

Open Badges for SlideWiki –Technical System Documentation

This document describes the technical system specification for Open Badges for SlideWiki. This document has the information about the project overview, description, architecture information, configuration procedures, coding and testing information.

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1. Generalities

1.1. Revision History

Edition	Date	Authors	Remarks
01	13.08.2014	Amir Ansari, Nishananth Baskaran, Raghu Palakodety, Salman Siddiqui	Creation
02	07.10.2014	Nishananth Baskaran	Added information about the new tables created in Slidewiki Database

1.2. Overview

Open Badges for SlideWiki is the new feature for SlideWiki that issues the badges to the user for the self-assessment and translation activity with the help of Issuer API and allows users to display the badges in their page using the Displayer API.

1.3. References

The following are the reference document names:

- Open Badges for SlideWiki Requirement Specification
- Open Badges for SlideWiki Architecture Specification
- Open Badges for SlideWiki Test Specification
- Open Badges for SlideWiki Document Strategy Presentation
- XAMPP Installation
- SlideWiki Installation
- API Installation

2. Existing Behavior

Learning happens everywhere. However, it is often difficult to be recognized for skills and achievements that are gained outside of school. SlideWiki allows creating richly structured presentations comprising slides, self-test questionnaires, illustrations and the like. Activities like self-test and translation are not recognized by others when a user puts more effort. When a user passes a self-assessment with full marks, the marks are just stored in his profile. The translation activity which is considered to be one of the most difficult tasks is not recognized. The user's efforts are not known to the outside world. Self-Assessment and Translation are

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treated as just activities and did not provide further motivation since there is a lack of recognition.

3. Open Badges for SlideWiki Feature Description

Open Badges for SlideWiki project solves the unrecognition of the skills and the experiences. The feature is introduced by making it easy for anyone anywhere to issue, earn, and display badges in the SlideWiki. Badges will be issued now for the self-assessment and translation activities. This is the initial step for the recognition of the activities of the SlideWiki users. Badges can be used to represent the competencies and involvements of the users in SlideWiki. Badges are a digital representation which is now used to indicate the user's performance in self-assessment and in translation activities. Each badge is associated with an image and some metadata. The metadata provides information about what the badge represents and the evidence used to support it. By this way, a user can show to the SlideWiki community and outside about his performance and about the activities he is following sincerely.

3.1. Self-Assessment Activity

Self-assessment in SlideWiki is useful for the users to test their knowledge on topics they are interested in by taking a test. In general, the user can register for a self-assessment from the self-assessment catalogue or he can create his own self-assessment questions and add it to the catalogue and then take the test. When the test is finished, the user will be awarded with score. The score differs from user to user. However when a user has a full score in a test, he is just recognized as a normal user. This may not motivate the user to take more self-assessment or even not to create self-assessment questionnaires for others as a part of knowledge sharing. Open Badges for SlideWiki project will now issue badge for those who have secured full score in a self-assessment activity. Apart from this, the number of questions the user has answered and whose questions the user has answered needs to be checked in order to ensure quality for issuing a badge. As of now four conditions have been formed for this. In that, the first condition is the default one. They are:

- Test has exactly 10 questions and the test taker did not contribute any questions.
- Test has more than 10 questions and the test taker did not contribute any questions.
- Test has more than 10 questions and the test taker has contributed less than or equal to 10% questions of the total questions.
- Test has more than 10 questions and the test taker has contributed less than or equal to 5 questions of the total questions.

Since this badge is not issued to all users who take self-assessment, this badge will be like a motivation for the user who has secured full score for an assessment.

The Outstanding badge is issued to the user for Self-Assessment activity by SlideWiki with the help of ISSUER API. The Issuer API will push the badge to the Mozilla backpack which is owned by the user. Then from the Mozilla Backpack, the user can pull the badges

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and display them in the page provided for displaying the badges in SlideWiki using DISPLAYER API. In order to display the badges, user should make a group in Mozilla Backpack with the badges he needed to display and make the group as public. The Issuer API will help the user to verify the badge assertion data. The badge assertions comprise on the issuer, for what the badge is issued, issuing criteria and the like.

