

External Interface to the Ampere Society Data

- draft 1.0 from 21.Juli.2016
 - draft 1.1 from 10.Okt.2018
- added data protection information string
- draft 1.2 from 22. Feb.2021
- added student information

Scope

Any participant at a conference organized by Ampere Society or its subgroups is required to be member of the Ampere Society. If the person is not yet a member, the membership fee is added to the conference fee and the person automatically becomes a member for one year. We provide a data communication interface to support and simplify the implied processes.

Basic interaction

With each registration for the conference, the conference organizer requests a membership status from Ampere Society through this interface. Either the registrant is paid member, not yet paid member or not yet member.

Depending on the membership status, the Ampere Society membership fee has to be added to the invoice. Upon completed registration, Ampere Society automatically receives the participant's data through the provided interface. The interface should also be used during onsite registration. The process has two steps. First, the site of the conference organizer requests a membership status in order to determine whether or not the AMPERE membership fee should be added to the conference fee. Upon completion of the registration at the conference organizer, a second request is sent in order to register the person at AMPERE Society for this particular conference. The second step is necessary in order to avoid double charging if a person registers for several AMPERE conferences in the same year. Our server can also return the membership conditions in XML format.

Interaction details

Up to now, there are three interactions

- request membership status
- request registration
- request the membership conditions to be displayed

general message format

messages can be sent through POST Variables, or as XML fields

Common to all is

- the field "access header" is an identifier of the conference plus an access key, constant.
- the field "requestnumber" is a unique number chosen by the requesters to match request and reply on the requesters side.
- the field "targetURL" as in \$url=\$_SESSION['targetURL']; is <https://www.ampere-society.org/xaccess.php>

Ampere Society is prepared to process multiple requests from one or more conferences in parallel.

```
general XML message format to be sent to our server
< message>
  < access>access header< /access>           // identifies
an external server
  < op>operation specifier< /op>
  < reqnumber> requestnumber < /reqnumber>   // random or
sequenced number to match a reply to the request
  < whatever> ...
< /message>
```

With PHP the XML message is being sent to our server as

```
$_SESSION['requestnumber']=time();

$_SESSION['accessheader']='myconference-8723890780498327423785
'; // sample
$url=$_SESSION['targetURL'];           // our URL

$datatopost=array();
$msg='< message>< access>'.$_SESSION['accessheader'].'< /
access>';
$msg.='< op>operation to be performed< /op>';
$msg.='< requestnumber>'.$_SESSION['requestnumber'].'< /
requestnumber>';
$msg.='< whatever>'.$whatever.'< /whatever>';
..
$msg.='< /message>';
$datatopost['message']=$msg;
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;
```

Alternatively the messages may also be sent as POST variables in a similar way

```
operation : 1
access : access header           // as
myconference-8723890780498327423785
reqnumber : 1470133796         // here as time()
whatever : ..
```

with PHP, this POST execution looks like

```
$_SESSION['requestnumber']=time();
```

```

$_SESSION['accessheader']='myconference-8723890780498327423785
';
    $url=$_SESSION['targetURL'];                // our URL

    $datatopost=array();
    $datatopost['access']=$_SESSION['accessheader'];
    $datatopost['operation']=1;
    $datatopost['requestnumber']=$_SESSION['requestnumber'];
    $datatopost['whatever']=$whatever;
    $curl = curl_init($url);
    curl_setopt($curl,CURLOPT_URL,$url);
    curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
    curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
    curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
    curl_setopt($curl,CURLOPT_TIMEOUT,10);
    $result=curl_exec($curl);
    curl_close($curl);
    $_SESSION['curlresult']=$result;

```

The reply is in XML as

```

< message>
< op>reply specifier< /op>
< reqnumber> requestnumber < /reqnumber>           // random or
sequenced number to match a reply to the request
< whatever> ...
< /message>

```

Request for membership status

The request for membership status contains the datafields in XML format.

