



Introduction to Personalization

Presenter's Name

Presenter's Title

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Agenda

- Overview of ATG Personalization
- Using User Profile

Learning Objectives

At the end of this lesson you should be able to:

- Understand what is personalization
- Learn the steps to enable personalization
- Understand user profiles
- Use ProfileFormHandler to set profile values
- Learn about Profile Tools
- Understand tracking users and guest users

Section 1:

Overview of ATG Personalization



What is Personalization?

- Personalization is the process of serving specific, personalized content to web visitors.
- ATG provides the following to allow developers to provide merchandisers the tools necessary deliver a personalized experience to the users:
 - Dynamo Application Framework: The base framework that allows for the site to serve content to the users. It includes the Nucleus at its core.
 - ATG Personalization Module: Provides features specifically designed to support website personalization.
 - ATG Scenario Module: Extends the Personalization Module by providing a set of advanced targeting and event-based scenario features.
- A combination of the above provides a powerful mechanism to personalize the website user experience.

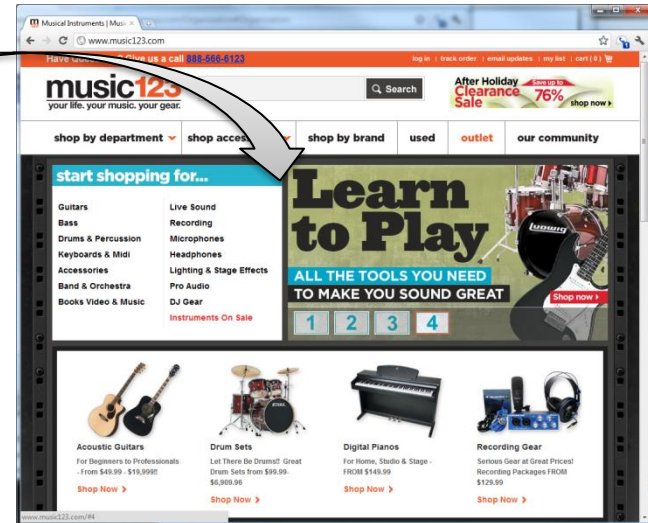
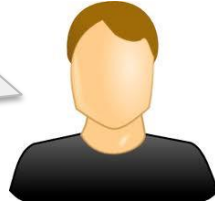
An Example of Personalization

Name: Tommy Trojan

Interests: Drums

Level: Learner

Location: Medford, OR

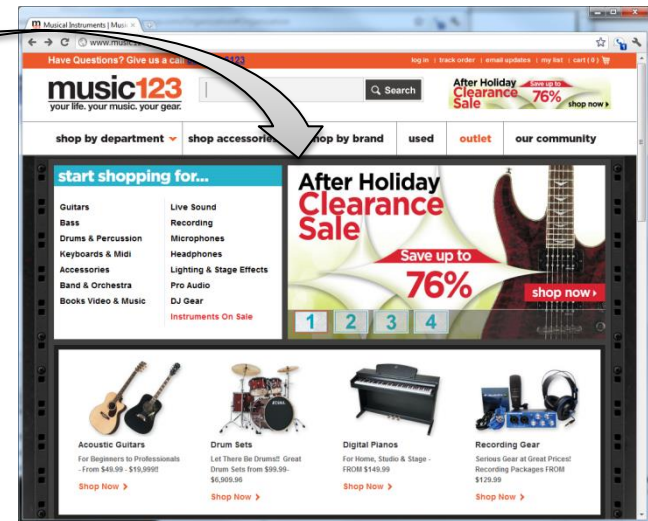
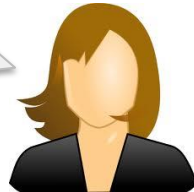


