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Margarita Starskaya and Özgüc Çagdas

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Working Paper

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# Analysis of the Online Collection Software provided by the European Commission for the European Citizens' Initiative

Margarita Starskaya
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With a preface by Alexander Prosser

**Preface**

The European Citizens' Initiative introduced by the Treaty of Lisbon promised the direct engagement of citizens in the Union's affairs and a valuable contribution to the building of a European identity. In Regulation 211/2011 however, the entire burden of collecting support declarations was left with the organizers of an Initiative – both on paper and online. Literally the only contribution to be made by the Union is the online collection software: "The Commission should make available an open-source software incorporating the relevant technical and security features necessary in order to comply with the provisions of this Regulation as regards online collection systems" (Recital 16 leg cit). This piece of software is to be installed by the organizers on their own infrastructure and to be run on their own resources. The question arose how appropriate this software would be for its intended use.

Two master students at the Department of Information Systems and Process Management, Margarita Starskaya and Özgüç Çağdaş, were tasked to analyze the software from the point of view of the organizer of an Initiative as their master thesis. They conducted the analysis *independently* from one another without knowing that a second student had been given the same task and yet arrived at the same results. Only after the results were presented their work was merged into one document. This Working Paper is the result. Both students have produced a technical report up to the highest professional standards and as their supervisor I have to both congratulate them.

Sadly enough, such praise cannot be conferred to the software under inspection. Here a short summary of the issues found:

- The installation process is complex and cumbersome; the same applies to the current administration (cf. for example the "login" procedure for administrators on pp. 42ff);
- Inconclusive error messages without any information as to what went wrong following the pattern on p. 54;
- Not even rudimentary duplicate checks (cf. the examples on p. 55);
- The software is not usable by the visually impaired thereby violating the Union's own goal of inclusiveness (p. 60), if this software was part of Austrian eGovernment it would hence not meet the legal requirements (§1(3) E-GovG based on Art 7 of the Constitution);
- Annex III, which is the core of the collection process, is not correctly implemented in that combinations of nationality and location of the supporter are technically possible which are not admissible, eg, a U.K. subject entering a support declaration on the Austrian quota (see the examples on pp. 60ff);
- The minimum age to submit a support declaration is 18, except for Austria where it is 16 – the software implements 16 for all Member States.

On a more general note, there is no indication how the update and patch process is to be envisaged. Due to rapidly changing threat patterns on the Internet, it is common – and good – practice to issue regular patches and security updates for any software offered on the Internet, in addition to normal bug fixing. Such a complete absence of any kind of maintenance considerations is rather exotic for an Internet platform.

The Commission has recognized the issue and has apologized for the software, see also http://www.democracy-international.org/eci-software.html, promising a "solution" in the near future.

The main issue, however, still remains the "privatization" of what is essentially a citizen right. It seems doubtful whether the consumption of a citizen right can be made dependent on the provision of substantial financial means and the acceptance of massive civil, penal and administrative liabilities (see Art 13 and 14 of the Regulation). The solution can therefore only be a collection process under the responsibility of the "State" – ie, the Member State for the local paper collection (as is currently the case in Austria, Germany and other MS for national initiatives) and the Union for a central online collection *system* (not just a downloadable piece of software) to be offered free of charge for all registered Initiatives.

Then, and only then, will the European Citizens' Initiative become what it was obviously intended to be by the authors of the Treaty of Lisbon: A unifying instrument of pan-European citizen engagement.

Alexander Prosser, Vienna, September 2012

# Contents

# 1. Introduction

## 1.1. Research question

The European Parliament and the Council of the European Union introduced in February 2011 the European Citizens' Initiative, a new form of public involvement in developing EU policies. The European Citizens' Initiative is set to make the EU more democratic by giving its citizens a possibility of a more direct say on political matters, as well as influence Commission's decisions on the new legislation once a million signatures from a specified number of member states is collected. In order to collect the signatures, the Commission developed free Online Collection Software.

The Online Collection Software will be used by the organizer of the proposed initiative to collect statements of support from European nationals over the Internet. A successful and effective implementation of the new software requires a close analysis and testing of the correct functioning of the application, which are the main research areas of this thesis. A detailed analysis of the following issues in this work should be considered to gradually improve the usability and flexibility of the software:

- Installation of the software
- Overview of the system (provided interfaces, features, statement of support forms, country & language codes of the software)
- Submission of statements of support
- Process of the collected data (export)
- Access of the homepage of the initiative by another computer over an established network
- Analysis of technical specifications
- Analysis of developers' support
- Summary of the findings and recommendations for the improvement

## 1.2. Structure of the work

The analysis begins with a short description of the European Citizens' Initiative (ECI), its goals and steps that should be considered in order to start the initiative. Chapter 3 covers analysis of the software specific issues, including the installation of the software, overview of the system, input and export of the sample data (statements of support). The final section of chapter 3 analyses the rules regarding the use of the software, set out in Regulation (EU) 211/2011 on the citizens' initiative and technical specifications specified in Regulation (EU) 1179/2011. The final chapter of this work summarizes observations and results, as well as recommendations to be considered.

# 2.  European Citizens' Initiative

## 2.1.  About

The European Citizens' Initiative was set out in February 2011 by the European Parliament and the Council of the European Union (1). The project will allow EU citizens to amend or repeal an existing EU law, or propose a new one (e.g. in the area of environment, agriculture, transport or public health) to the European Commission. The proposed initiative has to be in the Commission's sphere of influence, whereas the citizens believe that a legal act on part of the Union is required. All EU individuals, who are eligible to vote in the European Parliament elections, are able to participate in the program. The minimum age to vote is set at 18 in all Member States except Austria, where the voting age is 16 (2).

*Figure 1* shows the homepage of the European Citizens' Initiative which provides detailed information about the project and the procedure. It should be mentioned that the project is not expected to be launched before April 1 2012.
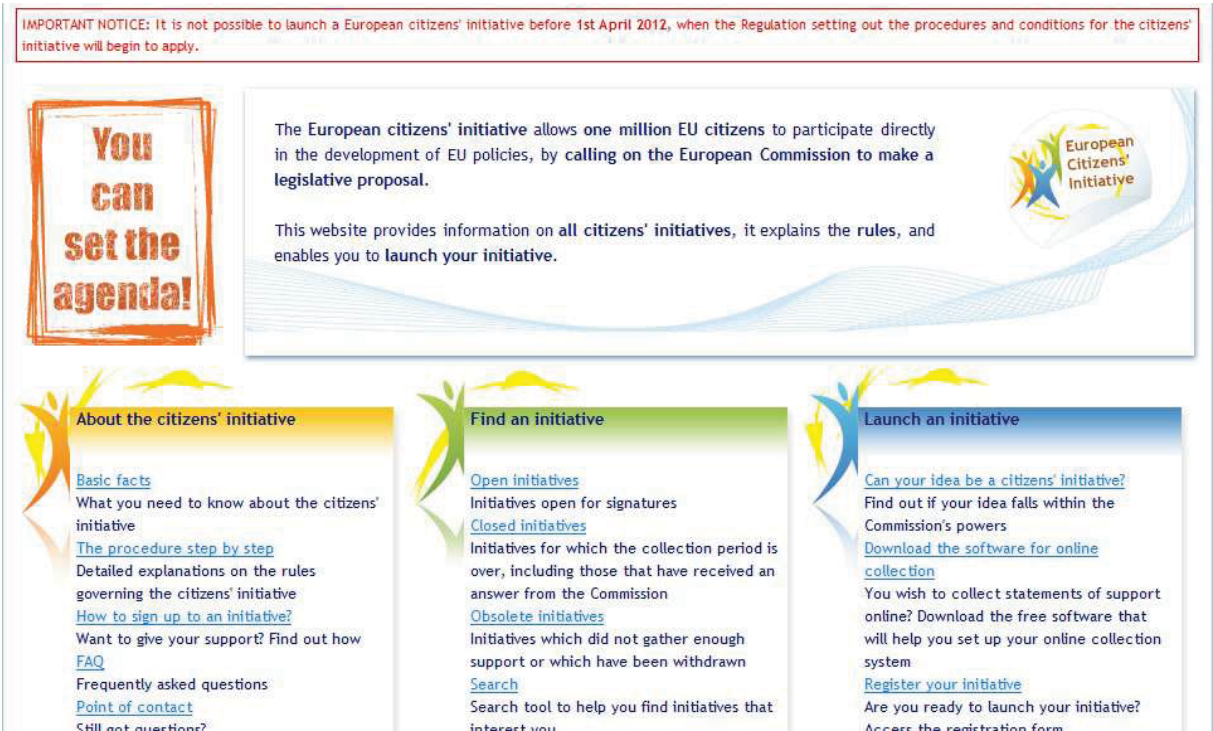