An optional second email address (altmail) may help finding the member.

```

a sample XML status request message
< message>
< access>access header< /access>                //
myconference-8723890780498327423785
< op>statusrequest< /op>
< reqnumber> 1470133796 < /reqnumber>           //
random or sequenced number to match a reply to the request
< firstname> John < /firstname>
< familyname> Doe < /familyname>
< email> john.doe@gmail.com < /email>
< declaredmember> yes/no < /declaredmember>     // as 1/0
optional
< title> Dr < /title>
< altmail> .. < /altmail>
< /message>

```

With PHP the XML message is being sent to our server as

```

$_SESSION['requestnumber']=time();

```

```

$_SESSION['accessheader']='myconference-8723890780498327423785
';
    $url=$_SESSION['targetURL'];                // our URL

    $datatopost=array();
    $msg='< message>< access>'.$_SESSION['accessheader'].'< /
access>';
    $msg.='< op>statusrequest';
    $msg.='< requestnumber>'.$_SESSION['requestnumber'].'< /
requestnumber>';
    $msg.='< title>'.$ptitle.'< /title>';
    $msg.='< first>'.$pfirst.'< /first>';
    $msg.='< family>'.$pfamily.'< /family>';
    $msg.='< email>'.$pemail.'< /email>';
    if ($paltmail!='') { $msg.='< altmail>'.$paltmail.'< /
altmail>'; }
    $msg.='< member>'.$pmember.'< /member>';
    $msg.='< /message>';
    $datatopost['message']=$msg;
    $curl = curl_init($url);
    curl_setopt($curl,CURLOPT_URL,$url);
    curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
    curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
    curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
    curl_setopt($curl,CURLOPT_TIMEOUT,10);
    $result=curl_exec($curl);
    curl_close($curl);
    $_SESSION['curlresult']=$result;
Alternatively with PHP with the same variables sent as POST
    $_SESSION['requestnumber']=time();

```

```

$_SESSION['accessheader']='myconference-8723890780498327423785
';
    $url=$_SESSION['targetURL'];                // our URL

    $datatopost=array();
    $datatopost['access']=$_SESSION['accessheader'];
    $datatopost['statusrequest']=1;
    $datatopost['requestnumber']=$_SESSION['requestnumber'];
    $datatopost['first']=$pfirst;
    $datatopost['family']=$pfamily;
    if ($ptitle!='') { $datatopost['title']=$ptitle; }
    $datatopost['email']=$pemail;
    if ($paltmail!='') { $datatopost['altmail']=$paltmail; }
    $datatopost['pmember']=$pmember;
    if ($pstudent!='') { $datatopost['student']=$pstudent; }
    $curl = curl_init($url);
    curl_setopt($curl,CURLOPT_URL,$url);
    curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
    curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);

```

```

curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;

```

The reply to the status request is in XML and looks like

```

< message>
  < op> MembershipStatus < /op>
  < reqnumber> 1470133796 < /reqnumber>
  < status> PaidMember or UnpaidMember or NotMember or
UnpaidStudent or PaidStudent < /status>
< /message>

```

Participant Registration Request

The "register participant request" contains the datafields in XML format or as POST fields. Here we need the postal address and optionally a second email address which allows matching the participant in the future.

```

as XML
< message>
  < access>access header< /access>           //
myconference-8723890780498327423785
  < op>register< /op>
  < reqnumber> 1470133796 < /reqnumber>     // random or
sequenced number to match a reply to the request
  < firstname> John < /firstname>
  < familyname> Doe < /familyname>
  < email> john.doe@gmail.com < /email>
  < street> astreet < /street>
  < zip> 1234 < /zip>
  < town> atown < /town>
  < country> acountry < /country>
optional
  < title> Dr < /title>
  < altmail> .. < /altmail>
  < uni> .. < /uni>
  < company> .. < /company>
  < institute> .. < /institute>
  < student> 1 < /student>
< /message>

```

With PHP the registration request as XML message is being sent to our server as

```

$_SESSION['requestnumber']=time();

$_SESSION['accessheader']='myconference-8723890780498327423785
';
$url=$_SESSION['targetURL'];           // our URL

$datatopost=array();