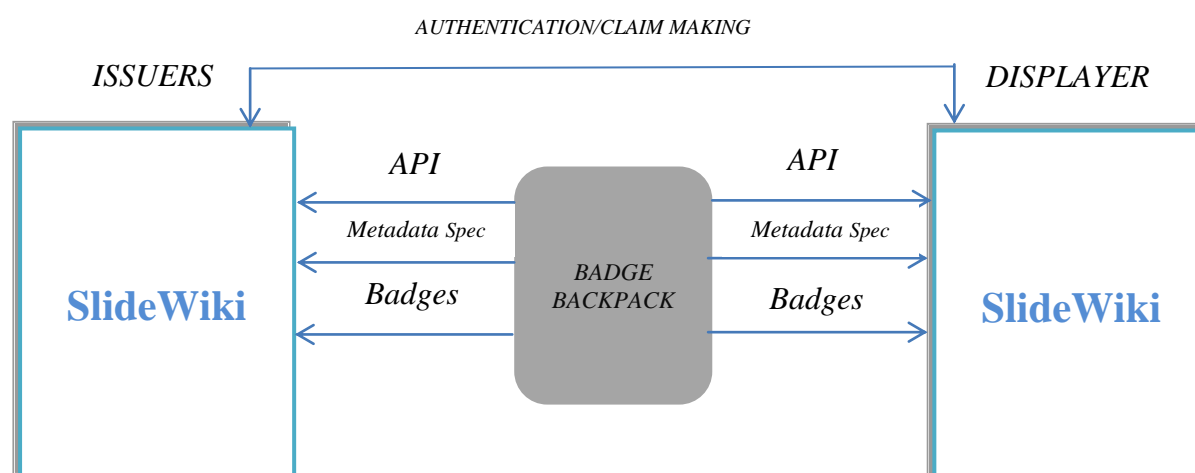
3.2. Translation Activity

Translation is also another important activity in SlideWiki. Translation process is carried out by many users in SlideWiki in order to produce deck of Slides for the technical topics which are in other languages. When this activity is recognized, it will motivate the user to translate more slides. There are three types of badges issued for the translation activity. First one is the basic badge, second one is the intermediate badge and the last one is the advanced badge. The basic badge is issued for the users, who have translated at least 50 slides. The users who have translated 100 slides will get the intermediate badge and the users who have translated more than 100 slides will get the advanced badge.

Initially a user will start his translation activity with the count of already translated slides as 0. Once he reaches 50 slides as his count, then the basic translation activity badge is issued by SlideWiki to the user. When the user translates another 50 slides, then the total count will be 100 and he will be issued intermediate translation activity badge. When the user crosses 100 slides as the total count, then he will be awarded advance translation activity badge. The issuing of the badges is taken care by ISSUER API and displaying the badges is taken care by DISPLAYER API which is same as describe in Self-Assessment activity.

4. Architecture Specification

The following diagram gives a general overview of the architecture of the Open Badges for SlideWiki:



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Here is an overview of how badging works:

- SlideWiki (Issuer) makes a badge available to the users (earners) of their website. When awarded the badge, the issuer sends it to the earner's Backpack.
 - The badge becomes portable through the Issuer API script, presenting the earner with a modal dialog that requests their consent to add the badge to their Backpack.
- SlideWiki (Displayer) pull unpacked badges out of the Backpack based on user action.
- Users can share their badges through their Backpack and can select what badges to display and what not to display in SlideWiki.
- Issuer helps the earner to check the metadata of the badge while issuing.

4.1. Definitions and Concepts

BADEGS

Badges are a digital representation for self-assessment and translation activity. Badges can represent competencies and involvements in SlideWiki. Each badge is associated with an image and some metadata. The metadata provides information about what the badge represents and the evidence used to support it.

ROLES

EARNER

Earners are someone who earns a badge and in SlideWiki earners are users. The earner can use their Backpack to manage and share their badges.

ISSUER

Issuer is an organization or an individual who issues Open Badges to their community. Here Issuer is SlideWiki. The issuer is responsible for defining badges, making them available to earners and handling applications for them.

DISPLAYER

Displayer is a website, organization, or person who accesses publicly shared Open Badges and displays them for badge earners. Here Displayer is SlideWiki.

TOOLS

MOZILLA BACKPACK

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The core authorized data store and management interface of Mozilla's reference implementation of the Backpack. Each earner has a Backpack where his/her badge data is stored.

ASSERTION SPECIFICATION

Badge metadata is represented as an assertion. The assertion specification defines the information within a badge. An assertion includes multiple items of data, such as: badge name and description, issuer, evidence and the issuing criteria. The assertion should carry all the information needed to process a badge. This ensures that badges can be fully understood and verified no matter where they are shared.

BADGE BAKING

A badge is an image combined with assertion data - badge baking embeds assertion data into an image to produce a portable badge.

ISSUER API

The Issuer API provides a script for issuers to let earners send badges to the Backpack.

DISPLAYER API

The Displayer API provides specifications for displaying badges beyond the Backpack.