**Figure 1: Homepage of the European Citizens' Initiative (3)**

## 2.2. The procedure



**GET STARTED!**

1. Prepare your initiative and set up your citizens' committee.

2. Register your initiative.
Commission answers within 2 months

3. You wish to collect online? Get your system certified.
National authority answers within 1 month

**COLLECT!**

4. Collect statements of support in at least 7 EU countries.
Max. 12 months

5. Get statements of support certified by national authorities.
National authorities answer within 3 months

**SUBMIT!**

6. You have at least 1 000 000 signatories? Submit your initiative to the Commission.

7. The Commission examines your initiative and replies.
Commission answers within 3 months

8. If the Commission decides to follow your initiative: the legislative procedure starts.
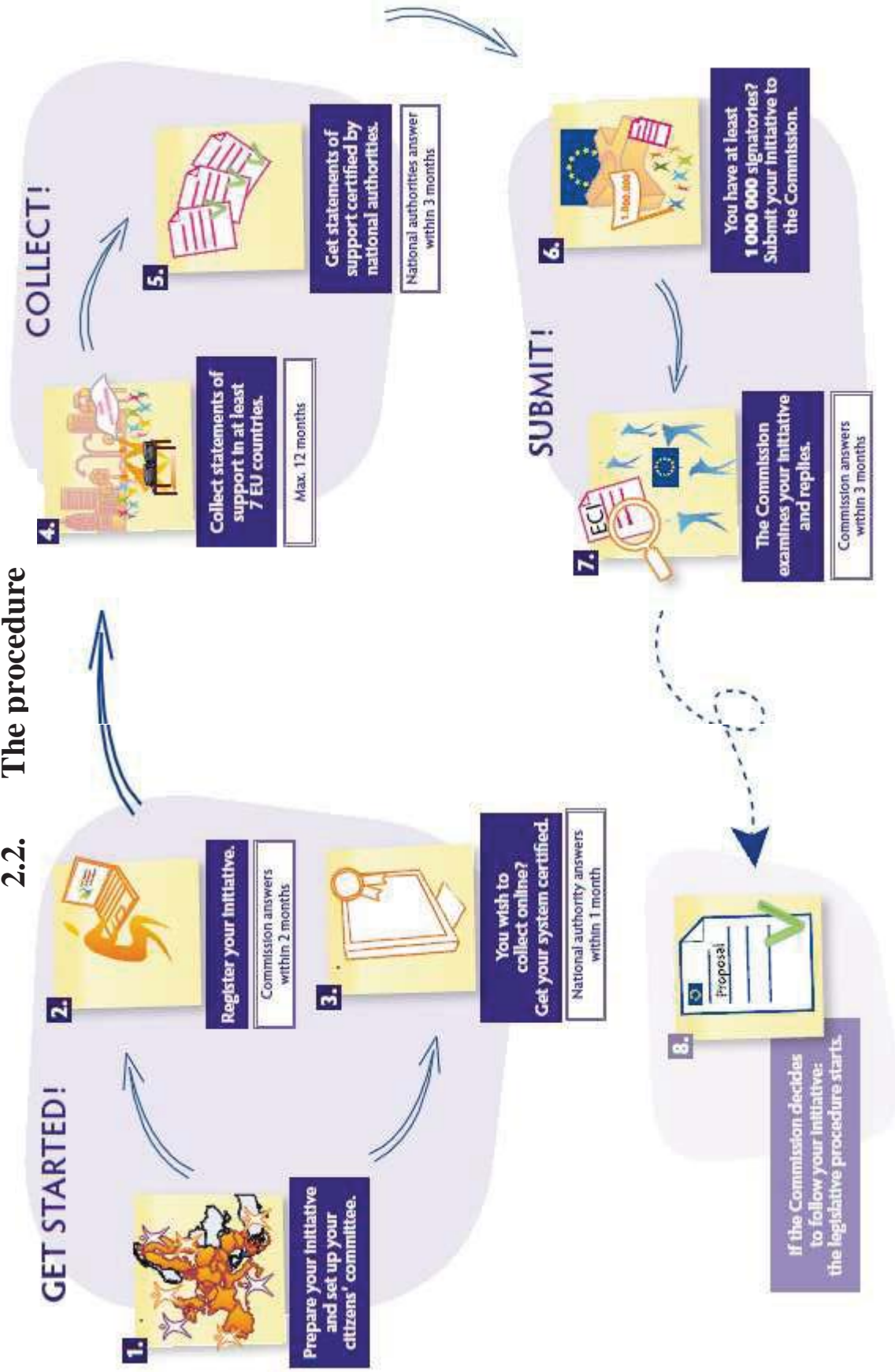
Figure 2: The procedure of the European Citizens' Initiative (2 pp. 14-15)

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The whole activity of the European Citizens' Initiative is shown in *Figure 2*. The implementation of the initiative requires following steps to be taken by the organizers:

Step 1:

First of all a proposed initiative has to be provided by the organiser which:

- *"does not manifestly fall outside the framework of the Commission's powers to submit a proposal for a legal act of the Union for the purpose of implementing the Treaties;"* (1 p. L 65/4 Article 4(2b))
- *"is not manifestly abusive, frivolous or vexatious"* (1 p. L 65/4 Article 4(2c))
- *"is not manifestly contrary to the values of the Union as set out in Article 2 TEU."* (1 p. L 65/4 Article 4(2d))

Detailed information on whether a proposed initiative meets the requirements can be found on the homepage of the European Citizens' Initiative (3).

Organisations cannot launch an initiative but "*should be able to promote a citizens' initiative, provided that they do so with full transparency.*" (1 p. L65/2 (9)). Next step is the establishment of a citizens' committee, also called "organizers", who will be "*responsible for the preparation of a citizens' initiative and its submission to the Commission.*" (1 p. L65/4 Article 2(3)). This committee should consist "*of at least seven persons who are residents of at least seven different Member States.*" (1 p. L 65/4 Article 3(2)) and are old enough to vote in European Parliament elections (1 p. L 65/4 Article 3(1)).

The committee should have "*one representative and one substitute ('the contact persons'), who shall liaise between the citizens' committee and the institutions of the Union throughout the procedure and who shall be mandated to speak and act on behalf of the citizens' committee*" (1 p. L 65/4 Article 3(2)). After the fulfillment of Step 1, Step 2 and 3 can be applied simultaneously.

Step 2:

The proposed initiative should be registered by the European Commission, in order to begin with the collection of the statements of support. Information of the proposed initiative, such as subject matter and objectives, are required for the registration (1 p. L65/4 Article 4(1)). A detailed list of information that needs to be provided is shown in *Figure 3*. The language

chosen for the registration of the proposed initiative has to be one of the official languages of the European Union (1 p. L65/4 Article 4(1)).

The organizers are asked to provide regularly *"updated information on the sources of support and funding for the proposed citizens' initiative."* (1 p. L65/4 Article 4(1)) on the online register or if available on their website. If the funding is worth €500 or more per year and per sponsor it needs to be indicated (2 p. 17).

The Commission has to reply within two months from the receipt of the registration request. If the registration request was successful, a unique registration number will be given for the proposed initiative and a confirmation will be send to the organizers (1 p. L65/4 Article 4(2)). The initiative then will be made public on the online register provided by the Commission (4). The organizers can have their own account on the European Citizens' Initiative website where they will be able to get information on the procedure and manage their initiative. The translation of the initiative into other official languages falls within the responsibility of the organizers and has to be equivalent to the original version (1 p. L65/4 Article 4(1)). If the initiative is refused by the Commission, the organizers will be informed of the reasons and all possible judicial and extrajudicial remedies (1 p. L65/4 Article 4(3)).

ANNEX II

### REQUIRED INFORMATION FOR REGISTERING A PROPOSED CITIZENS' INITIATIVE

The following information shall be provided in order to register a proposed citizens' initiative on the Commission's online register:

1. The title of the proposed citizens' initiative, in no more than 100 characters;

2. The subject matter, in no more than 200 characters;

3. A description of the objectives of the proposed citizens' initiative on which the Commission is invited to act, in no more than 500 characters;

4. The provisions of the Treaties considered relevant by the organisers for the proposed action;

5. The full names, postal addresses, nationalities and dates of birth of the seven members of the citizens' committee, indicating specifically the representative and the substitute as well as their e-mail addresses ([1]);

6. All sources of support and funding for the proposed citizens' initiative at the time of registration ([1]).

Organisers may provide more detailed information on the subject, objectives and background to the proposed citizens' initiative in an annex. They may also, if they wish, submit a draft legal act.

**Figure 3: Required information for registering a proposed citizens' initiative (1 p. L65/11 Annex II))**

The registered initiative can be withdrawn by the organizers any time before the collected statements of support are sent to the national authorities for verification in Step 5 (1 p. L65/5

Article 4(5)). In this case the initiative cannot be resumed and all collected statements of support become futile. The withdrawn initiative will be viewable on the European Citizens' Initiative website (5). The website also provides information regarding the registration and registration form (6).

Step 3:

The collection of the statements of support for the intended initiative can be carried out in paper form or through Online Collection System (1 p. L 65/5 Article 5(2)). If the application is to be submitted through the latter option, the Online Collection System needs to be certified by a competent authority in the member state, where the data is to be stored (1 p. L 65/5 Article 6(1)). As the certification takes time, since the national authority has one month to respond to the request of certification (1 p. L 65/5 Article 6(2)), it makes sense to send the request before the registration of the proposed initiative is completed to avoid unnecessary waiting time.

The certification verifies that the system fulfills adequate security and technical features (1 p. L 65/5 Article 6(2)). *Figure 4* illustrates a sample form for such a certification. After obtaining the certification *"The organisers shall make a copy of that certificate publicly available on the website used for the online collection system."* (1 p. L 65/5 Article 6(2)).

ANNEX IV

CERTIFICATE CONFIRMING THE CONFORMITY OF AN ONLINE COLLECTION SYSTEM WITH REGULATION (EU) No 211/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 FEBRUARY 2011 ON THE CITIZENS' INITIATIVE

... (name of competent authority) of ... (name of Member State) hereby certifies that the online collection system ... (website address) used for the collection of statements of support for ... (title of proposed citizens' initiative) complies with the relevant provisions of Regulation (EU) No 211/2011.

Date, signature and official stamp of the competent authority:

——

Figure 4: A sample of certification form for Online Collection Systems (1 p. L 65/19 Annex IV)

A list of competent authorities of EU Member States should soon be available on the European Citizens' Initiative homepage.

The Online Collection Software, which is being analyzed in this work, already complies with the mentioned requirements. However, since the software is only a part of Online Collection System, it also needs a certificate. In this case the certification process is facilitated (2 p. 19).

Information about the open source software and download link can be found on the website of the European Citizens' Initiative (7).

Technical features of the Online Collection System should ensure that:

- *"only natural persons may submit a statement of support form online"* (1 p. L65/6 Article 6(4a))
- *"the data provided online are securely collected and stored, in order to ensure, inter alia, that they may not be modified or used for any purpose other than their indicated support of the given citizens' initiative and to protect personal data against accidental or unlawful destruction or accidental loss, alteration or unauthorised disclosure or access;"* (1 p. L65/6 Article 6(4b))
- *"the system can generate statements of support in a form complying with the models set out in Annex III, in order to allow for the verification by the Member States in accordance with Article 8(2)."* (1 p. L65/6 Article 6(4c))

Step 4

As mentioned in Step 3, the collection of statements of support can be carried out in paper form or through an Online Collection System. In order to start the collection, the initiative has to be registered by the Commission and the Online Collection System should be certified. The signatories can also sign the initiative electronically under Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on Community framework for electronic signatures. The electronically signed statements of support will be treated „*in the same way as statements of support in paper form.*" (1 p. L 65/5 Article 5(2)).

For each online or paper form "*Only forms which comply with the models set out in Annex III and which are in one of the language versions included in the register for that proposed citizens' initiative may be used for the collection of statements of support.*" (1 p. L65/5 Article 5(1)). The models set out in Annex III of the Regulation (EU) 211/2011 on the citizens' initiative will be discussed in detail below. The organisers have twelve months from the time of registration of the proposed initiative to collect statements of support (1 p. L65/5 Article 5(5)).

Annex III of the Regulation (EU) 211/2011 on the citizens' initiative specifies the details of the statement of support forms. The European countries are divided into two categories. Signatories who selected a country from the first category require personal identification number/personal identification document number to validate the statement of the support form. Signatories who selected a country from the second category do not explicitly require personal identification. For this purpose two types of statement of support forms were designed.

The countries which do not need the provision of a personal identification number are listed in *Figure 5*, among them are: Belgium, Denmark, Germany, Estonia, Ireland, Netherlands, Slovakia, Finland and United Kingdom. Nationals of Belgium, Denmark and Germany, if residing outside the country, have the possibility to make statements of support by selecting their country only if they have informed their national authorities of their current place of residence. Nationals of Estonia, Slovakia and Finland in this case do not need to inform their national authorities of their current place of residence.

An example for the support statement form for the listed countries above can be found in Figure 6. In the first section of the form the country (only one per list) of all collected signatories and the information of the proposed initiative can be found. The organizer has to provide information of the proposed initiative "*prior to initiating the collection of statements of support from signatories.*" (1 p. L65/5 Article 5(1)). The information stated in the form has to comply with the information in the online register (1 p. L65/5 Article 5(1)). Furthermore, the signatory has to certify that he/she has supported the proposed initiative only once (1 p. L 65/5 Article 5(3)) and that the provided information is correct.

In the second section of the form a signatory has to enter personal information (with concern of additional notes) and a signature. A privacy statement at the button informs the signatory about handling of his/her personal data during the support procedure.