Name: Josephine Bruin

Interests: Guitar

Level: Expert

Location: Los Angeles, CA



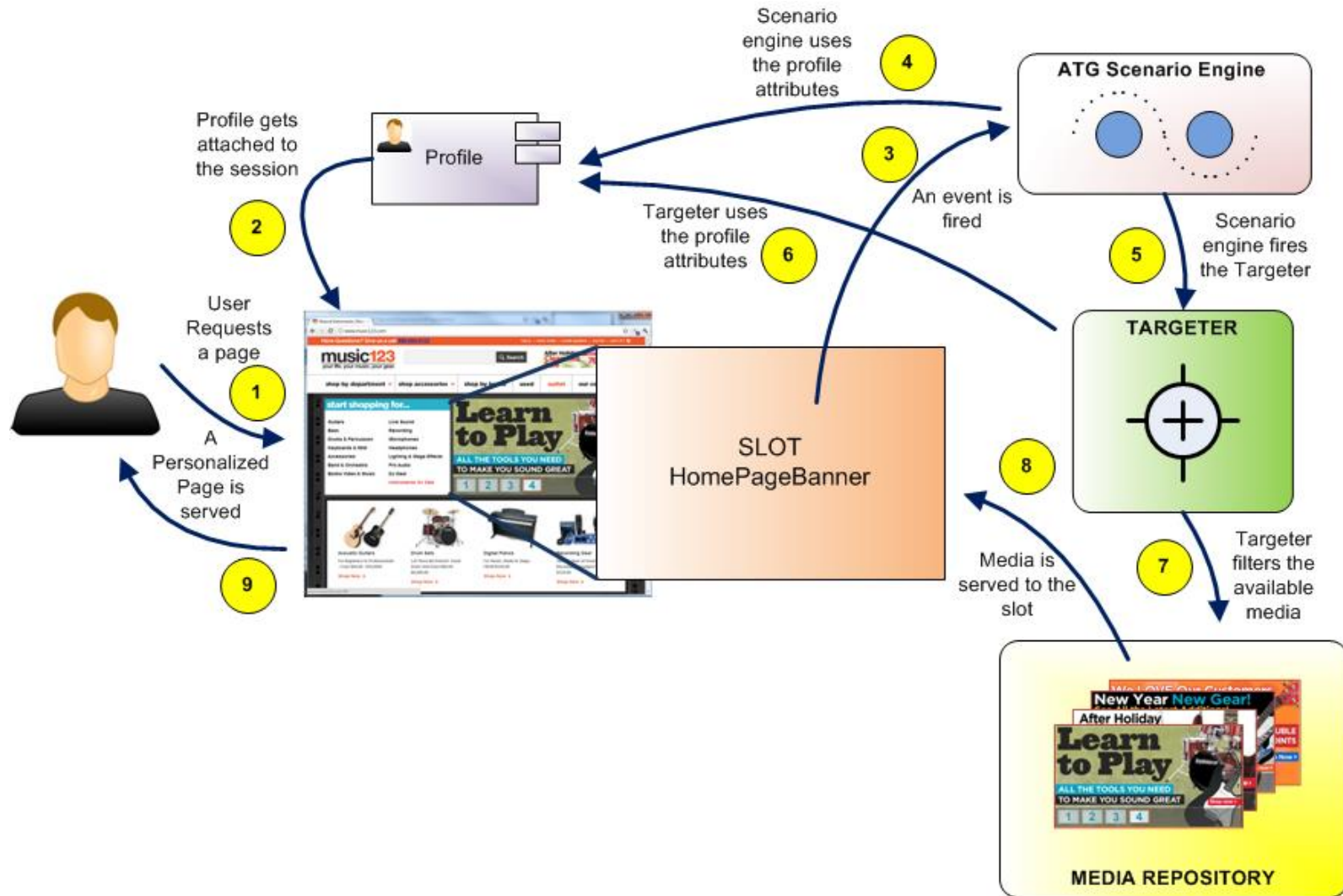
An Example of Personalization

- A user named Tommy Trojan visits the website.
- What we know about Tommy is:
 - He lives in Medford, OR,
 - Is about 21 years old,
 - Is trying to learn drums.
- A user named Josephine Bruin visits the website.
- What we know about Josephine is:
 - She lives in Los Angeles, CA,
 - Is about 32 years old,
 - Is an expert player of guitar.
- Personalization is using this information to serve personalized banners, product recommendations, and promotions to the user.

How Does It Happen?

- The user (Tommy or Josephine) visits the website URL publicized by the company.
- The servlet pipeline identifies the user as a returning user and attaches a profile to the their session.
- The scenario engine, listening to this event, triggers a scenario. The scenario identifies the user as belonging to a user segment.
- A targeter is invoked by the scenario. Content group containing banners for this user segment are retrieved and loaded into a slot.
- The slot is rendered on the page with this content and served to the user.
- The user views this content and purchases goods of interest to him/her.

Components Involved in Personalization



Components Involved in Personalization

- The following components were involved in serving the content to the users:
 - Profile,
 - Slot,
 - Scenario,
 - Targeter.
- Profile is the object representation of the user and contains attributes describing the user.
- A Slot is a container that is used to display and manage dynamic content on the site.
- A Scenario is an event-based channel or pipeline with conditions and actions.
- A Targeter is a rule-based content filter.