VERIFICATION

Verification is a process of checking that a badge is valid and was issued to the person claiming it.

5. Technological Specifications

5.1. Software Aspects

The following are the software requirements for Open Badges for SlideWiki:

- XAMPP (It includes Apache, MySQL, PHP)

Or can be installed separately:

- Apache
- MySQL
- PHP

- SlideWiki
- APIs

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- Issuer API
- Displayer API

6. Operational Specification

6.1. XAMPP Configuration

- XAMPP can be downloaded from the website <http://www.apachefriends.org/download.html>.
- Open the .exe file by double clicking it.
- Select the language from the Menu and click OK button.
- Click the Next button.
- Click the Next button once again.
- Select the install options and click Install button.
- After the installation is finished, click Finish button.
- Open the XAMPP Control Panel.
- Start the Apache Service.
- Start the MySQL Service.

6.2. SlideWiki Configuration

SlideWiki can be downloaded from www.bitbucket.org. The following are the installation steps that to be followed for installing SlideWiki:

- Download and extract SlideWiki into your server document root folder (e.g. C:/wamp/www/).
- Create an empty database.
- Change the following parameters in php.ini configuration file.
 post_max_size = 750m
 upload_max_filesize = 750m
- Import **slidewiki/db/slidewiki.sql** into the recently created empty database.
- Configure the installation
 - Copy the **slidewiki/application/config/config.php-example** file to **slidewiki/application/config/config.php**.
 - Change the configuration accordingly to your database and site settings: You need to change the following lines:

```
define('DB_DSN',
'mysql:dbname=YOUR_DATABASE_NAME;host=YOUR_HOST_NAME;charset=utf8');
//database and hostname of the database
define('DB_NAME', 'YOUR_DATABASE_NAME'); //the name of recently created database for
slidewiki
define('DB_USER', 'YOUR_USER_NAME'); //the name of the user, who is granted ALL privileges
for slidewiki database
define('DB_PASSWORD', 'USER_PASSWORD'); //the password of the user
```

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```
define('BASE_PATH', 'YOUR_ROOT_LOCATION'); //URL path of index.php
```

- Check the configuration. Restart Apache service. For now the index page of SlideWiki should be already shown. However, you will need to configure your Apache and PHP installations before SlideWiki will be ready to use.
- Configure Apache. To work properly, SlideWiki requires `rewrite_module` to be enabled. Thus, be sure to uncomment the following line in `httpd.conf`:

```
LoadModulerewrite_module modules/mod_rewrite.s
```

- Additionally, the server must allow to use directives from `.htaccess` files. For this, your `httpd.conf` should include the following lines (`YOUR_DOCUMENT_ROOT` means the root directory for slidewiki, for example, `c:/wamp/www/slidewiki`)

```
DocumentRoot "YOUR_DOCUMENT_ROOT"
...
<Directory "YOUR_DOCUMENT_ROOT">
    AllowOverride all
...
</Directory>
```

- Configure PHP. To work properly, SlideWiki requires a number of modules to be enabled. For that, uncomment the following lines in `php.ini`:

```
extension=php_curl.dll
extension=php_mbstring.dll
extension=php_gd2.dll
extension=php_gettext.dll
extension=php_intl.dll
extension=php_mysql.dll
extension=php_mysqli.dll
extension=php_openssl.dll
extension=php_pdo_mysql.dll
extension=php_pdo_sqlite.dll
extension=php_tidy.dll
```

- As well, `short_open_tag` should be enabled. For this, change `short_open_tag = Off` to `short_open_tag = On`.
- Additionally, you need to copy **ssleay32.dll**, **libeay32.dll** and **php_curl.dll** from PHP directory to system directory (e.g. `C:\WINDOWS\System32`)
- Restart Apache to complete the SlideWiki installation. Your new SlideWiki includes default themes and transitions as well as documentation can be found on http://YOUR_ROOT_LOCATION/documentation.

6.2. API Configuration

The ISSUER API can be performed by Badge-it-gadget lite. The installation steps are below:

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- Place the badge-it-gadget-lite directory in a public directory on your web host. Ex: www.yourdomain.com/badge-it-gadget-lite.
- In www.yourdomain.com/process-badges/gadget-settings.php make your settings changes and add your badges.
- Set permissions for process-badges/badge_records.txt and the digital-badges/issued/json directory to rwxrwxrwx (chmod 777).
- You may need to update your existing .htaccess file in the public root directory of your host (where your index file is) because your host's apache settings may not recognize .json files (your badge assertions). You'll know this to be the case if the issuer api returns a content type error when you issue a badge. In the existing .htaccess file, or create a new one if you don't have one, and add this line:
AddType application/json .json.
- In a browser window navigate to www.yourdomain.com/badge-it-gadget-lite/process-badges/index.php.

7. Coding

badgeDescription.php