## PART C

1. List of Member States which do not require the provision of a personal identification number/personal identification document number (statement of support form — Part A):

| Member State | Signatories whose statement of support is to be submitted to the Member State concerned |
|---|---|
| Belgium | — residents in Belgium<br>— Belgian nationals residing outside the country if they have informed their national authorities of their place of residence |
| Denmark | — residents in Denmark<br>— Danish nationals residing outside the country if they have informed their national authorities of their place of residence |
| Germany | — residents in Germany<br>— German nationals residing outside the country if they have informed their national authorities of their place of residence |
| Estonia | — residents in Estonia<br>— Estonian nationals residing outside the country |
| Ireland | — residents in Ireland |
| Netherlands | — residents in the Netherlands |
| Slovakia | — residents in Slovakia<br>— Slovak nationals residing outside the country |
| Finland | — residents in Finland<br>— Finnish nationals residing outside the country |
| United Kingdom | — residents in the United Kingdom |

**Figure 5: List of countries which does not require personal identification number/document of the signatory (1 p. L 65/16 Annex III Part C)**

The countries which require provision of personal ID number/personal ID document number are listed in *Figure 7*, among them are: Bulgaria, Czech Republic, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Austria, Poland, Portugal, Romania, Slovenia and Sweden. A list of the acceptable personal documents or personal numbers is provided in national language for each country.

The statement of support form for the countries which require provision of personal identification number/document is illustrated in *Figure 8*. According to the commission customised and pre-completed forms will be available in organisers' account which will provide (2 p. 20):

- the EU country where one wants to collect statements of support
- name fields available in all official languages of the European Union
- different language versions of the initiative that were registered for the initiative

**STATEMENT OF SUPPORT FORM — PART A**

(for Member States which do not require the provision of a personal identification number/personal identification document number)

All fields on this form are mandatory and must be completed.

**TO BE PRE-COMPLETED BY THE ORGANISERS:**

1. All signatories on this form are

Please mark only one Member State per list.

permanent residents in:

| IE | NL | UK |
|----|----|----|

permanent residents in or citizens of:

| EE | FI | SK |
|----|----|----|

permanent residents in or citizens of (citizens living abroad only if they have informed their national authorities about their place of residence):

| BE | DK | DE |
|----|----|----|

2. Commission registration number:

3. Date of registration:

4. Web address of this proposed citizens' initiative on the Commission register:

5. Title of this proposed citizens' initiative:

6. Subject matter:

7. Main objectives:

8. Names of organisers:

9. Names and e-mail addresses of contact persons:

10. Website of this proposed citizens' initiative (if any):

**TO BE COMPLETED BY THE SIGNATORIES:**

'I hereby certify that the information that I have provided in this form is correct and that I have only supported this proposed citizens' initiative once.'

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| FULL FIRST NAMES | FAMILY NAMES (¹) | PERMANENT RESIDENCE (street, number, postal code, city, country) (²) | DATE AND PLACE (³) OF BIRTH | NATIONALITY | DATE AND SIGNATURE (⁴) |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

(¹) For the Netherlands and Slovakia, please state also the name at birth.
(²) For Finland, please state only the country of permanent residence.
(³) For Finland and the United Kingdom, please state only the date of birth.
(⁴) Signature not mandatory when form is submitted electronically without electronic signature.

Privacy statement: in accordance with Article 10 of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, the personal data provided on this form will only be made available to the competent authorities for the purpose of verification and certification of the number of valid statements of support received for this proposed citizens' initiative (see Article 8 of Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the citizens' initiative) and, if necessary, further processed for the purpose of administrative or legal proceedings relating to this proposed citizen's initiative (see Article 12 of Regulation (EU) No 211/2011). The data may not be used for any other purpose. Data subjects are entitled to obtain access to their personal data. All statements of support will be destroyed at the latest 18 months after the date of registration of the proposed citizens' initiative, or, in the case of administrative or legal proceedings, at the latest one week after the date of conclusion of the said proceedings.

**Figure 6: Statement of support form for countries which do not require personal identification number/document of the signatory (1 pp. L65/12-13 Annex III Part A)**

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## BULGARIA

— Епинен граждански номер (personal number)

## CZECH REPUBLIC

— Občanský průkaz (national identity card)

— Cestovní pas (passport)

## GREECE

— Δελτίο Αστυνομικής Ταυτότητας (identity card)

— Διαβατήριο (passport)

— Βεβαίωση Εγγραφής Πολιτών Ε.Ε./Έγγραφο πιστοποίησης μόνιμης διαμονής πολίτη Ε.Ε. (residence certificate/permanent residence certificate)

## SPAIN

— Documento Nacional de Identidad (identity card)

— Pasaporte (passport)

## FRANCE

— Passeport (passport)

— Carte nationale d'identité (national identity card)

— Titre de séjour (residence permit)

— Permis de conduire (driving licence)

— Autre (other):

— Carte d'identité de parlementaire avec photographie, délivrée par le président d'une assemblée parlementaire (parliamentarian's identity card with photo, issued by the president of a parliamentary assembly),

— Carte d'identité d'élu local avec photographie, délivrée par le représentant de l'Etat (elected local official's identity card with photo, issued by the State representative),

— Carte du combattant de couleur chamois ou tricolore (war veteran's card, buff-coloured or tricoloured),

— Carte d'invalidité civile ou militaire avec photographie (civilian or military invalidity card with photo),

— Carte d'identité de fonctionnaire de l'Etat avec photographie (State civil servant's identity card with photo),

— Carte d'identité ou carte de circulation avec photographie, délivrée par les autorités militaires (identity card or free movement permit with photo, issued by the military authorities),

— Permis de chasser avec photographie, délivré par le représentant de l'Etat (hunting permit with photo, issued by the State representative),

— Livret ou carnet de circulation, délivré par le préfet en application de la loi n° 69-3 du 3 janvier 1969 (traveller's movement permit, issued by the Prefect pursuant to Law No 69-3 of 3 January 1969),

— Récépissé valant justification de l'identité, délivré en échange des pièces d'identité en cas de contrôle judiciaire, en application du neuvième alinéa (7°) de l'article 138 du code de procédure pénale (receipt counting as proof of identity, issued in exchange for identity documentation in cases of judicial supervision pursuant to the ninth paragraph (numbered paragraph 7) of Article 138 of the Code of Criminal Procedure),

— Attestation de dépôt d'une demande de carte nationale d'identité ou de passeport, délivrée depuis moins de trois mois par une commune et comportant une photographie d'identité du demandeur authentifiée par un cachet de la commune (certificate of lodgement of an application for a national identity card or passport, issued not more than three months previously by a municipality and bearing a photo of the applicant authenticated by a municipal stamp).

ITALY

— Passaporto (passport), inclusa l'indicazione dell'autorità di rilascio (including issuing authority)

— Carta di identità (identity card), inclusa l'indicazione dell'autorità di rilascio (including issuing authority)

CYPRUS

— Δελτίο Ταυτότητας (identity card of national or resident)

— Διαβατήριο (passport)

LATVIA

— Personas kods (personal identification number)

LITHUANIA

— Asmens kodas (personal number)

LUXEMBOURG

— Numéro d'identification national (numéro inscrit sur la carte d'identification de la Sécurité sociale) (national identification number appearing on the social security identity card)

HUNGARY

— személyazonosító igazolvány (identity card)

— útlevél (passport)

— személyi azonosító szám (személyi szám) (personal identification number)

MALTA

— Karta tal-Identità (identity card)

AUSTRIA

— Reisepass (passport)

— Personalausweis (identity card)

POLAND

— Numer ewidencyjny PESEL (PESEL identification number)

PORTUGAL

— Bilhete de identidade (identity card)

— Passaporte (passport)

— Cartão de Cidadão (citizen's card)

ROMANIA

— carte de identitate (identity card)

— pasaport (passport)

— certificat de inregistrare (registration certificate)

— cartea de rezidenta permanenta pentru cetatenii UE (permanent residence card for EU citizens)

— Cod Numeric Personal (personal identification number)

SLOVENIA

— Osebna izkaznica (identity card)

— Potni list (passport)

SWEDEN

— Personnummer (personal identification number) in identity card

— Personnummer (personal identification number) in passport

**Figure 7: List of countries which require personal identification number/document of the signatory (1 pp. L65/16-18 Annex III Part C)**

**STATEMENT OF SUPPORT FORM — PART B**

(for Member States which require the provision of a personal identification number/personal identification document number)

All fields on this form are mandatory and must be completed.

**TO BE PRE-COMPLETED BY THE ORGANISERS:**

1. All signatories on this form hold personal identification numbers/personal identification document numbers of:

Please mark only one Member State per list.

| BG | CZ | EL | ES | FR | IT | CY | LV | LT | LU | HU | MT | AT | PL | PT | RO | SI | SE |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

See Part C for personal identification numbers/personal identification document numbers one of which must be provided.

2. Commission registration number:

3. Date of registration:

4. Web address of this proposed citizens' initiative on the Commission register:

5. Title of this proposed citizens' initiative:

6. Subject matter:

7. Main objectives:

8. Names of organisers:

9. Names and e-mail addresses of contact persons:

10. Website of this proposed citizens' initiative (if any):

**TO BE COMPLETED BY THE SIGNATORIES:**

'I hereby certify that the information that I have provided in this form is correct and that I have only supported this proposed citizens' initiative once.'

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| FULL FIRST NAMES | FAMILY NAMES (¹) | PERMANENT RESIDENCE (street, number, postal code, city, country) (²) | DATE AND PLACE OF BIRTH (³) | NATIONALITY | PERSONAL IDENTIFICATION NUMBER/IDENTIFICATION DOCUMENT TYPE AND NUMBER (⁴) | DATE AND SIGNATURE (⁵) |
|---|---|---|---|---|---|---|
| **2** | | | | | | |
| | | | | | | |
| | | | | | | |

(¹) For Bulgaria and Greece, please state also father's name; for Greece and Latvia, please state also the name at birth.
(²) Only for Spain, France, Italy, Austria, Poland and Romania.
(³) For Greece, France, Malta, Portugal and Romania, please state only the date of birth; for Luxembourg, please state only the place of birth; for Italy, Latvia, Austria, Slovenia and Sweden, please state both the date and place of birth.
(⁴) For Italian identification documents, please state also the issuing authority.
(⁵) Signature not mandatory when form is submitted electronically without electronic signature.

Privacy statement: in accordance with Article 10 of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, the personal data provided on this form will only be made available to the competent authorities for the purpose of verification and certification of the number of valid statements of support received for this proposed citizens' initiative (see Article 8 of Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the citizens' initiative) and, if necessary, further processed for the purpose of administrative or legal proceedings relating to this proposed citizen's initiative (see Article 12 of Regulation (EU) No 211/2011). The data may not be used for any other purpose. Data subjects are entitled to obtain access to their personal data. All statements of support will be destroyed at the latest 18 months after the date of registration of the proposed citizens' initiative, or, in the case of administrative or legal proceedings, at the latest one week after the date of conclusion of the said proceedings.