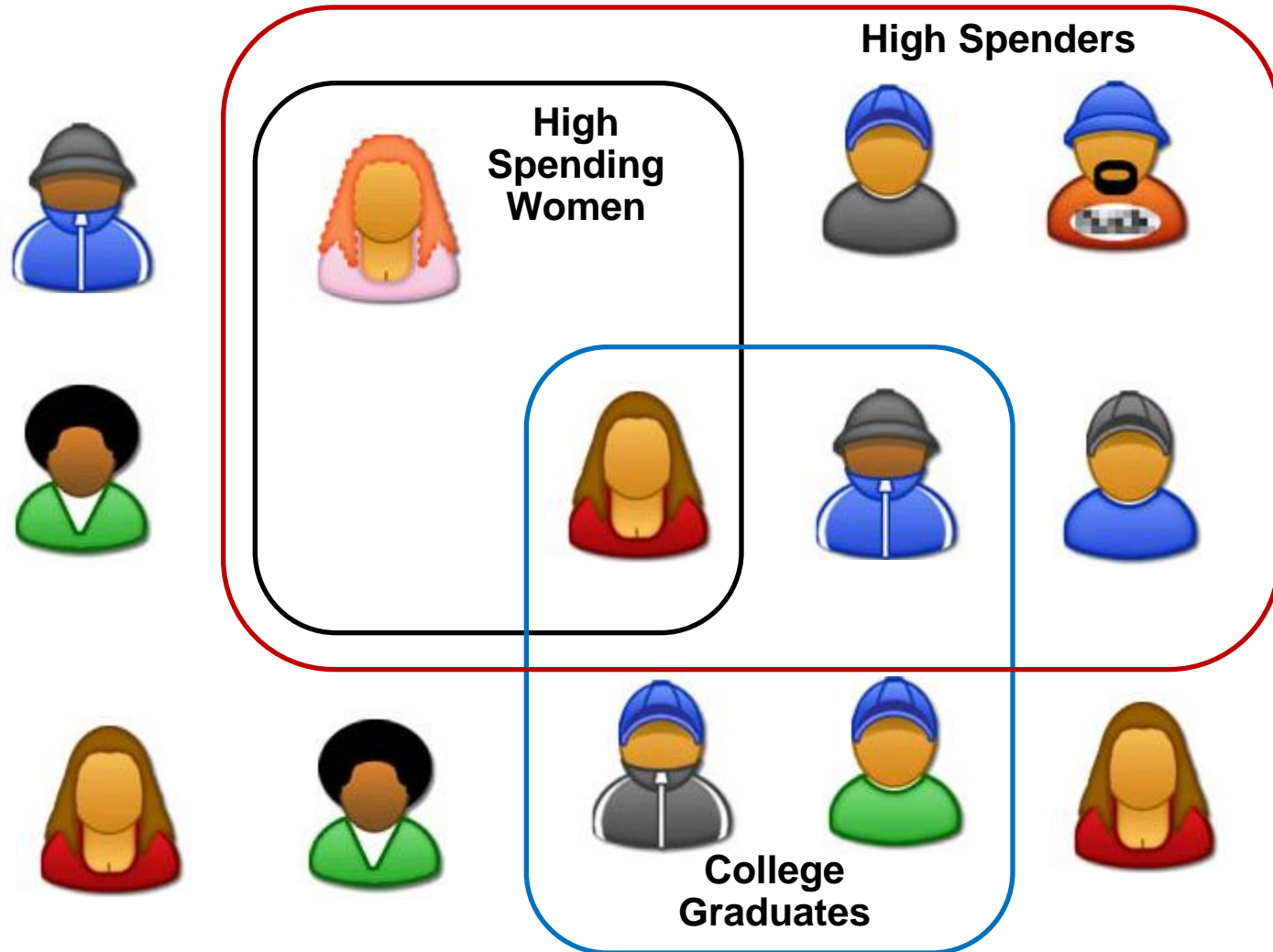
Profile Overview

- A user profile is a session scoped component that represents the user.
- User profile contains a set of attributes that define the user such as login, address, interests, etc.
- User profile contains two types of attributes:
 - **Explicit attributes** are those that are provided directly by the user such as name and address.
 - **Implicit attributes** are those that the system gathers from the users behavior such as last product viewed, items ordered, etc.
- Together, the explicit and implicit attributes provide a context for powerful personalization features.
- ATG ships with a set of default attributes for the user profile.
- The user profile can be extended to add more attributes.

User Segments

- User segments are profile groups that represent a segment of your target audience.
- User segments are defined with a set of rules that include and exclude users.
- Once the user segments are set up, the targeting UI allows you to deliver personalized content to people who match the rules defined in the user segment.
- This allows for reuse of user segments across various targeters that a site employs.
- Note that this feature is referred to as Profile Groups in ACC.
- Merchandisers use the BCC to edit user segments.

User Segments example

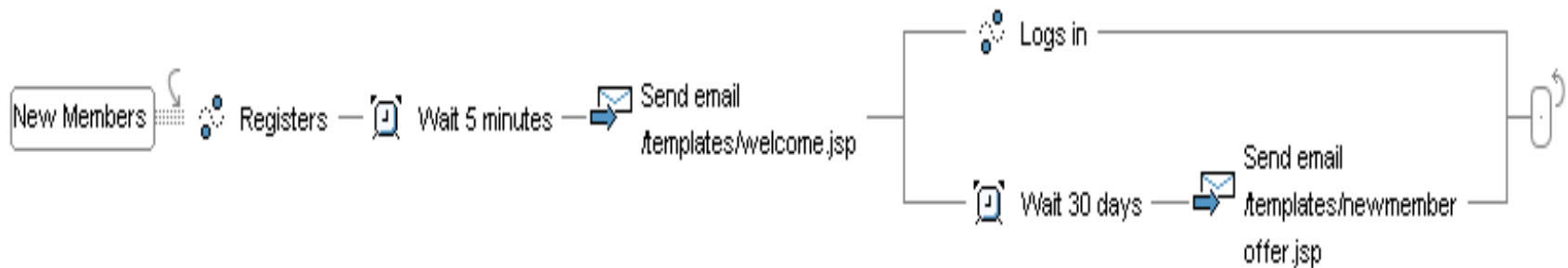


Scenarios

- Scenarios are choreographed series of interactions with the website visitors.
- Scenarios are event driven campaigns and can interact with your visitors over a long period of time and across multiple sessions.
- Scenarios contain:
 - **Time Elements** for waiting or executing at a given time.
 - **Event Elements** let you execute an action when something happens.
 - **Condition Elements** follow and further qualify an event element.
 - **Action Elements** allow you to take a specific action.
 - **Fork Elements** allow you to add parallel conditions so you can divide the scenario into branches.