```
<style>
@CHARSET "ISO-8859-1";

#first {
    width: 350px;
    height: 190px;
    box-shadow: 2px 2px 7px #888888;
    float: right;
}

#inner {
    background-color: #3b5998;
    width: 350px;
    height: 30px;
    font-family: "verdana";
    font-size: 14px;
    color: white;
    text-align: center;
    padding-top: 10px;
    box-shadow: 2px 2px 7px #888888;
}

#wrap {
    width: 800px;
    height: 90px;
```

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```

        margin: 0 auto;
        padding-bottom: 50px;
        padding-left: 80px;
    }

    #description {
        font-family: "verdana";
        font-size: 12px;
        padding-top: 5px;
        padding-left: 5px;
        text-align: center;
        font-weight: bold;
    }

    #detail {
        width: 250px;
        height: 90px;
        padding-top: 30px;
        float: left;
        font-family: "verdana";
        font-size: 14px;
        padding-top: 10px;
        padding-left: 5px;
        text-align: left;
        font-size: 14px; //
        border: 2px solid;
    }

    #text {
        width: 420px;
        height: 600px;
        float: left; //
        border: 2px solid;
        font-family: "verdana";
        font-size: 14px;
    }

</style>

<title>SlideWiki: Authoring platform for OpenCourseWare</title>
<link rel="stylesheet" href="../user/mystyle.css">

<br>

<div id="text">
    <h4>SlideWiki Badges Are Here: Get Recognized!</h4>

```

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SlideWiki aims to revolutionize the way how educational material is authored, shared and used.

 Learning happens everywhere. However it is often difficult to be recognized for skills and achievements that are gained outside of school. Open Badges for SlideWiki project is working to solve that problem by making it easy for anyone anywhere to earn, and display badges in the SlideWiki. Badges are a special or distinctive mark, token, or device worn as a sign of allegiance, membership, authority, achievement, etc. The result will be broad recognition of the skills and the experiences.

Badges are not assessments ..!!</h4> Badges are the thing you get after you have learned something and successfully demonstrated learning through an assessment. The assessments are incredibly important because they are the evidence or meat behind the badges.

</div>

```
<!-- <body bgcolor="#E6E6FA"></body> -->
<div id="wrap">
  <div id="first">
    <div id="inner">Quiz Champion</div>
    <br> 
    <div id="description">Skill badge for scoring 100% in an assessment.</div>
  </div>

  <div id="first">
    <div id="inner">Basic Translator</div>
    <br> 
    <div id="description">Skill badge for translating atleast 50 slides.</div>
  </div>
  <br>

  <div id="first">
    <div id="inner">Intermediate Translator</div>
    <br> 
    <div id="description">Skill badge for translating atleast 100 slides.</div>
  </div>

  <div id="first">
    <div id="inner">Advanced Translator</div>
    <br> 
<div id="description">Skill badge for translating more than 100
slides.</div>
</div>

</div>

```

UserController.php:

This function is created to initialize and set variables which could later then be used inside “badges.php”

```

function badges(){
    if (!($this->_user['is_authorized'])){
        header('Location: '.BASE_PATH);
        die();
    }else{
        $user = new User();
        $id = $_SESSION['uid'];
        $user->createFromID($id);
        $user->subscriptions = $user->getSubscriptions();
        $this->set('profile',$user);
        $this->set('current_user',$id);
        $this->set ( 'page_title', "SlideWiki User - ".$user->username );
        $this->set ('name',$user->username);
        $user->createFromIDFull($id);
        $email=$user->getEmail();
        $user->subscriptions = $user->getSubscriptions();
        if($this->_user['id']){
            $current_user=new User();
            $current_user->createFromID($this->_user['id']);
            $current_user->subscriptions =
            $current_user->getSubscriptions();
            $this->set('isFollowing',$current_user-
>isFollowing('user',
            $id));
        }else{
            $this->set('isFollowing',0);
        }

        $this->set('profile',$user);
        $this->set('email',$email);
        $this->set('login_user', $this->_user['id']);
    }
}

```

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```

        $this->set ( 'page_title', "SlideWiki User - ".$user->username );
    }
}
}

```

profile.php:

This code is utilized to inform a user about his/her translation activity badge.