**Figure 8: Statement of support form for countries which require personal identification number/document of the signatory (1 pp. L65/14-15 Annex III Part B)**

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**Total number of signatories**

The total number of signatories has to be one million, collected from at least seven EU member states. Furthermore, each member state has a minimum number of signatories which should sign the form. The defined number for each country is shown in *Figure 9* and depends on the "*Members of the European Parliament elected in each Member State, multiplied by 750*" (1 p. L 65/6 Article 7(2)).

ANNEX I

MINIMUM NUMBER OF SIGNATORIES PER MEMBER STATE

| Member State | Number |
|---|---|
| Belgium | 16 500 |
| Bulgaria | 12 750 |
| Czech Republic | 16 500 |
| Denmark | 9 750 |
| Germany | 74 250 |
| Estonia | 4 500 |
| Ireland | 9 000 |
| Greece | 16 500 |
| Spain | 37 500 |
| France | 54 000 |
| Italy | 54 000 |
| Cyprus | 4 500 |
| Latvia | 6 000 |
| Lithuania | 9 000 |
| Luxembourg | 4 500 |
| Hungary | 16 500 |
| Malta | 3 750 |

| | |
|---|---|
| Netherlands | 18 750 |
| Austria | 12 750 |
| Poland | 37 500 |
| Portugal | 16 500 |
| Romania | 24 750 |
| Slovenia | 5 250 |
| Slovakia | 9 750 |
| Finland | 9 750 |
| Sweden | 13 500 |
| United Kingdom | 54 000 |

Figure 9: Minimum number of signatories per country (1 p. L 65/10 Annex I)

Collected signatories from countries where the threshold was not reached can also be used in order to reach one million statements of support (2 p. 20).

Step 5

Competent national authorities should certify statements of support after the collection is completed. The certification needs to be done by every country's competent national authority where the statements of support were collected. The statements of support can be sent to the competent national authorities in paper form or electronically. *Figure 10* illustrates the form for the submission of statements of support to the national authorities. The enclosed collected statements of support need to be separated depending on their collection form: paper form or through an Online Collection System and electronically signed (1 p. L65/6 Article 8(1)).

In case the statements of support were collected through an Online Collection System, they can be printed out and sent in paper form or in a secured/encrypted electronic form, e.g. on a CD. The Online Collection Software provided by the Commission allows exporting the statements of support in XML format (2 p. 22). List of competent national authorities should be soon available on the homepage of the European Citizens' Initiative (8).

National Authorities have three months from the day of request submission to verify the statements of support and deliver the certification to the organizers with the valid number of statements of support (1 p. L65/6 Article 8(2)). In *Figure 11* the form of certification by a national authority is shown.

ANNEX V

## FORM FOR THE SUBMISSION OF STATEMENTS OF SUPPORT TO THE MEMBER STATES' COMPETENT AUTHORITIES

1. Full names, postal addresses and e-mail addresses of the contact persons:

2. Title of proposed citizens' initiative:

3. Commission registration number:

4. Date of registration:

5. Number of signatories coming from (name of Member State):

6. Annexes:

   (Include all statements of support from signatories to be verified by the relevant Member State.

   If applicable, include the relevant certificate(s) of conformity of the online collection system with Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the citizens' initiative.)

7. Date and signature of the contact persons:

**Figure 10: Form for the submission of statements of support to national authority (1 p. L 65/20 Annex V)**

ANNEX VI

## CERTIFICATE CONFIRMING THE NUMBER OF VALID STATEMENTS OF SUPPORT COLLECTED FOR ... (NAME OF MEMBER STATE)

... (name of competent authority) of ... (name of Member State), having made the necessary verifications required by Article 8 of Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the citizens' initiative, hereby certifies that ... statements of support for the proposed citizens' initiative having the registration number ... are valid in accordance with the provisions of that Regulation.

Date, signature and official stamp of the competent authority:

**Figure 11: Example form for the certification of statements of support by a national authority (1 p. L 65/21 Annex VI)**

Step 6

After competent national authorities confirm that at least one million statements of support from at least seven EU Member States was submitted, the proposed initiative needs to be presented to the Commission indicating the number of signatories, support and funding received, as well as copies in paper or electronic form of the certificates from the competent national authorities (1 p. L 65/7 Article 9). *Figure 12* illustrates the form for the submission of a citizens' initiative to the Commission.

ANNEX VII

## FORM FOR THE SUBMISSION OF A CITIZENS' INITIATIVE TO THE COMMISSION

1. Title of citizens' initiative:

2. Commission registration number:

3. Date of registration:

4. Number of valid statements of support received (must be at least one million):

5. Number of signatories certified by Member States:

| | BE | BG | CZ | DK | DE | EE | IE | EL | ES | FR | IT | CY | LV | LT | LU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of signatories | | | | | | | | | | | | | | | |

| | HU | MT | NL | AT | PL | PT | RO | SI | SK | FI | SE | UK | TOTAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of signatories | | | | | | | | | | | | | | | |

6. Full names, postal addresses and e-mail addresses of the contact persons (¹).

7. Indicate all sources of support and funding received for the initiative, including the amount of financial support at the time of submission (¹):

8. We hereby declare that the information provided in this form is correct.

Date and signature of the contact persons:

9. Annexes:

(Include all certificates)

**Figure 12: Form for the Submission of a citizens' initiative to the Commission (1 p. L 65/22 Annex VII)**

Step 7

The citizens' initiative will be examined by the Commission, which should take further steps such as:

- *„publish the citizens' initiative without delay in the register;"* (1 p. L 65/7 Article 10(1))

- *„receive the organisers at an appropriate level to allow them to explain in detail the matters raised by the citizens' initiative;"* (1 p. L 65/7 Article 10(1))

- Give an opportunity to organizers to present their initiative at a public hearing in the European parliament where "*The Commission and the European Parliament shall ensure that this hearing is organised at the European Parliament, if appropriate together with such other institutions and bodies of the Union as may wish to*

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> *participate, and that the Commission is represented at an appropriate level."* (1 p. (L 65/7 Article 11)

- *„within three months, set out in a communication its legal and political conclusions on the citizens' initiative, theaction it intends to take, if any, and its reasons for taking or not taking that action."* (1 p. L 65/7 Article 10(1))

The procedure pointed out in the third statement, has to become public and the organizers as well as the European Parliament and the Council need to be notified (1 p. L 65/7 Article 10(2)). In some cases the response may demonstrate the preliminary opinion of the Commission which may imply further studies for a final decision (2 p. 26). A list of initiatives which were submitted and viewed by the Commission can be found on the homepage of the European Citizens' Initiative (9).

Step 8

The Commission may decide to carry on the initiative by launching a legislative proposal. In this case the legislative procedure begins when the proposal is submitted to the European Parliament and the Council or only the Council. To become a law the initiative needs to be adopted first (2 p. 26).

**Handling of personal data**

All parties, organizers of the initiative and the competent authorities of the European countries have to comply with the current legislation (Directive 95/46/EC) on protection of personal data. They control the data during the initiative activity (1 p. L 65/7 Article 12(1)) and need to ensure that the collected data will be not used for any other purpose than the indicated support of the initiative (1 p. L 65/7 Article 12(3)). The organisers "*may be required to notify the data protection authority(ies) in the EU country(ies) where the data will be processed* (2 p. 12) . A list of data protection authorities can be found on the homepage of the Commission (10).

The data has to be destroyed by the organisers 18 months after the registration of the proposed initiative or one month after the submission of the initiative to the Commission (Step 6) (1 p. L 65/7 Article 12(3)). As specified they need to implement "*appropriate technical and organisational measures to protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, in particular where the*

*processing involves the transmission of data over a network, and against all other unlawful forms of processing.*" (1 p. L 65/7 Article 12(3)).

The competent authorities should not use the data of signatories for other purposes and need to destroy it one month after issuing the certificate to the organisers (Step 7) (1 p. L 65/7 Article 12(4)). Legal or administrative proceedings regarding the proposed initiative could cause a delay. In this case the data needs to be deleted "*at the latest one week after the date of conclusion of the said proceedings by a final decision.*" (1 p. L 65/7 Article 12(5)).

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# 3. Online Collection Software

## 3.1. Installation of Online Collection Software

Requirements for the installation of the software (11 p. Annex I):

- J2EE5 compliant application server
- Relational database, SQL 99 compliant
- File system
- Java 1.5 JDK

The system requirements (hardware and software) of the host environment depend on the selected application server and relational database used for the installation. It is recommended to check the system requirements before installing the software as misleading errors could hinder the installation procedure. Furthermore, the file system should support the recommended storage capacity of 10 GB for the collected data (11). The software, analyzed in this research, was installed on the computer that runs Windows 7 Professional

### 3.1.1. Download of software components

At first, all the components of the software need to be downloaded from the software provider's website. *Figure 13* illustrates the downloadable software components for the installation.



Figure 13: Download of the software (12)

## 3.1.2. Installation of database

To install and run the software a database either Oracle Database 11g or MySQL has to be installed on the host system (11). MySQL is an open source database and can be downloaded for free. Oracle Database 11g is a commercial database but there is a light version called Oracle Database 11g Express Edition which can be downloaded for free and is sufficient for the purpose of using the software.

In this work MySQL database was installed. There are different versions of MySQL, in order to guarantee the compatibility, version 5.5 or above is needed to run the software (11). In this work was used version 5.5.16 (*Figure 14*).



**Figure 14: Download MySQL 5.5.16 (13)**

The downloaded installation file was executed according to the installation instructions. Specific configurations that were chosen during the installation procedure are listed below. The first configuration is the setup type. Since only most common features are needed, the setup type was chosen *Typical* as shown in *Figure 15*, *step 1*.

