsible for the sub-menu button clicks on the menu that corresponds to the user's privately owned content. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.
- ActionResult PublicContentSelect (FileTypeModel model, string downloadType)

  The controller action responsible for the sub-menu button clicks on the menu that corresponds to the content that the user owns but is publicly available. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

- ActionResult PrivateSearch (int prOrderType, string prSearchType, string prTextCriteria, string prStartDate↩ Crit, string prEndDateCrit)

  The Index controller action is called when the user in doing a unique search of the private files The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.
- ActionResult PublicSearch (int puOrderType, string puSearchType, string puTextCriteria, string puStartDate↩ Crit, string puEndDateCrit)

  The Index controller action is called when the user in doing a unique search of the public files The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

5.42.1 Detailed Description

A class derived from the Controller class that has all of the controller actions to dispaly and interact with the user's file content on the website.

5.42.2 Member Function Documentation

5.42.2.1 Index()

```
ActionResult ARFE.Controllers.UserContentController.Index ( )
```

The Index controller action is the default action called when the UserContent page is browsed to. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Returns

A view to the "Index.cshtml" page in the Views/UserContent/ folder.

5.42.2.2 PrivateContentSelect()

```
ActionResult ARFE.Controllers.UserContentController.PrivateContentSelect (
            FileTypeModel model,
            string downloadType )
```

The controller action responsible for the sub-menu button clicks on the menu that corresponds to the user's privately owned content. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

model	A FileTypeModel object representing the file selected.
downloadType	The selected file type for potential conversion

Returns

A view redirection to refresh the content of the User Content page.

5.42.2.3 PrivateSearch()

```
ActionResult ARFE.Controllers.UserContentController.PrivateSearch (
             int prOrderType,
             string prSearchType,
             string prTextCriteria,
             string prStartDateCrit,
             string prEndDateCrit )
```

The Index controller action is called when the user in doing a unique search of the private files The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

prOrderType	An integer that designates the ordering style. Value corresponds to Ordering Option Enum
prSearchType	A string containing the type of search the user is trying to do. Value is either "name" or "date"
prTextCriteria	The user inputed string to filter files that only hold that name
prStartDateCrit	String containing the lower bound date for the date search. Format: "YYYY/MM/DD"
prEndDateCrit	String containing the upper bound date for the date search. Format: "YYYY/MM/DD"

Returns

A view to the "Index.cshtml" page in the Views/UserContent/ folder.

5.42.2.4 PublicContentSelect()

```
ActionResult ARFE.Controllers.UserContentController.PublicContentSelect (
             FileTypeModel model,
             string downloadType )
```

The controller action responsible for the sub-menu button clicks on the menu that corresponds to the content that the user owns but is publicly available. The [HttpPost] assembly tag is used to register this method as elligible for POST requests only. The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

model	A FileTypeModel object representing the file selected.
downloadType	The selected file type for potential conversion

Returns

A view redirection to refresh the content of the User Content page.

5.42.2.5 PublicSearch()

```
ActionResult ARFE.Controllers.UserContentController.PublicSearch (
             int puOrderType,
             string puSearchType,
             string puTextCriteria,
             string puStartDateCrit,
             string puEndDateCrit )
```

The Index controller action is called when the user in doing a unique search of the public files The [Authorize] assembly tag is used in collaboration with ASP.NET Identity. If the action is attempted to be browsed to without the browser being correctly signed in with Identity, the request is denied.

Parameters

puOrderType	An integer that designates the ordering style. Value corresponds to Ordering Option Enum
puSearchType	A string containing the type of search the user is trying to do. Value is either "name" or "date"
puTextCriteria	The user inputed string to filter files that only hold that name
puStartDateCrit	String containing the lower bound date for the date search. Format: "YYYY/MM/DD"
puEndDateCrit	String containing the upper bound date for the date search. Format: "YYYY/MM/DD"

Returns

A view to the "Index.cshtml" page in the Views/UserContent/ folder.

The documentation for this class was generated from the following file:

- ARFE/Controllers/UserContentController.cs

5.43 ARFE.Models.VerifyCodeViewModel Class Reference

A model for verifying a two-factor authentication code that has been sent to a user.

Properties

- string Provider `[get, set]`

  The name of the user-seleted third party two-factor authentication provider.
- string Code `[get, set]`

  The two-factor authentication code that had been sent to the user.
- string ReturnUrl `[get, set]`

  The redirection Url to send the user to after having verified their acount information via the two-factor authentication code.
- bool RememberBrowser `[get, set]`

  The user's preference to have their account automatically verified, when possible, by the browser that the user is currently using to browse the website.
- bool RememberMe `[get, set]`

  The user's preference to have their account automatically verified, when possible.

5.43.1 Detailed Description

A model for verifying a two-factor authentication code that has been sent to a user.

5.43.2 Property Documentation

5.43.2.1 Code

```
string ARFE.Models.VerifyCodeViewModel.Code  [get], [set]
```

The two-factor authentication code that had been sent to the user.

5.43.2.2 Provider

```
string ARFE.Models.VerifyCodeViewModel.Provider  [get], [set]
```

The name of the user-seleted third party two-factor authentication provider.

5.43.2.3 RememberBrowser

```
bool ARFE.Models.VerifyCodeViewModel.RememberBrowser  [get], [set]
```

The user's preference to have their account automatically verified, when possible, by the browser that the user is currently using to browse the website.

5.43.2.4 RememberMe

```
bool ARFE.Models.VerifyCodeViewModel.RememberMe  [get], [set]
```

The user's preference to have their account automatically verified, when possible.

5.43.2.5 ReturnUrl

```
string ARFE.Models.VerifyCodeViewModel.ReturnUrl  [get], [set]
```

The redirection Url to send the user to after having verified their acount information via the two-factor authentication code.

The documentation for this class was generated from the following file:

- ARFE/Models/AccountViewModels.cs

5.44 ARFE.Models.VerifyPhoneNumberViewModel Class Reference

A model for verifying a user's phone number via two-factor authentication. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.

Properties

- string Code `[get, set]`

  The code provided by two-factor authentication.
- string PhoneNumber `[get, set]`

  The phone number being validated.

5.44.1 Detailed Description

A model for verifying a user's phone number via two-factor authentication. This model is currently not being used as two-factor authentication is not supported. However this serves as an extension point for supporting two-factor authentication at a later time.

5.44.2 Property Documentation

5.44.2.1 Code

```
string ARFE.Models.VerifyPhoneNumberViewModel.Code  [get], [set]
```

The code provided by two-factor authentication.

5.44.2.2 PhoneNumber

```
string ARFE.Models.VerifyPhoneNumberViewModel.PhoneNumber  [get], [set]
```

The phone number being validated.

The documentation for this class was generated from the following file:

- ARFE/Models/ManageViewModels.cs

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