Scenario Example

- In the scenario example, all the users who register are included in the tracking.
- The scenario then waits for 5 minutes and sends out a welcome email.
- If they login, the scenario ends for that user.
- If they do not login again within 30 days, a new member offer email is sent.



Slots

- Slots are containers that you can use to display and manage dynamic items on your website.
- Scenarios are used to fill slots with content.
- Targeting servlet beans are used to embed slots on a page.
- Slots have better caching and content display capability than targeters.
- Usually, the content from the slot comes from a targeter.
- Slots have:
 - Event generation capability,
 - Scope such as request, session, global,
 - Ordering,
 - Limits on number retrieved.

Slot Example

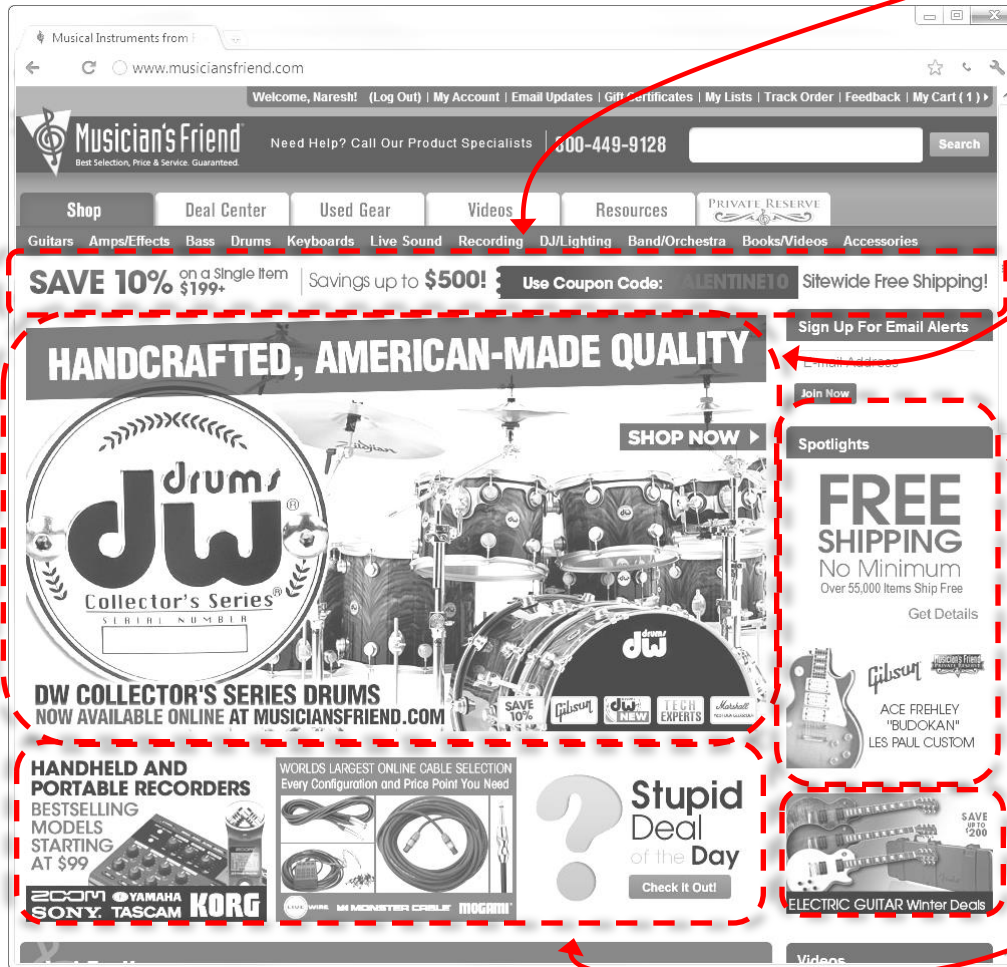
Event Promotion Slot

Home Banner Slot

Shipping Promotion Slot

Category Promotion Slot

Product Slots



Content Targeter

- Content targeters are a rule-based mechanism to group content items.
- They allow you to serve personalized content to specific users.
- Content targeters have:
 - Accept rules,
 - Reject rules,
 - Capability to combine accept and reject rules,
 - Sorting capability.
- Multiple targeters can be used to render a given page.
- Typically, the results of a targeter are fed to a slot and displayed on the page.

Example of a Targeter

The screenshot displays a web-based configuration interface for a targeter, organized into three tabs: General, Rules, and Security. The 'Rules' tab is active, showing two rule configurations.

Default Rule

- Insert Action:** As Seen On (highlighted in yellow), Include, Exclude
- As Seen On:** These Site(s): Site B, Site C (with a copy icon)
- Include:** Items whose { Default description contains (ignore case) ski or Default description contains (ignore case) kayak } .