The next configuration step was the server configuration which was selected as *standard* as shown in *step 2*. Then *bin* directory of MySQL was set in Windows path in order to call the server easily from the command line – that's *step 3*, shown in *Figure 15*. The final step in the configuration procedure was to create a protected login for the database user.
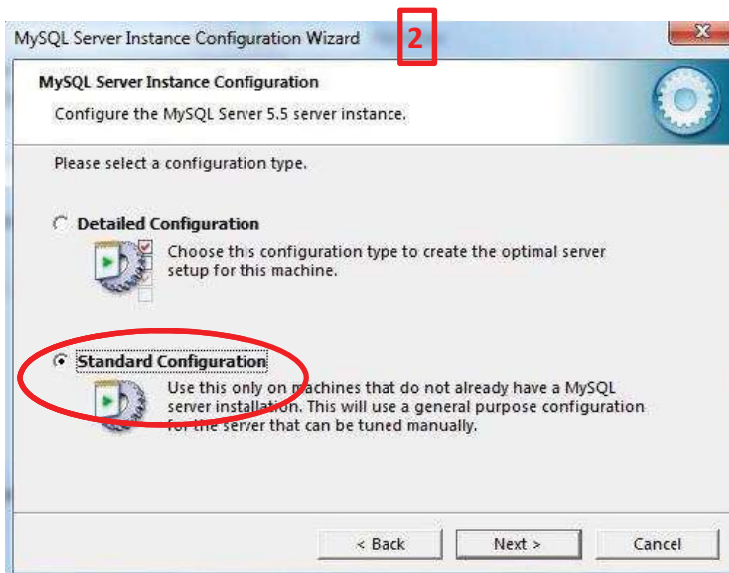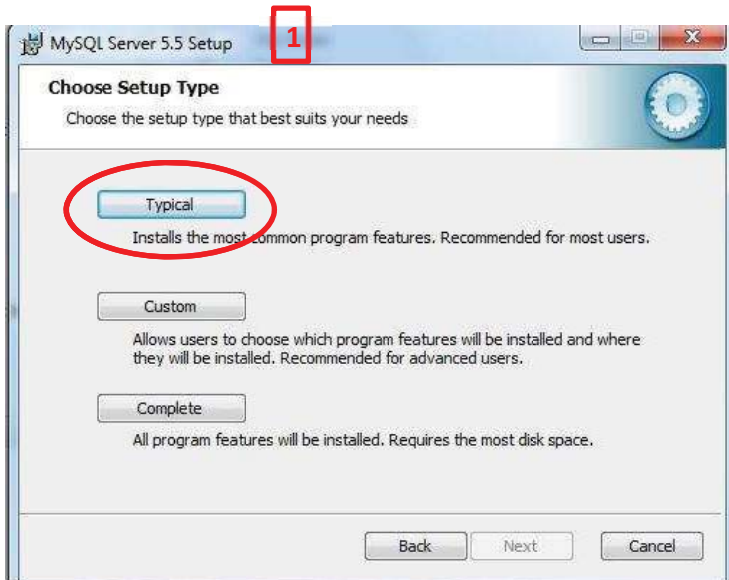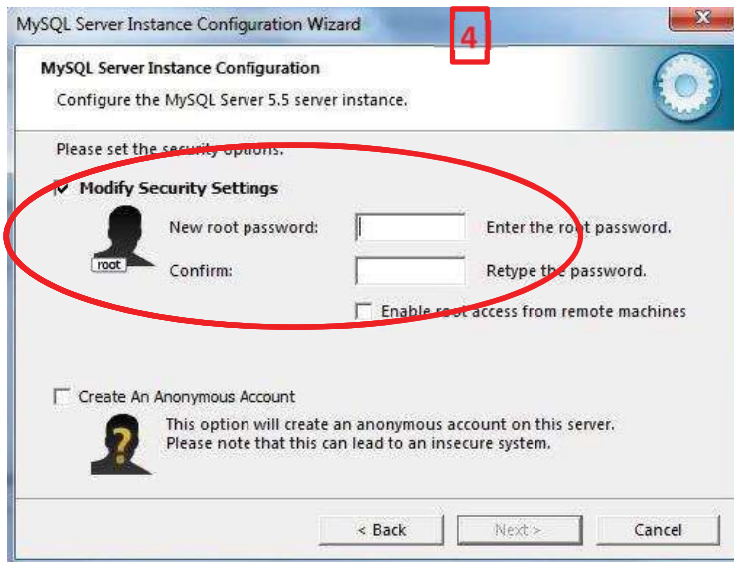
Figure 15: MySQL server configuration procedure

### 3.1.3. Preparation of the database

After the installation of MySQL database there are some steps that need to be taken in order to use the Online Collection Software. First of all, MySQL monitor has to be started, which can be done in the command line by typing *mysql* or through Windows *Start* directly (Start → All Programs → MySQL → MySQL Command Line Client). After the start a login window appears and the password that was set in step 4 (*Figure 15*) has to be entered (*Figure 16*).
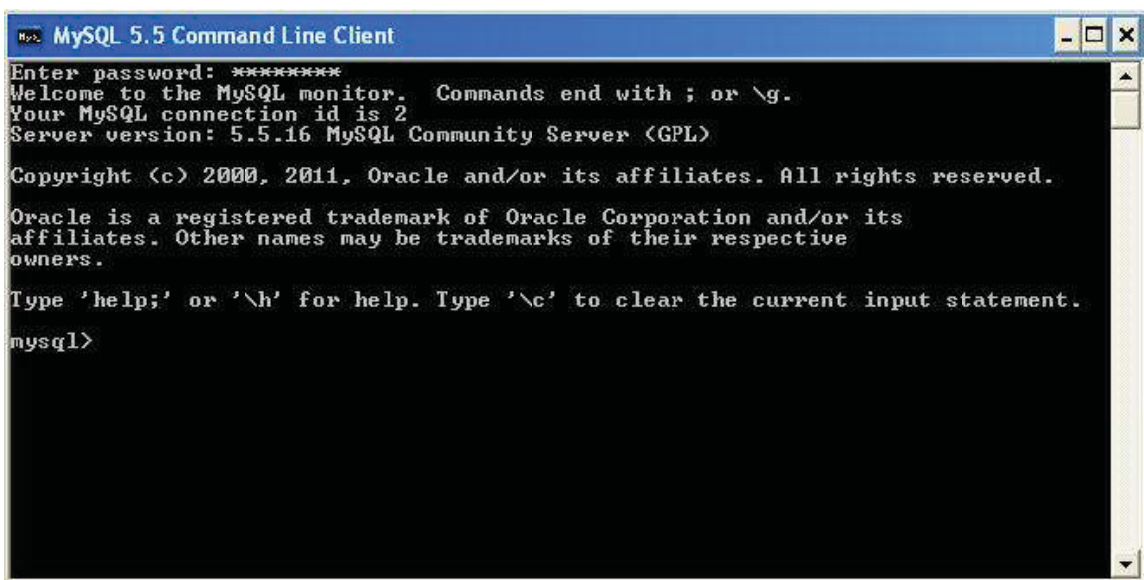


Figure 16: Start of MySQL monitor

The downloaded component *oct-db-mysql.zip* in *Figure 13* includes a SQL script named *oct-mysql-schema-create.sql* which has to be executed in order to create some software relevant

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tables on the database (11). In order to execute the SQL script, first, a database needs to be created which can be done through *create database* command. In *Figure 17* a database named *test* was created and then shown through the command *show databases.* Furthermore, after the creation of the database, the command *use "name of database"* ensures that the database is selected. For the execution of the SQL script the command *source "path of the script"* is used. In this case the SQL script was extracted to the C: drive of the computer and the name was changed to *schemacreate.sql.* It should be mentioned that wrong SQL commands can be corrected using *\c* on the command line.



Figure 17: Execution of the SQL script

While using the software, personal data of signatories will be collected and saved in the system. In a further step this data has to be exported to the file system on the computer. As mentioned at the beginning of this chapter, the file system has to provide a recommended capacity of 10 GB. In order to export the data on the file system, a path for the storage needs to be defined and inserted into the column *FILE_STORE* of the table *oct_system_prefs* which was created by the SQL script and holds only one row (11). The path for the storage of data in the file system was chosen as *D:/eci/storage/.* The path will be set by the *update* command as shown in *Figure 18.*



Figure 18: Initialisation of data storage

### 3.1.4. Setup of system security

For security reasons the system needs to be protected. This protection is necessary for the collected data of signatories as well as for the authentication process (administrator login). In order to ensure the security of the system, a Cryptography Tool written in Java is provided in the downloaded component *oct-crypto-win32.zip* (*Figure 13*). It is located in the *bin* folder in the zip file and called *launcher*. The crypto tool can be started by unpacking *oct-crypto-win32.zip* and executing the *launcher* file (11).

*Figure 19* shows the start window of the Cryptography Tool. For the first use the tool provides security keys (public and private) and a feature to hash password.



**Figure 19: Start window of cryptography tool**

The key generation can be done by selecting *Menu->Initialize*. After the selection a window opens and the button *(Re-) Initialize* has to be clicked (*Figure 20*, step 1). The tool first demands a master password, which will be used for the next login of Crypto Tool and also for the login to the interfaces (administrator and public) once the system is set up. It is important **not to forget** the password, as there is no possibility to reset it (11).

After the confirmation of master password the tool generates a public key and a hashed password (*step 2*). It also generates inside the *data* folder in the directory of the unpacked Cryptography Tool, the encrypted private key, the file for decrypting it and the hashed password (*Figure 21*). It is recommended to back-up the data directory, as in case of mistakenly deleting the Cryptography Tool, the tool can be installed again with the same master password by copying the back-up files into the new data folder again (11).
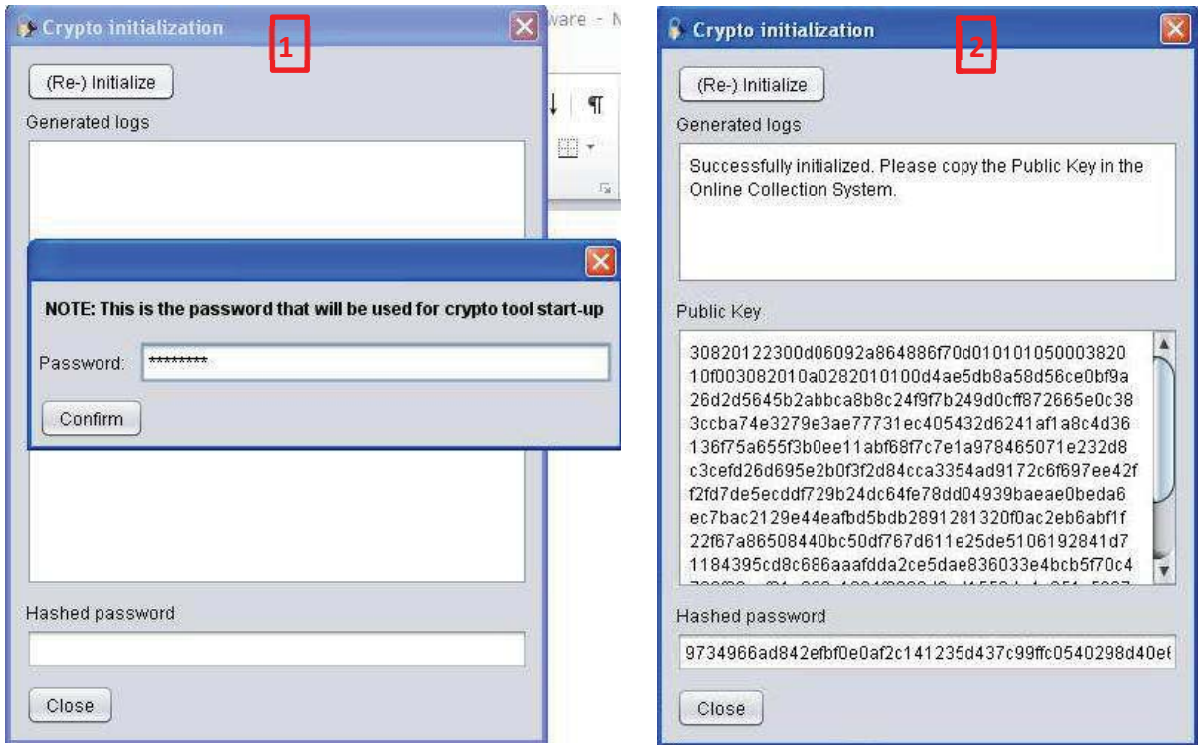
Figure 20: Initialization of crypto tool



Figure 21: Keys and hashed password provided by the crypto tool

The next step is to insert the value of the public key shown in *Figure 20, step 2,* into the column *publicKey* of the single row of the table *oct_system_prefs* (11). This again can be done by the SQL command *update oct_system_prefs set PUBLICKEY='Public Key value'*;. Furthermore the initial administrator account needs to be set up by inserting one row into the table *oct_account* with values for login (account name and hashed password). The SQL command is the following *insert into oct_account (username, passHash) values ('username', 'Hashed password value')*;. The detailed progress is illustrated in *Figure 22*.