```

```

$msg='< message>'._SESSION['accessheader'].'';
$msg.='< op>register< /op>';
$msg.='< requestnumber>'._SESSION['requestnumber']. '< /
requestnumber>';
$msg.='< title>'._$ptitle. '';
$msg.='< first>'._$pfirst. '< /first>';
$msg.='< family>'._$pfamily. '< /family>';
$msg.='< email>'._$pemail. '< /email>';
if ($paltmail!='') { $msg.='< altmail>'._$paltmail. '< /
altmail>'; }
$msg.='< member>'._$pmember. '< /member>';
$msg.='< uni>'._$pmember. '< /uni>';
$msg.='< company>'._$pmember. '';
$msg.='< institute>'._$pmember. '< /institute>';
$msg.='< room>'._$pmember. '< /room>';
$msg.='< street>'._$pmember. '< /street>';
$msg.='< town>'._$pmember. '< /town>';
$msg.='< zip>'._$pmember. '< /zip>';
$msg.='< country>'._$pmember. '< /country>';
$msg.='< student>'._$pmember. '< /student>';
$msg.='< /message>';
$datatopost['message']=$msg;
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
_SESSION['curlresult']=$result;
now, the register request as POST
register : 1
access : access header //
myconference-8723890780498327423785
reqnumber : 1470133796
firstname : John
familyname : Doe
email : john.doe@gmail.com
street : aroad 1
zip : 1234
town : atown
country : acountry
optional
title : Hr,Mrs or Dr or ..
altmail :
uni :
company :
institute :
student : 1

```

in PHP, the register request is executed as

```
$_SESSION['requestnumber']=time();

$_SESSION['accessheader']='myconference-8723890780498327423785
';
$url=$_SESSION['targetURL'];           // our URL

$datatopost=array();
$datatopost['access']=$_SESSION['accessheader'];
$datatopost['operation']=1;
$datatopost['requestnumber']=$_SESSION['requestnumber'];
$datatopost['whatever']=$ptitle;
$datatopost['first']=$pfirst;
$datatopost['family']=$pfamily;
$datatopost['email']=$pemail;
$datatopost['altmail']=$paltmail;
$datatopost['pmember']=$pmember;
$datatopost['uni']=$puni;
$datatopost['company']=$pcompany;
$datatopost['institute']=$pinstitute;
$datatopost['room']=$proom;
$datatopost['street']=$pstreet;
$datatopost['town']=$ptown;
$datatopost['zip']=$pzip;
$datatopost['country']=$pcountry;
$datatopost['student']=$pstudent;
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;
```

The reply is also in XML and contains

```
< message>
  < op> registration < /op>
  < reqnumber> 1470133796 < /reqnumber>
  < status> registered < /status>
< /message>
```

where in all cases the field "access header" is a specifier of the conference plus an access key **supporting requests**

membership conditions through a request. They have to be shown for the registration.

```

as XML
< message>
  < access>access header< /access>
  < op>requestampereconditions< /op>
  < reqnumber> 1470133796 < /reqnumber>      # random or
sequenced number to match a reply to the request
< /message>

```

With PHP it is being sent to our server as

```
$_SESSION['requestnumber']=time();
```

```
$_SESSION['accessheader']='myconference-8723890780498327423785';
```

```
  $url=$_SESSION['targetURL'];           // our URL
```

```

$datatopost=array();
$msg=''.$_SESSION['accessheader'].'';
$msg.='requestampereconditions';
$msg=''.$_SESSION['requestnumber'].'';
$msg.='';
$datatopost['message']=$msg;
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;

```

as POST, the conditions request looks like

```

access header : myconference-8723890780498327423785
op : requestampereconditions
reqnumber : 1470133796

```

executed in PHP

```
$_SESSION['requestnumber']=time();
```

```
$_SESSION['accessheader']='myconference-8723890780498327423785';
```

```
  $url=$_SESSION['targetURL'];           // our URL
```

```

$datatopost=array();
$datatopost['access']=$_SESSION['accessheader'];
$datatopost['requestampereconditions']=1;
$datatopost['requestnumber']=$_SESSION['requestnumber'];
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);