Site Override Rule 1

- executes on:** Site B, Site C (with a copy icon)
- Insert Action:** As Seen On (highlighted in yellow), Include, Exclude
- As Seen On:** These Site(s): Site A (with a copy icon)
- Include:** Items whose { Default description contains (ignore case) golf } .

Steps to Personalization

- The following are the typical steps a merchandiser would take to set up site personalization:
 1. Set up visitor profiles.
 2. Create user segments.
 3. Set up content items.
 4. Group content items together.
 5. Match content with target audience in user segments.
 6. Track visitor behavior.
 7. Analyze data.
- Developers must support these activities by:
 - Defining and extending user profile,
 - Defining and extending the product catalog,
 - Create and configure scenarios, slots, and targeters,
 - Define and create scenario events and actions.

Section 1



Check Your Understanding

What modules does ATG provide to support personalization?

Answer: Dynamo Application Framework, ATG Personalization Module, and ATG Scenario Module.

Section 1



Check Your Understanding

What information is available to merchandisers to tailor a website to specific users' needs?

Answer: Profile information and user segments can be used to tailor web site content.

Section 1



Check Your Understanding

Which component attaches the user profile to the ATG session?

Answer: The Servlet Pipeline identifies the user and attaches the profile to the session.

Section 1



Check Your Understanding

What can merchandisers use to create business rules that match content to users?

Answer: Merchandisers use Targeters to write business rules.

Section 1

Check Your Understanding

What is a scenario?

Answer: A scenario is a choreographed series of interactions with the web site visitors.

Section 1

Check Your Understanding

What is a slot?

Answer: A slot is a container that you can use to manage and display dynamic items.

Summary

- Personalization is the process of serving specific, personalized content to web visitors.
- Profile is the object representation of the user and contains attributes describing the user.
- User segments are profile groups that represent a segment of your target audience.
- A slot is a container that is used to display and manage dynamic content on the site.
- A scenario is an event-based channel or pipeline with conditions and actions.
- A targeter is a rule-based content filter.



Section 2:

Using User Profiles



Profile Repository Overview

- A user profile is an object that has a set of attributes about a user.
- A profile repository is a SQL repository nucleus component that contains a collection of all user profiles.
- Each user profile is represented by an item in the profile repository.
- The attributes that make up the profile are stored as properties of the profile repository item.
- These attributes can be used to target content using scenarios and targeters.
- ATG ships with tools and form handlers to perform business functions using the profiles.

Internal Profile Repository

- ATG stores internal users such as merchandisers and administrators in a separate repository called the internal profile repository.
- All tools and extensions discussed for the profile repository are also applicable to the internal profile repository.
- The data is stored in a parallel set of tables such as dpi_user table.
- Internal users are typically explicitly created in the system using the Business Control Center.
- There is a fine grained security and access control mechanism available to control what each user can do.