Figure 22: Initialization of admin account and public key

To change the password for the administrator login the cryptography tool should be started again (login with master password) and then to *Menu -> Hash password* (11). The new password needs to be inserted and by clicking on *Hash password* button, the system generates automatically a new hashed password. The procedure is illustrated in *Figure 23* . Finally the new hashed password needs to be updated into the *oct_account* table by the command *update oct_account set passHash='new value of the hashed password'*;



Figure 23: Change administrator password for login

## 3.1.5. Installation of application server

The online collection software needs to be deployed on an application server. Any server that is compliant with Java Enterprise Edition (JEE) version 5 and provides services such as Enterprise Java Beans 3.0, Servlet 2.5, JMS and Java Persistence API 2.0 can be used for this purpose (11). After the installation of the preferred application server, some JEE resources need to be created. The detailed list of the resources can be found in the user manual of the Online Collection Software (11). The developers of the Online Collection Software also

provide scripts for the Oracle Weblogic Application Server and GlassFish Server in order to facilitate the creation of JEE resources (11).

In this work GlassFish Server was preferred as it is an open source application server. The version of GlassFish Server has to be 3.1.1 or above (11). System requirements for the use of GlassFish Server are specified in release notes (14). The use of GlassFish Server requires installation of Java Development Kit (JDK) on the computer (14 p. 15). If JDK is not installed on the computer the latest version can be downloaded from Oracle's website as shown in *Figure 24*.
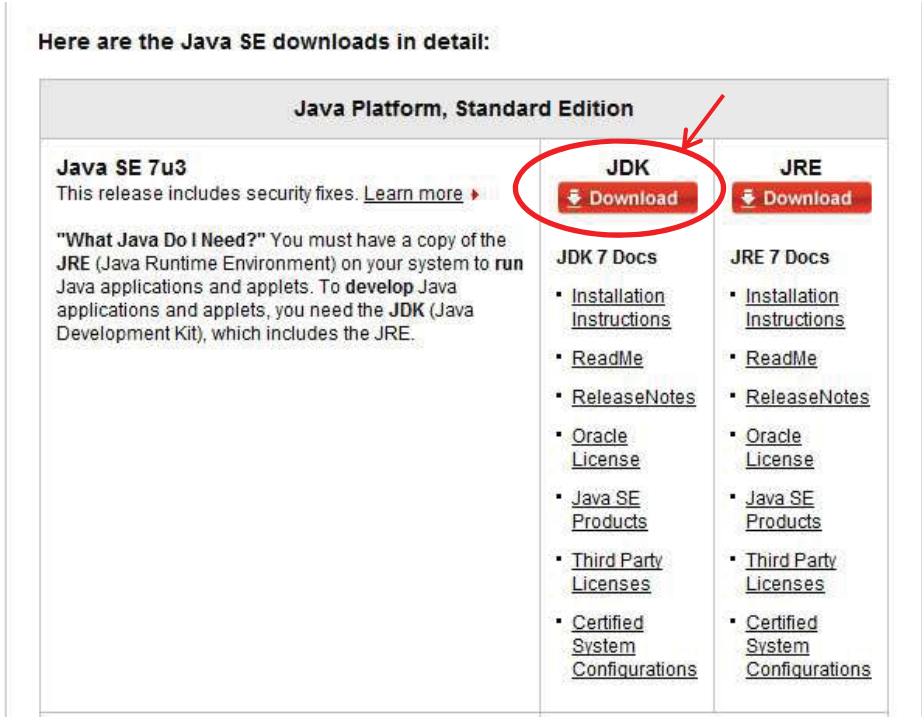


Figure 24: Download of Java Development Kit (15)

After the installation of JDK was successful, it is necessary to customise the environment variables of the operating system for the proper use of JDK (14 p. 17). *Figure 25* illustrates the procedure step by step. Environment variables of Windows 7 can be found in *System Properties*. System Properties can be reached through *Start->Control Panel->System->Advanced system settings->Environment Variables*. First, a new system variable named *JAVA_HOME* with the value of the home directory of JDK installation needs to be created (14 p. 18). Then the path to the *bin* archive in JDK home directory has to be edited into the system variable *Path*. Finally the changes have to be saved by clicking *OK* button.
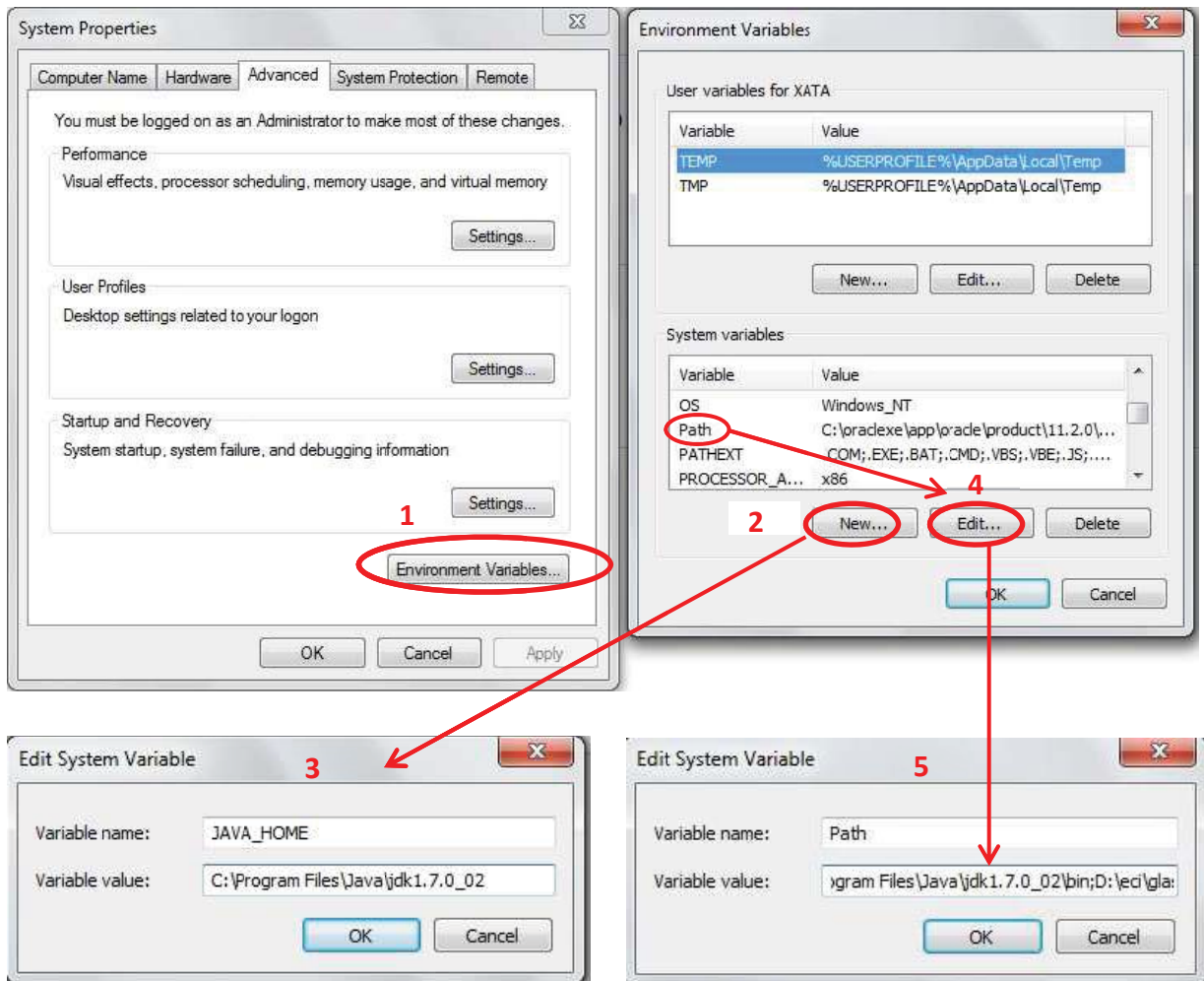
**Figure 25: Customisation of Environment Variables for the use of Java Development Kit on GlassFish Server**

After the environment variables were customised, GlassFish Server can be downloaded as shown in *Figure 26*. In order to deploy the application afterwards in GlassFish, *Full Platform* of GlassFish Server is needed. They are two ways for installing GlassFish: one through windows installer and the other through zip file. For this analysis Zip file was used as it needs only to be unpacked on the computer in order to be installed (16 p. 26).

In order to facilitate the start of GlassFish Server, it is recommended to set the path to the *bin* archive of the GlassFish installation directory (e.g. D:\eci\glassfish3\bin) by editing the Path variable as shown before in *Figure 25*, *step 4*.

**Figure 26: Download of GlassFish Server 3.1.1 (17)**

The next step is to establish a connection to MySQL database, so that a communication can take place between the application server and the database (11). The connection will be ensured by the JDBC MySQL Connector. The latest version 5.1.18 can be downloaded from MySQL website as shown in *Figure 27*.



**Figure 27: Download of JDBC MySQL Connector (18)**

The downloaded zip archive includes a Jar file named *mysql-connector-java-"version"-bin,* which has to be copied into the *lib* folder located in the *domain* folder of GlassFish directory (e.g. D:\eci\glassfish3\glassfish\domains\domain1\lib) (19).

*MySQL Connector zip file*



*D:\eci\glassfish3\glassfish\domains\domain1\lib*



**Figure 28: Adding JDBC driver to GlassFish Server**

## 3.1.6. Initialisation of application server and deployment of the application

The database has to be started in order to be accessible by the application. It can be started by entering the command *mysqld  --console* in the command line in Windows as shown in *Figure 29* or through the start of MySQL Command Line as already shown in *Figure 16* (20).