```

<?php $con=mysqli_connect('localhost','root','slidewiki');
// Check connection
if (mysqli_connect_errno()) {
    echo "Failed to connect to MySQL: " . mysqli_connect_error();
}
$sql = mysqli_query($con,"SELECT count(*) FROM `deck_revision` where user_id=360
and not translated_from_revision = 'NULL';"); //hardcoded for user_id=360 reason lack of
data from us
$row = mysqli_fetch_array($sql);

if ($row['count(*)'] == 50 ){
echo "<h3>Your Basic Translation Badge is ready claim it ";
echo "<a href= http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/process-
badges/index.php?verified=1&badge=2>here</a></h3>";
}

if ($row['count(*)'] >50 && $row['count(*)']<=100 ){
    echo "<h3>Your Intermediate Translation Badge is ready claim it ";
    echo "<a href= http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-badges/index.php?verified=1&badge=3>here</a></h3>";
}

if ($row['count(*)'] >=100 ){
    echo "<h3>Your Advanced Translation Badge is ready claim it ";
    echo "<a href= http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-badges/index.php?verified=1&badge=4 target=_blank
height=430,width=800>here</a></h3>";

}
?>

```

header.php:

Code to display menu to see the user's earned badges and import the badges from Mozilla Backpack.

```

<li><a href="./?url=user/badges"><?echo _("Earned Badges"); ?></a></li>

```

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```
<li><a href="#"
onClick="window.open('http://localhost/slideshow/Displayer/Displayer/index.php',
'_blank','height=400,width=800')"><? echo _("Import Badges"); ?></a></li>
```

badges.php:

The following code is used:

- To retrieve data from temporary cookie created to store and pass the deck id to the Displayer API.
- Database connection and query to fetch the user information.
- Check point to check if the user has previously imported his/her badges into SlideWiki database. If not then user is informed that he/she has not yet imported any badges.
- If previous record of badge import is found, Mozilla Backpack group id and user id is fetched from SlideWiki database to be used by Displayer API.
- Script to collect badge name, image URL, criteria URL and assertion URL from the badge JSON object retrieved from Mozilla Backpack and then display this information.

```
<?php $test_ID = $_COOKIE[testID]; ?>
<?php $sw_id=$profile->id;
$con=mysqli_connect('localhost','root','','slideshow');
// Check connection
if (mysqli_connect_errno()) {
    echo "Failed to connect to MySQL: " . mysqli_connect_error();
}
$sql = mysqli_query($con,"SELECT count(*) FROM badge WHERE
slideshow_id=$sw_id;");
$row = mysqli_fetch_array($sql);
if ($row['count(*)'] == 0 ){
    echo "<h3>You do not have any badges stored in the system.<br>To import badges
use import feature.</h3>";
}
else
    $sql = mysqli_query($con,"SELECT mb_user_id,group_id FROM badge where
slideshow_id=$sw_id");
    $row = mysqli_fetch_array($sql);
    $mozilla_id= $row['mb_user_id'];
    $mozilla_grp=$row['group_id'];
    echo "<script
src='http://ajax.googleapis.com/ajax/libs/jquery/1.7.2/jquery.min.js'></script>";
    echo "<script>";
    echo 'var url = "http://beta.openbadges.org/displayer/" . $mozilla_id . "/group/" .
$mozilla_grp . ".json";';
    echo 'var widgetcode = "<table>";
```

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```

?>

$.getJSON(url,
function(data) {
vari=0;
varwidgetcode = "<table>";
while (i<data.badges.length< 4) {
widgetcode = widgetcode + "<td align='center'>";
badgeName = data.badges[i].assertion.badge.name;
imgUrl = data.badges[i].assertion.badge.image;
critUrl = data.badges[i].assertion.badge.criteria;

critUrl = critUrl + "?deck=" + '<?php echo $test_ID ;?>';

assertUrl = data.badges[i].hostedUrl;
widgetcode = widgetcode + "<a href='" + assertUrl + "'><imgsrc='" + imgUrl + "' width='150'
height='150' border='0'/></a><br /></a><br>Criteria:<a href='" + critUrl + "'>" +
badgeName + "</a>" ;
widgetcode = widgetcode + "</td></tr>";
i = i+1;
if (i === data.badges.length) {
widgetcode = widgetcode + "</table>";

document.getElementById("badges").innerHTML=widgetcode;
return;

    }
}
}
);
</script>

```

badgewidget.php:

The following code will

- Notify about the process of importing badges into SlideWiki database.
- Database connection and query including a test whether user has previously imported his/her badges or not. If no record is found only then record is inserted into database.