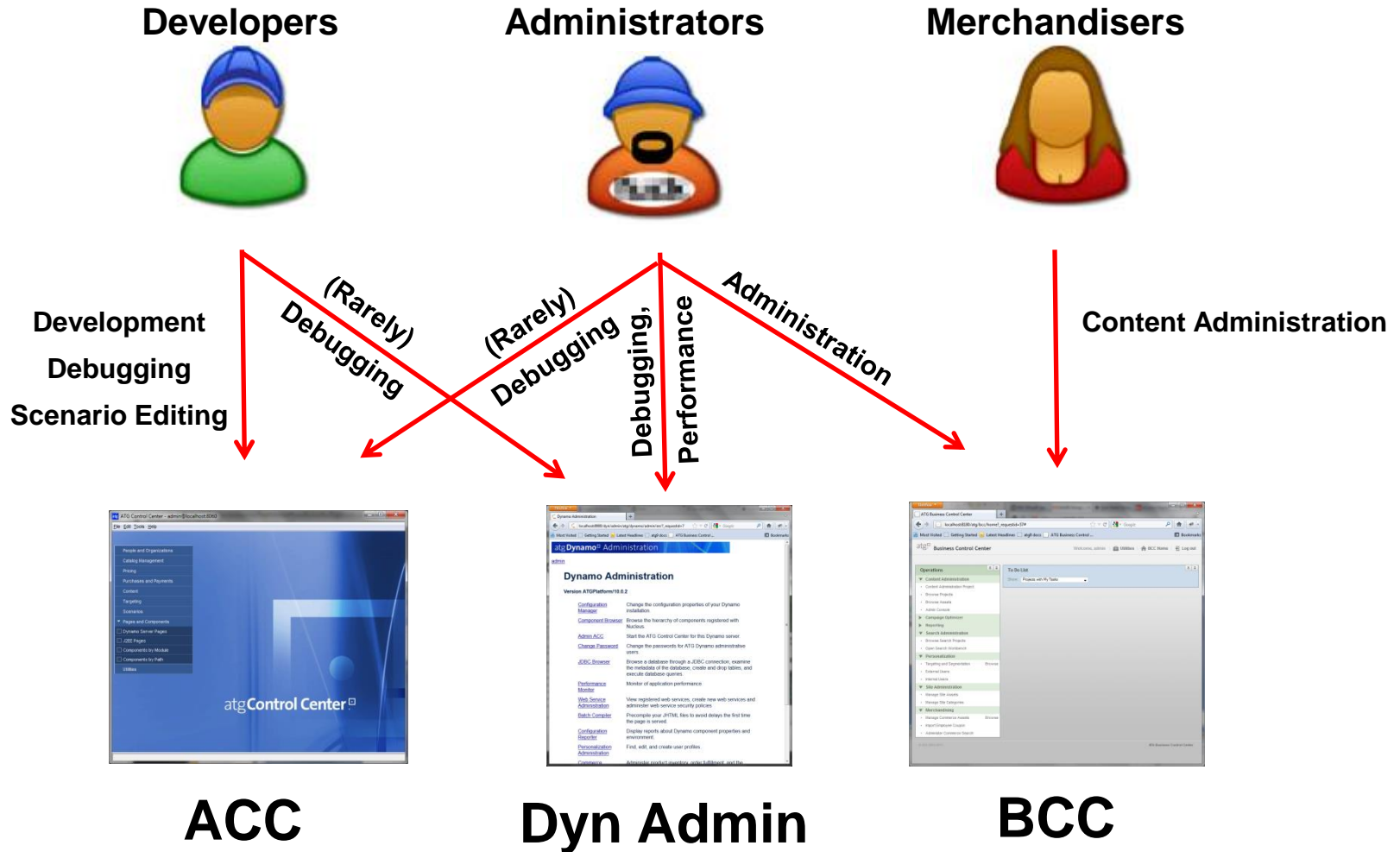
Implementations of Profile Repositories

- Profile repositories can be implemented using:
 - SQL profile repositories use relational databases.
 - LDAP profile repositories use LDAP directories.
 - Composite SQL/LDAP repositories integrate the information stored in various data sources such as databases and LDAP directories.
- ATG ships with a SQL profile repository implementation of profile repository.
- Developers may override this implementation by either enabling a LDAP or composite repository.
- The default SQL profile repository may also be extended to add additional attributes and functionality.

Administering User Profiles

- The user profiles can be administered using:
 - Business Control Center (BCC) is the recommended approach to manage user profiles.
 - Dynamo Administration (Dyn Admin) Interface allows administration of user profile.
 - The ATG Administration Control (ACC) can also be used in development environment to manage user profiles.
- The Dyn Admin interface is a good place to get a combined repository definition file and a list of item descriptors and their properties that make up the profile.
- The BCC is the recommended interface for managing profiles.

Administering User Profiles



ProfileAdapterRepository

- ProfileAdapterRepository is a standard SQL repository that ships with ATG.
- The personalization module provides a standard implementation of the repository definition file for the profile in the DPS module.
- This definition can be used as is, extended, or used as a model for further redesign.
- The repository is located in the nucleus at /atg/userprofiling/ProfileAdapterRepository .
- The repository definition file is located at /atg/userprofiling/userProfile.xml .

Profile Form Handler Overview

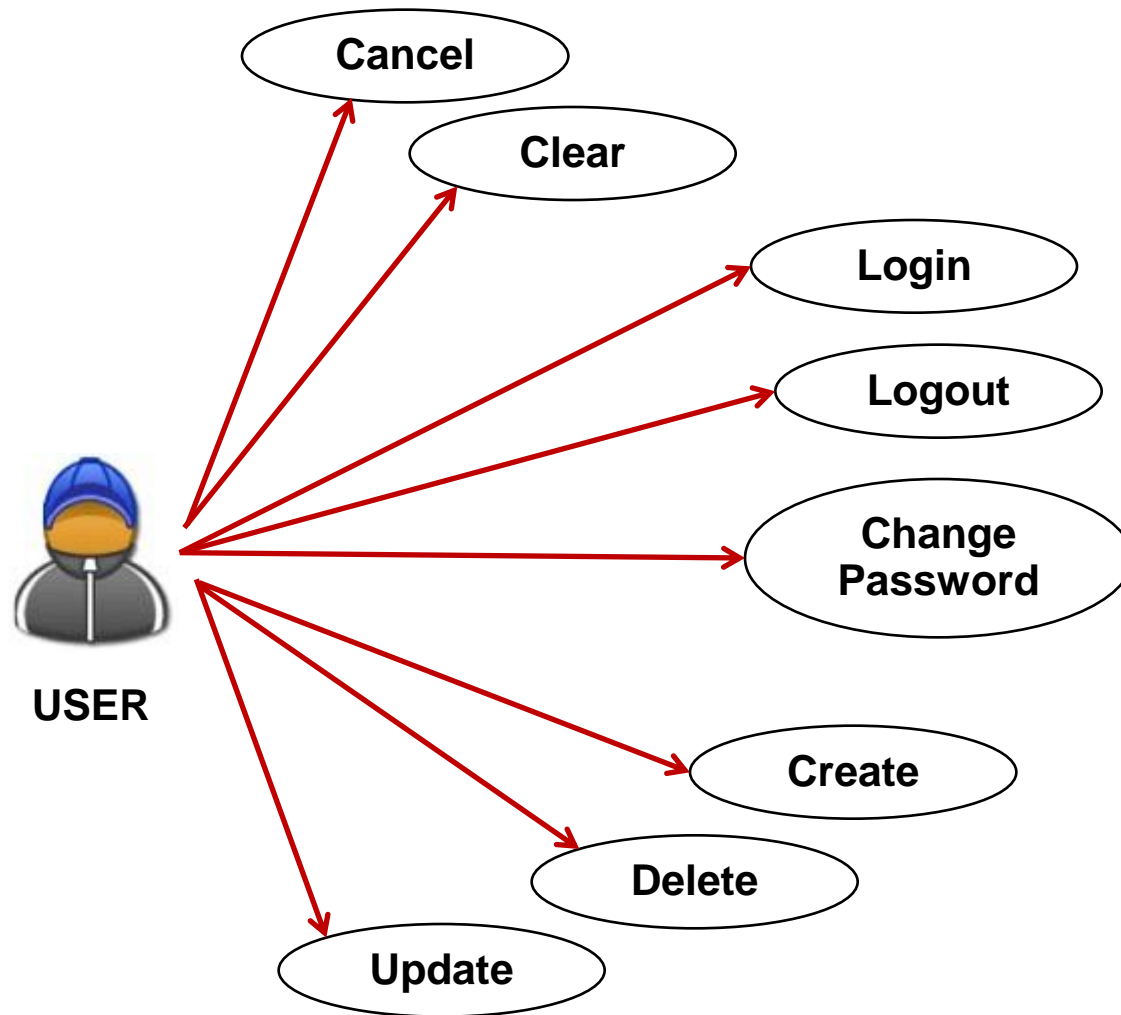
- Profile form handler is usually used to create and modify profiles using forms.
- The profile form handler is located at the nucleus location `atg/userprofiling/ProfileFormHandler` .
- The `ProfileFormHandler` handles the following tasks:
 - Profile creation and updates,
 - Use login and logout,
 - Assignment of existing roles and organizations to individual users and groups of users.