**Figure 29: Start of MySQL database**

When the database is not needed anymore, it can be shut down anytime by the command *Mysqladmin –u root –p shutdown,* where the user has also to provide the database password

(20). GlassFish Server can be started through the command *asadmin start-domain* on Windows command line illustrated in *Figure 30* (21 p. 6).
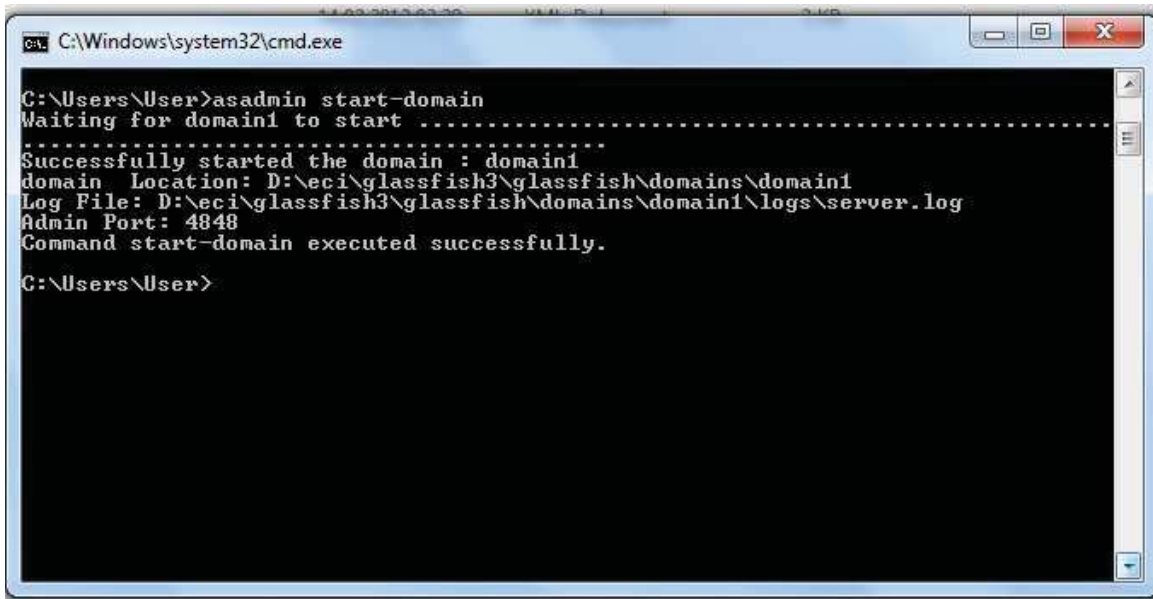


Figure 30: Start of GlassFish Server

The GlassFish server can anytime be stopped through the command *asadmin stop-domain* (21 p. 6). After the start of GlassFish server the admin page can be launched by typing the URL *http://localhost:4848* in the web browser (21 p. 7). *Figure 31* shows the administrator page of GlassFish server.
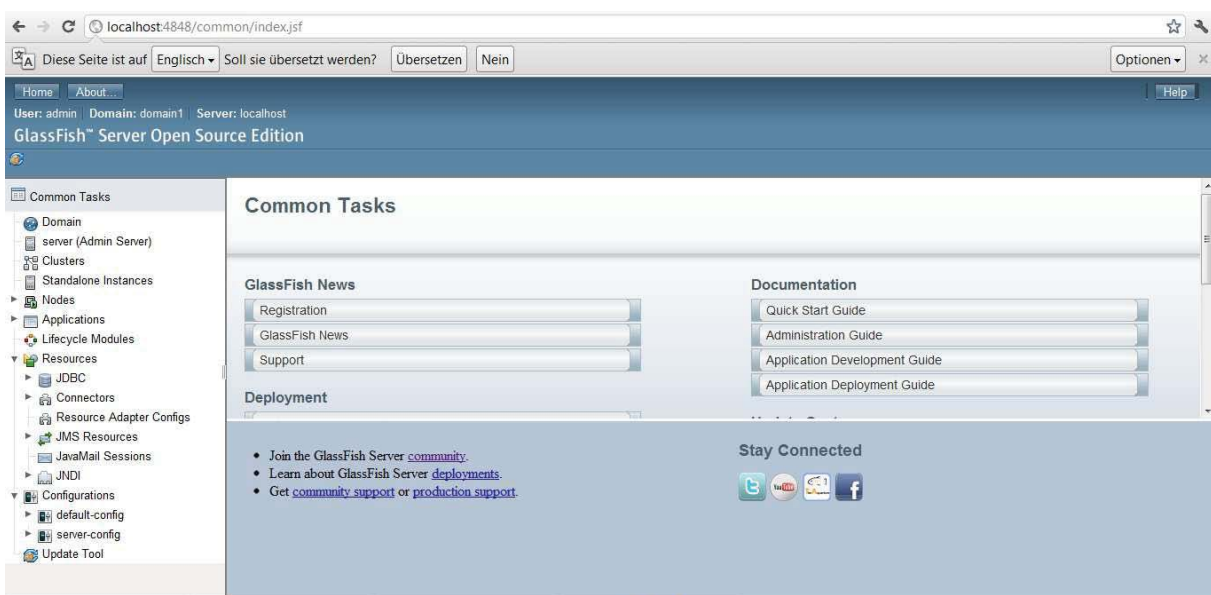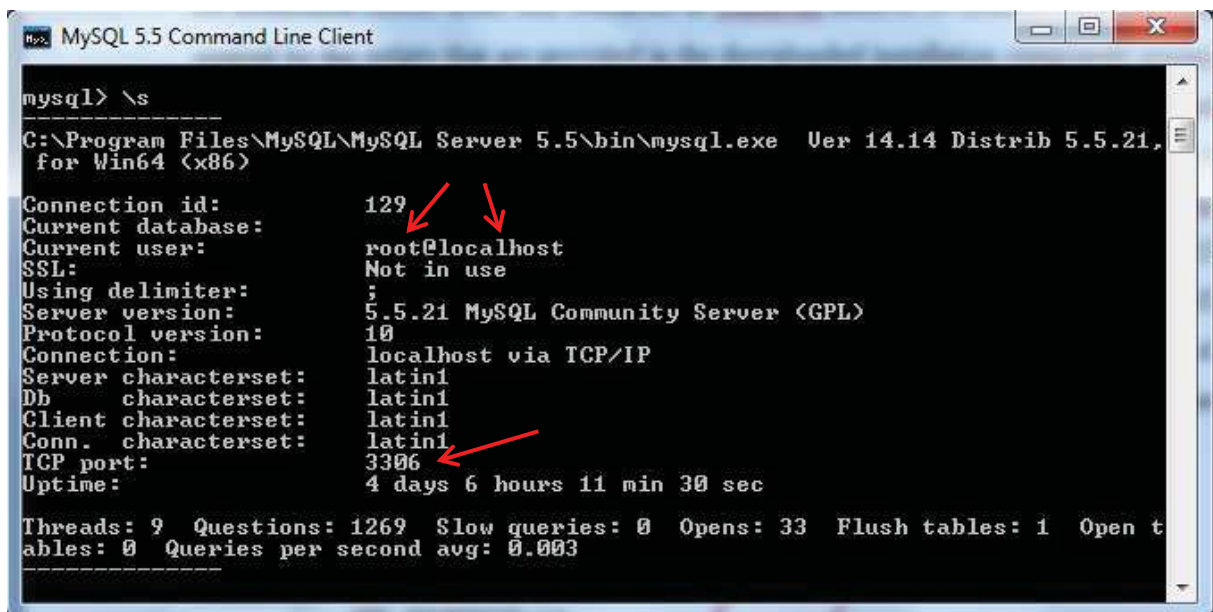


Figure 31: Administrator page of GlassFish server

As mentioned before, some JEE resources for the application server need to be created. They can simply be created by the script that is provided for GlassFish server in the downloaded installation component *project_oct-app-server-scripts* of the Online Collection Software in *Figure 13*. Two scripts are provided for GlassFish: one script for Oracle database and one for MySQL database. The scripts are XML files which can be edited (e.g by Notepad).

In order to create the JEE resources, the script for MySQL needs to be loaded into the GlassFish server. Before loading, the script needs to be customised by replacing the placeholders *$DB_USER, $DB_PASSWORD, $DB_HOST, $DB_PORT, $DB_NAME* in the file (11). Some of the values for the placeholders can be obtained by starting MySQL Command Line Client and typing *\s* as shown in *Figure 32*.



Figure 32: Status of MySQL database

The provided window provides information about the user name *root*, host *localhost*, port *3306*. The name of the created database is *test* and the password is the same as the user's login password for the database. The obtained values need to be entered in the XML file and the file needs to be saved (*Figure 33*).

Figure 33: Customisation of MySQL database script used for the creation of JEE resources on GlassFish server

The customised XML file can be now loaded into the GlassFish server, this can be done in Windows command line by entering the command *asadmin –H "GlassFish AdminHost" –p "GlassFish AdminPort" –u "GlassFish AdminUser" add-resources "Location of the customised XML file"*. The default values in GlassFish for AdminHost, AdminPort and AdminUser are *localhost*, *4848* and *admin*. *Figure 34* illustrates the successful creation of JEE resources.



Figure 34: Execution of script for creation of JEE resources in GlassFish server

The added resources can be found left in section *Resources* on the admin page of GlassFish server illustrated in *Figure 35*. Furthermore the connection to MySQL database can be tested by "pinging" the JDBC Connection Pool *OctJdbcConnectionPool*.

After the resources were added and the ping succeeded, the *ear* file (application) provided in the installation component *project_eci-ocs-v1.0.0.ear_* in *Figure 13* can be deployed (11). Before deployment the *persistence.xml* file which is located in the directory *lib\oct-persistence-1.0.0.jar\META-INF\* of the ear file has to be altered. As shown in *Figure 36* the value *<property name="hibernate.dialect" value="org.hibernate.dialect.Oracle10gDialect" />* cited in the file which is originally set for Oracle database has to be changed to *<property name="hibernate.dialect" value="org.hibernate.dialect.MySQLDialect" />* since MySQL database will be used and the modified file has to be saved (22).

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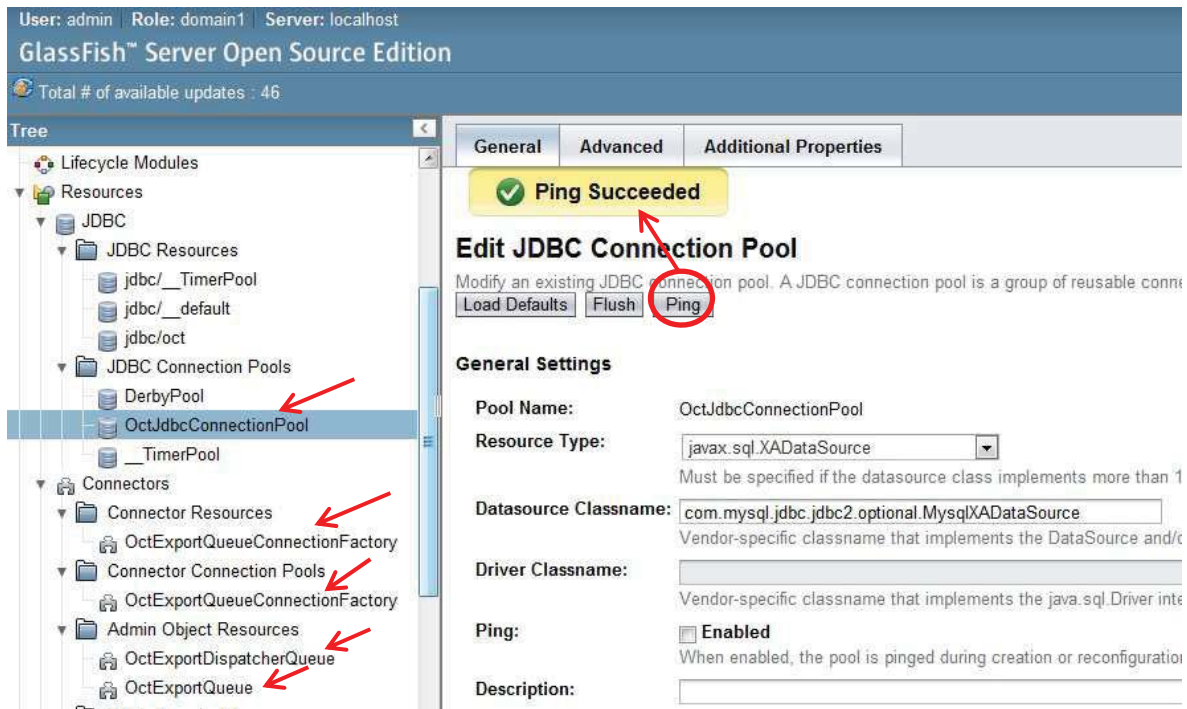
Figure 35: Added resources on GlassFish server



Figure 36: Customization of Persistence.xml file for MySQL database

For the deployment, the section *Applications* on the admin page will be used. The ear file will be selected through *Browse* button and through *OK* button, the application will be deployed (*Figure 37*).