```

<?php include('inc/header.php');
session_start();
?>
<div class="container-narrow">
<div class="masthead">

```

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```

        <h1 class="muted">Importing</h1>
        <h3>This page will close after importing from Mozilla Backpack is complete
    ..!!</h3>
</div>
<script type="text/javascript">
setTimeout(function(){
window.open("http://localhost/slideshow/?url=user/badges");
},2000);

setTimeout(function(){
    window.close();
},2000);
</script>
<?php

$mozilla_id=$_SESSION['mid'];
$mozilla_grp=$_SESSION['mgrp'];
$sw_id=$_SESSION['uid'];
$con=mysqli_connect('localhost','root','','slideshow');
// Check connection
if (mysqli_connect_errno()) {
echo "Failed to connect to MySQL: " . mysqli_connect_error();
}
$sql = mysqli_query($con,"SELECT count(*) FROM badge WHERE
slideshow_id=$sw_id;");
$row = mysqli_fetch_array($sql);

if ($row['count(*)'] ==0 ){
    mysqli_query($con,"INSERT INTO badge (slideshow_id,mb_user_id,group_id)
VALUES ('$sw_id', '$mozilla_id','$mozilla_grp')");
}
?>

```

question.js:

The following code is used:

- To retrieve number of questions inside a slide deck and this could later be used to decide the badge issue criteria.
- To extract relevant information from earlier created cookie to include the deck id inside the badge to be issued upon reaching score of 100%.
- Here the temporary cookie is created with the deck ID and then it is added to the test link which the user is taking at the moment for the assessment badge.

```
var temp = data.questions.toSource();
```

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```

var count = temp.match(/question:/g);
occurance = count.length;
alert("Total questions: " +occurance);
stars_live();

if ((wiki_app/max_points)*100 == 100){
    varallcookies = document.cookie;
    cookiearray =allcookies.split(';');
    testID = cookiearray[0].split('=')[1];

    alert("Congratulation..!! You scored 100% in this test, Claim your badge on pop-up
page");
    window.open("http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-
badges/index.php?verified=1&id="+testID+"",'name','height=430,width=800');
}

var link = "http://localhost/slidewiki/deck/"+id;
document.cookie = 'testID='+id;

function buildQuestList(data, nodeQuest){

    var attempt = $('#quests-area').attr('attempt');
    $('#results').show();
    $("#module").tmpl(data).appendTo(nodeQuest);
    var div = nodeQuest.find("#" + data.item_id);

    $('#questions_script').tmpl(data).appendTo(div.find("table tbody"));
    for (var i in data.questions) {
        countAllModels(data.questions[i].id, attempt);
    }
    for (var i in data.modules){
        buildQuestList(data.modules[i], div);
    }
    var temp = data.questions.toSource();
    var count = temp.match(/question:/g);
    no_OfQues = count.length;
    document.cookie='questions='+no_OfQues;

    var allcookies = document.cookie;
    cookiearray = allcookies.split(';');
    userName = cookiearray[0].split('=')[1];

    var str1 = data.questions.toSource();
    var str2 = userName;
    var userNameCount = (str1.match(new RegExp(str2, "g"))).length;

```

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```

document.cookie='contribution='+userNameCount;
}

function countModule(node){
    var quest_points = 0;
    var now = 0;

    node.attr("mod_max",0);
    node.attr("wiki_app",0);
    node.attr("dich",0);
    node.attr("mtf",0);
    node.attr("morgan",0);
    node.attr("ripkey",0);
    if (node.find("tr.question_string").length){
        node.find("tr.question_string").each(function() {
            var quest_diff = parseFloat($(this).find("[name='diff']").html());
            now = parseFloat(node.attr("mod_max"));
            node.attr("mod_max", parseFloat(now+quest_diff));
            var points_tab = $(this).find("[name='points_ts']");
            points_tab.each(function(){
                quest_points = parseFloat($(this).html()) * quest_diff / 100;
                var model = $(this).attr('model');
                now = parseFloat(node.attr(model));
                node.attr(model, parseFloat(now+quest_points));
            })
        });

        var max_points = parseFloat(node.attr("mod_max"));
        var wiki_app = parseFloat(node.attr("wiki_app"));
        var dich = parseFloat(node.attr("dich"));
        var mtf = parseFloat(node.attr("mtf"));
        var morgan = parseFloat(node.attr("morgan"));
        var ripkey = parseFloat(node.attr("ripkey"));
        var maxForUser = parseFloat(node.attr("maxForUser"));

        node.find('[name="module_total"]').remove();

        node.append(
            "<div name='module_total'><table><tr name='total_string' bgcolor='pink'><td
style='text-align: right !important'><b>Total:</b><td>"
            + "Guess-based:" + ((wiki_app/max_points)*100).toFixed(2) + "% "
            + "</td><td>Dichotomous:" + ((dich/max_points)*100).toFixed(2)+
            "%</td><td>MTF:" + ((mtf/max_points)*100).toFixed(2)+ "%</td><td>Morgan:"
            + ((morgan/max_points)*100).toFixed(2)+ "%</td><td>Ripkey:"
            + ((ripkey/max_points)*100).toFixed(2)+ "%</td><td>your best is: " +
            (maxForUser*100).toFixed(2) + "%</td></tr></table></div>"
        )
    }
}