Profile Form Handler Submit Operations

```
<dsp:input bean="ProfileFormHandler.login"
           type="submit" value="Submit"/>
```

- The following submit operations are supported.
 - cancel: cancels any changes made by the user in the form.
 - clear: clears the values dictionary.
 - login: login using username and password.
 - logout: resets the profile to a new anonymous profile.
 - changePassword: changes the password of the current profile.
 - create: creates a new permanent profile.
 - delete: deletes the current profile.
 - update: modifies the properties of the current profile.

Profile Form Handler Operations



Setting Profile Values

- The input fields in the page are used to set the form handlers value property.
- All values on the profile on form submission are sent as a single transaction.
- The value dictionary stores property/value pairs such as firstname as key and Joe as value.
- Some of the value dictionary pairs may be to handle the form operations such as oldpassword.
- By attaching a bean attribute with value dictionary reference to the dsp:input tag, the user is shown the current value.

First Name:

```
<dsp:input bean="ProfileFormHandler.value.firstname"
           maxLength="30" size="25" type="text"/>
```


Example of a Profile Form Handler

Register

file:///C:/Temp/

First Name: Last Name:

Email Address:

Gender: ☐ Female ☐ Male

```
<dsp:page><dsp:form action="myProfile.jsp" method="post">

  First Name: <dsp:input bean="ProfileFormHandler.value.firstname"
                    maxlength="30" size="25" type="text"/>
  Last Name: <dsp:input bean="ProfileFormHandler.value.lastname"
                    maxlength="30" size="25" type="text"/>
  Email Address: <dsp:input bean="ProfileFormHandler.value.email"
                    maxlength="30" size="25" type="text"/>
  <dsp:input bean="ProfileFormHandler.value.gender"
                    type="radio" value="female"/> Female
  <dsp:input bean="ProfileFormHandler.value.gender"
                    type="radio" value="male"/> Male
  <dsp:input bean="ProfileFormHandler.create" type="submit" value=" Save
"/>
</dsp:form></dsp:page>
```

Profile Form Handler Properties

- Profile form handler properties can either be:
 - Set in the component and hence take global effect, OR
 - Set in the page and apply only to that page.
- The following are some of the main properties offered:
 - Password related fields such as confirmPassword, badPasswordDelay.
 - Event generation properties such as generateProfileUpdateEvents, profileUpdateEvents, and profileUpdateTrigger.
 - propertiesToCopyOnLogin is a list of properties that that will be copied to the logged in profile from the current (anonymous) profile.
 - trimProperties is a list of properties that must be trimmed.
 - extractDefaultValuesFromProfile is a boolean that indicates if the form should show initial values from current profile.