```



```

curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;

```

The sample reply to the condition request is in XML as

```

< message>
  < op> ampereconditions < /op>
  < reqnumber> 1470133796 < /reqnumber>
  < story> This Ampere membership lasts for the current year.
           A cancellation of an ongoing membership is not
possible.
           The membership does not renew automatically. You
can lookup
           your personal data under: ampere website
  < /story>
< /message>

```

data protection information through a request. They have to be shown for the registration.
as XML

```

< message>
  < access>access header< /access>
  < op>requestdatasafety< /op>
  < reqnumber> 1470133796 < /reqnumber>      # random or
sequenced number to match a reply to the request
< /message>

```

With PHP it is being sent to our server as

```

$_SESSION['requestnumber']=time();

$_SESSION['accessheader']='myconference-8723890780498327423785
';
$url=$_SESSION['targetURL'];           // our URL

$datatopost=array();
$msg=''.$_SESSION['accessheader'].'';
$msg.='requestdatasafety';
$msg=''.$_SESSION['requestnumber'].'';
$msg.='';
$datatopost['message']=$msg;
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);

```

```

$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;
as POST, the conditions request looks like

```

```

access header : myconference-8723890780498327423785
op : requestdatasafety
reqnumber : 1470133796

```

executed in PHP

```

$_SESSION['requestnumber']=time();

$_SESSION['accessheader']='myconference-8723890780498327423785
';
$url=$_SESSION['targetURL']; // our URL

$datatopost=array();
$datatopost['access']=$_SESSION['accessheader'];
$datatopost['requestdatasafety']=1;
$datatopost['requestnumber']=$_SESSION['requestnumber'];
$curl = curl_init($url);
curl_setopt($curl,CURLOPT_URL,$url);
curl_setopt($curl,CURLOPT_POST,sizeof($datatopost));
curl_setopt($curl,CURLOPT_POSTFIELDS,$datatopost);
curl_setopt($curl,CURLOPT_RETURNTRANSFER,true);
curl_setopt($curl,CURLOPT_TIMEOUT,10);
$result=curl_exec($curl);
curl_close($curl);
$_SESSION['curlresult']=$result;

```

The sample reply to the data protection information request is in XML as

```

< message>
  < op> requestdatasafety < /op>
  < reqnumber> 1470133796 < /reqnumber>
  < story> Your personal data is treated as strictly
confidential and is neither
  passed on nor sold to third parties, with the exception of
the membership status
  only, that will be communicated to Ampere Congress
Organizers in order for the
  Ampere member to get a discount on the registration fee.
  < /story>
< /message>

```

task flow

conference organizer does	registrant does	Ampere Society does
------------------------------	-----------------	---------------------

display registration page		
	fills in registration data	
sends Membership status request with email, title, first name, family name declared member		
		looks up Membership status, by first comparing the email, then the name and title, replies PaidMember / UnpaidMember / NotMember

evaluates reply as				
declar ed memb er	found	actio n		
yes	paid	conti nue		
yes	unpaid memb er	refle ct state and add fee		
yes	no memb er	refle ct state and add fee		
no	paid	refle ct state and conti nue		
no	not paid memb er	refle ct state and add fee		
no	not memb er	refle ct state and add fee		
where add fee and/or reflect state requires another step of acknowledgment by the conference participant				
			if required acknowledges the fee or state	

displays payment options, cancellation rules		
	selects and continues to payment	
does whatever to complete the registration, sends registration data to Ampere Society		
		adds participants data to database, in case of a new member sends email to participant, repeating the conditions and a link to the personal data at Ampere Society
	receives welcome email, a link to the website and membership profile	

registration cancellations

to be sent to Ampere Society by email by the conference organizer.

if the person became member through registration for this conference, we remove the non-participant from our database

further

A testclient is [here](#)