```

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```

);

checkCriteria(wiki_app,max_points);

node.children("[name='moduleDiv']").each(function() {
    countModule($(this));
});
}else{
    node.remove();
}
}

function checkCriteria(wiki_app,max_points){
    var allcookies = document.cookie;
    cookiearray = allcookies.split(';');
    userName = cookiearray[0].split('=')[1];
    testID = cookiearray[1].split('=')[1];
    qCount = cookiearray[2].split('=')[1];
    userContribution = cookiearray[3].split('=')[1];

    if ((wiki_app/max_points)*100 == 100) && qCount >= 10 && userContribution == 0
){ // basic criteria [test has 10 or more questions and test taker did not contributed any
questions]

    alert("Congratulation..!! You scored 100% in this test, Claim your badge on pop-up
page");
    window.open("http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/process-
badges/index.php?verified=1&id="+testID+"",'name','height=430,width=800');
    }

    /*
    if ((wiki_app/max_points)*100 == 100) && qCount > 10 && userContribution == 0
){ // alternate criteria 1 [test has more than 10 questions and test taker did not contributed any
questions]

    alert("Congratulation..!! You scored 100% in this test, Claim your badge on pop-
up page");
    window.open("http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-
badges/index.php?verified=1&id="+testID+"",'name','height=430,width=800');
    }

```

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```

        if ((wiki_app/max_points)*100 == 100) && qCount > 10 &&
(userContribution/qCount)*100 <= 10 ) ){ // alternate criteria 2 [test has more than 10
questions and test taker has contributed less than or equal to 10% questions]

        alert("Congratulation..!! You scored 100% in this test, Claim your badge on pop-
up page");
        window.open("http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-
badges/index.php?verified=1&id="+testID+"",'name','height=430,width=800');
    }

        if ((wiki_app/max_points)*100 == 100) && qCount > 10 && userContribution <= 5
){ // alternate criteria 3 [test has more than 10 questions and test taker has contributed 5 or
less questions]

        alert("Congratulation..!! You scored 100% in this test, Claim your badge on pop-
up page");
        window.open("http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-
master/process-
badges/index.php?verified=1&id="+testID+"",'name','height=430,width=800');
    }

    */
}

function showDeckQuestions(id) {

    $('#additional-elements').hide();
    if (!reloadTabContent('Questions',id,'qd'))
        return;

    $.ajax({

        url : './?url=ajax/showDeckQuestions&id=' + id,
        async : false,
        success : function(msg) {
            var data = eval("(" + msg + ")");
            $("#item_questions").tmpl(data).appendTo("#itemquestions");
            for ( var i in data.questions.accepted ) {
                diff = data.questions.accepted[i].difficulty; // итоговый рейтинг
                var diff_id = data.questions.accepted[i].id;
                var star_widht = diff*9;
                $("#diff_bar_"+diff_id).width(star_widht);
            }
            var temp = data.questions.toSource();
            var count = temp.match(/question:/g);

```

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```

        var totalQuestions = count.length;
        if (totalQuestions < 10){
            alert("This deck does not meet minimum requirement of 10 questions. No
badge will be issued.");
        }
        stars_live();
    }
});
}

```

index.php:

This code is utilized to check and select the relevant badge to issue.

```

<?php if ($_GET['verified'] <> 1){
header('Location: ./index.html');
}

$a = $_GET['badge'];
include 'gadget-settings.php';?>

if ($a==2)
{
    $badge_select .= '<option value="" . 2 . "" selected>' . $badges_array[2]['name']
. '</option>';
}elseif ($a==3)
{
    $badge_select .= '<option value="" . 3 . "" selected>' . $badges_array[3]['name']
. '</option>';
}elseif ($a==4)
{
    $badge_select .= '<option value="" . 4 . "" selected>' . $badges_array[4]['name']
. '</option>';
}else
{
    $badge_select .= '<option value="" . 1 . "" selected>' . $badges_array[1]['name']
. '</option>';
}

$badge_select .= '</select>';

?>

```

gadget.php:

```

$test_ID=$_SESSION['link'];
$evidence ="http://localhost/slidewiki/deck/".$test_ID";

```

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\$badgeEvidenceURL= \$evidence;

gadget-settings.php:

This is badge assertion array. Here relevant and necessary data is combined together to make a valid badge assertion.