Navigation Properties

- Each profile form operation includes two redirection URLs in case you want to navigate to new page after the completion of the operation.
- The URL that the form navigates to on success is named `OPERATION_SUCCESS_URL`. Examples are `createSuccessURL`, `loginSuccessURL`, etc.
- The URL that the form navigates to on error is named `OPERATION_ERROR_URL`. Examples are `createErrorURL`, `loginErrorURL`.

```
<dsp:form action="login_success.jsp" method="post">
...
<dsp:input bean="ProfileFormHandler.loginErrorURL"
type="hidden" value="login_failed.jsp"/>
...
</dsp:form>
```

Profile Form Handler Error Messaging

- The ATG Servlet Bean ProfileErrorMessageForEach detects errors and displays the error message.
- It is an instance of ErrorMessageForEach.
- The nucleus path is
/atg/userprofiling/ProfileErrorMessageForEach .

```
<dsp:droplet name="Switch">
  <dsp:param bean="ProfileFormHandler.formError" name="value"/>
  <dsp:oparam name="true">
    <dsp:droplet name="ProfileErrorMessageForEach">
      <dsp:param name="exceptions"
                bean="ProfileFormHandler.formExceptions" />
      <dsp:oparam name="output">
        <LI><dsp:valueof param="message"/>
      </dsp:oparam>
    </dsp:droplet>
  </dsp:oparam>
</dsp:droplet>
```

Using Profiling Tools

- ATG ships with useful tools in the personalization module that help you handle user profiles.
 - **/atg/userprofiling/Profile**: A session scoped component wrapper around the profile repository item created by ProfileRequestServlet.
 - **/atg/userprofiling/ProfileRequest**: A request scoped object that gives you information about the request as related to profile specific parameters.
 - **/atg/userprofiling/ProfileTools**: A very useful component implementing many different pieces of functionality related to the repository API.
 - **/atg/userprofiling/PropertyManager**: Keeps information about important profile properties.
 - **/atg/userprofiling/ProfileEventTrigger** and **/atg/userprofiling/ProfileUpdateTrigger**: Trigger events during user's site experience and profile update respectively.

User Profile Tools

- ProfileTools is a very useful component as it implements various repository API related functionality.
 - locating users by login or user ID,
 - creating users,
 - updating properties of profiles.
- References to the other globally-scoped open profile adapter services.
 - Includes a reference to the current profile repository through the profileRepository property.
- This component saves developer time because they use the same underlying repository APIs.

Tracking Users

- Whenever a user accesses a site that uses the personalization module, two different mechanisms are used to track the user's actions:
 - A session is created for the user, and is maintained either through a cookie or through URL rewriting,
 - The user is associated with a profile.
- In general, you can choose to track guest users and registered users.

Tracking Guest Users

- Guests are anonymous users who have not registered and have not logged in.
- There are several different strategies you can use to track anonymous guest users:
 - Maintain a session for each guest, using ATG's session tracking, but do not attempt to gather any additional profile information.
 - Maintain a profile for each guest in memory, using implicit profile properties, but discard the profile when the guest's session expires.
 - Maintain a profile for each guest in the database, using a persistent cookie to identify anonymous users on subsequent visits.

Tracking Registered Users

- Typically sites identify users by login, but it may be annoying to the users to login.
- You can track the users by a feature called auto-login.
- This gives the personalization module enough information to track and personalize the site.
- You can use the security status to control login behavior.
- For example, you may still require the users to login to access my account, ordering, or other sensitive information.
- ATG support auto login features such as:
 - Auto-Login with Basic Authentication,
 - Auto-Login with Cookies,
 - Auto-Login by Profile.

Security Status

- Web sites need to balance the user's convenience with the need for security.
- Auto login is a convenience so users don't have to login every time.
- However, most sites require that the users login to access certain pages such as my account, ordering, etc.
- Security status indicates if the user is logged in or not and if so, how he was logged in, i.e. auto or manual.
- A security status of 0 indicates anonymous while 4 represents that he explicitly logged in.
- So, if the user tries to access a restricted page and the security status is not 4, 5, or 6, you should redirect the user to the login page.

Security status values

Value	Login Method used
0	Anonymous
1	Auto login by URL Parameter
2	Auto login by cookie
3	Login by http basic auth
4	Explicit login or registration with http
5	Explicit login or registration with https
6	Certificate provided (Not supported without customization)

Group	Explanation
0	The user is unknown.
1, 2	Auto login. Personalization is fine by restricted access to sensitive pages.
4, 5	Explicit Login. Full access to all site visitor features.
3, 6	Project specific. Check with requirements.

Section 2

Check Your Understanding

What implementation of the repository does ATG use for profile repository?

Answer: ATG implements profile repository as a SQL repository nucleus component.

Section 2

Check Your Understanding

What are the uses of profile attributes?

Answer: You can use profile attributes in targeters and scenarios to target content.

Section 2

Check Your Understanding

What is an internal profile repository?

Answer: ATG stores internal and external users in separate repositories. Internal profile repository stores internal users such as merchandisers and administrators.

Section 2

Check Your Understanding

Who commonly uses the ACC to administer profiles?

Answer: Administrators and developers commonly use the ACC.

Section 2



Check Your Understanding

Name a few submit operations for the profile form handler?

Answer: cancel, login, logout, create, delete, etc.

Section 2

Check Your Understanding

What is the ProfileTools component used for?

Answer: The ProfileTools component is used for locating users by login, creating users, and updating properties of users.

Summary

- A user profile is an object that has a set of attributes about a user.
- You can extend the profile to add custom attributes.
- ATG ships with a SQL profile repository implementation of profile repository.
- Use the ACC, Dyn Admin, and BCC to administer user profiles.
- Profile form handler is usually used to create and modify profiles using forms.
- ATG provides useful tools to handle user profiles.
- You can decide to track registered users and optionally include guests as well.





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