```
$badges_array = array(
    1 =>array(
        "name" => "Quiz Champion",
        "image" => "Self-Assessment.png",
        "description" => "This badge is issued for scoring 100% in a SlideWiki quiz",
        "criteria_url" => "http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/digital-badges/quiz_champ_criteria.php",
    ),
    2 =>array(
        "name" => "Basic Translator",
        "image" => "Translation-Basic.png",
        "description" => "This badge is issued for translating 50 slides on SlideWiki.",
        "criteria_url" => "http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/digital-badges/basic_translator.php",
    ),
    3 =>array(
        "name" => "Intermediate Translator",
        "image" => "Translation-Intermediate.png",
        "description" => "This badge is issued for translating 100 slides on SlideWiki.",
        "criteria_url" => "http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/digital-badges/intermediate_translator.php",
    ),
    4 =>array(
        "name" => "Advanced Translator",
        "image" => "Translation-Advanced.png",
        "description" => "This badge is issued for translating more than 100 slides on SlideWiki.",
        "criteria_url" => "http://salmansiddiqui.byethost15.com/badge-it-gadget-lite-master/digital-badges/advanced_translator.php",
    ));
```

New Tables in SlideWiki Database:

Table Name: **badge**

Column Name	Data Type
slidewiki_id	Integer

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mb_user_id	Integer
group_id	Integer

Table Name: **badge_import_details**

Column Name	Data Type
badge_type	Char
user_id	Integer

8. Test Specification

8.1. Test Strategy

- Creating Self-Assessment by the user
- Take Self-Assessment of another user
- Translation checked by translating up to 3 slides
- User must have Mozilla backpack account
- Different types of web browsers should be used

Theme	Specification coverage
Unit Testing	NO
Non-Functional Testing	YES
Functional Testing	YES

8.2. Test Cases

Non-Functional Test Cases:

Plan: Test Name	Status	PR_ID
01_Check XAMPP Working	Pass	
02_Start Apache Service	Pass	
03_Start MySQL Service	Pass	
04_Open SlideWiki	Pass	
05_Check Issuer API and Displayer API	Pass	
06_Check Mozilla Backpack account	Pass	
07_Log into SlideWiki	Pass	
08_Check Display badges page in SlideWiki	Pass	
09_Check Import Badge option in SlideWiki	Pass	
10_Check Issue Badges for creating a deck	Pass	
11_Check SlideWiki Badges Description Menu	Pass	

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Functional Test Cases:

Issuing Badges Test Cases:

Plan: Test Name	Status	PR_ID
01_Take his own Self- Assessment	Pass	
02_Take a Self-Assessment from the catalogue	Pass	
03_Check Issue Badges for scores less than 100	Pass	
04_Check Issue Badges for scores equals 100 and mismatching question criteria	Pass	
05_Check Issue Badges for scores equals 100 and matching question criteria	Pass	
06_Verify the Self-Assessment badges	Pass	
07_Push the badges into user's Mozilla Backpack	Pass	
08_Issue Basic Translation Activity Badge	Pass	
09_Issue Intermediate Translation Activity Badge	Pass	
10_Issue Basic Translation Activity Badge	Pass	
11_Verify the Basic Translation badge	Pass	
12_Verify the Intermediate Translation badge	Pass	
13_Verify the Advance Translation badge	Pass	

Displaying Badges Test Cases:

Plan: Test Name	Status	PR_ID
01_Group the badges	Pass	
02_Import the badges into SlideWiki	Pass	
03_Display the badges in SlideWiki	Pass	
04_Display the badges in the Social Networking sites	Pass	

8.3. Test Results

Name of the Project	Total #Tests	Tests #Passed	Tests #failed	Validation coverage
Open Badges for SlideWiki	28	28	0	100 %

Test coverage rate = $[(0 + 28) / 28] \times 100 = 100 \%$

9. Problem Reports

NA

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10. Conclusion

Open Badges for SlideWiki will help the user to show his performance to the outside world. This will bring a positive effect to the SlideWiki and the number of users may increase. Also, the existing user may contribute more in order to obtain badges. Open Badges for SlideWiki can be extended to other activities other than Self-Assessment and Translation where the user puts his most of his efforts in the form of learning and contribution. This extension can be done as an enhancement in the future.

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