**Figure 37: Deployment of application**

## 3.2.  Analysis of Online Collection Software

### 3.2.1. Main features

The software possesses of two user interfaces (11):

- One for the administrator
- One for the collection of public signatories

The administrator interface allows the organizer of the initiative to manage the system and the public interface to collect signatories.

Furthermore the system provides two different modes:

- Offline Mode
- Online Mode

In Offline Mode the organizer has the ability to configure and test the software prior to its start of the collection activity. After the set up procedure the system needs to be configured into Online Mode in order to start with the campaign. The important aspect here is that once the system was set up for Online Mode, for the organizer it is impossible to reconfigure the system to Offline Mode (11).

Each of the features mentioned above and the general functionality of the software will be analysed more in detail in the following chapter.

### 3.2.2. Launch of interfaces

After successful deployment of the application, the interfaces can be launched by clicking on the application name. The software consists of two interfaces, one for the administrator and one for the public. Each page can be launched by clicking on the *Launch* button. After the click two web application links appear, each of them can be chosen in order to launch the login page. The difference between the links lies in the type of the protocol, one protocol is *http* the other *https,* which stands for secure http and should provide a more secure connection than the usual http. The procedure is illustrated in *Figure 38.*

Figure 38: Launch of interfaces

### 3.2.3. Overview of administrator interface

On the page of the administrator, the organizer can manage the system. In this chapter the features of the admin page will be discussed in detail.

After clicking on the *Launch* button for the admin page the login page appears. In this page, account specific information such as username and password, needs to be inserted. The username is the name which was inserted into the *oct_account* table in *Figure 22* and the password – if it was not changed (*Figure 23*) - is the same password which is used for the Cryptography Tool. The next step is the start of the Cryptography Tool (execution of the *launcher* file in *bin* folder of the Cryptography Tool installation directory), copy the displayed hexadecimal character on the login page into the Cryptography Tool and decrypt it by clicking on the *Decrypt* button. The decrypted hexadecimal code needs to be copied into the *result* field on the login page (11). Finally by clicking on the Login button, the page can be accessed. The whole procedure is illustrated in *Figure 39*.



Figure 39: Login procedure of the admin interface

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The admin page shown in *Figure 40* provides features such as language option (section 1), Initiative Setup, Monitor and Export, and System Status (section 2). Each of them will be discussed in detail.



**Figure 40: Start-up window of the admin interface**

Language setting

The language setting allows the user to change the display language of the user interface. All official languages of the EU member countries are supported (23). *Figure 41* shows the admin interface after changing the language to Spanish, as an example. All language options were tested to confirm the proper switch of the languages.

Initiative Setup

After clicking on the Initiative Setup button on the left side, the initiative setup page appears (*Figure 42*). In this area the organizer is able to upload the proposed initiative into the system. This information is needed in order to certify the system by a competent national authority and also to be able to launch the system in Online Mode (11).
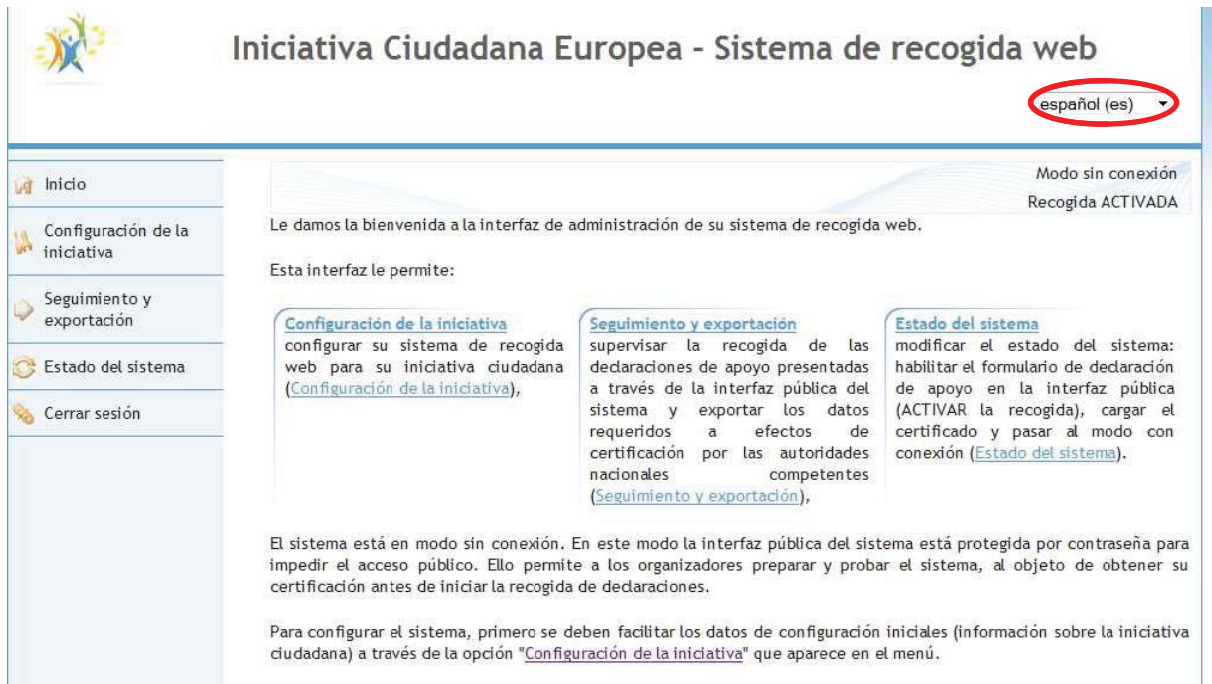
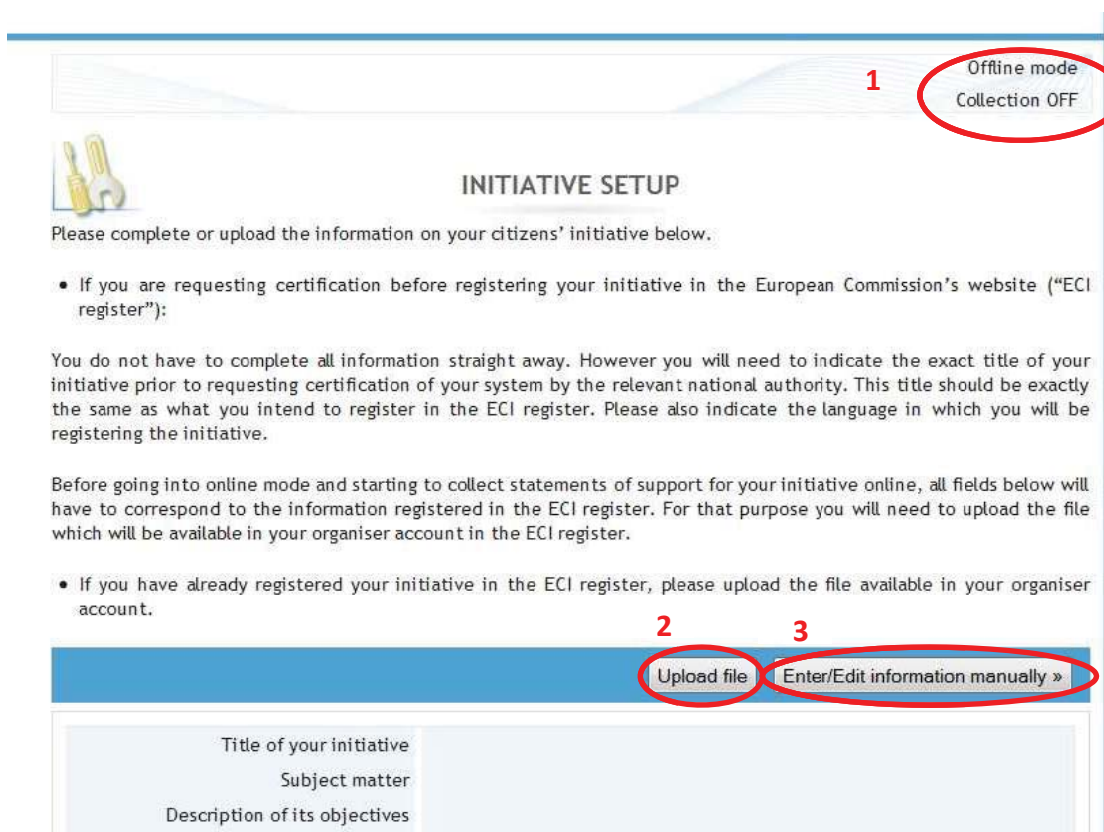**Figure 41: Change of display language of the admin interface**



**Figure 42: Initiative setup on the admin interface**

The software is set by default to be in Offline Mode (*Figure 42, 1*). Furthermore, the page has two options to insert specific information on the initiative:

After the approval of the initiative by the European Commission, a XML file will be available in the organizer's account, which can be uploaded as shown in *Figure 42, 2*. This feature will be also available in Online Mode, in order to be able to update provided information of the initiative regularly (e.g. new language versions of the initiative, funding). However, once the system is in Online Mode, the initiative cannot be altered anymore (11).

By entering the information manually, in case the initiative has not been confirmed yet (*Figure 42, 3*), it is not necessary to fill in all required information. The exact title of the initiative (the same that is used for registering the initiative) and the language in which the initiative will be registered would be enough to certify the system by a competent national authority. The feature for providing the info is only available in Offline Mode and can also be used for test purposes (11).

Monitor and Export

In the *Monitor and Export* section the collected statements of support from the public interface can be monitored, exported and deleted (*Figure 43*). This feature can be used both in Online and Offline Mode (11).

*Current signature distribution* part (*Figure 43, 1*) of the page displays all allocated statements of support categorized by country and they can be exported by clicking the *Export all* button any time. *Report by period and/or by country* section (*Figure 43, 2*) allows the user to make queries about collected data. The queries can be defined by country and/or by period of signature date and can also be exported by clicking the *Export* button (11).

Specific statements of support can be deleted on request as shown in *Figure 43, 3*. For deletion, the field *Signature identifier* is mandatory unlike *Date of signature,* which serves only as additional information. If the statement of support is submitted successfully, the signatory will get a notification with a signature identifier. Moreover, once the statement of support is exported and decrypted, the signature identifier can also be found in the consequent XML file (11).
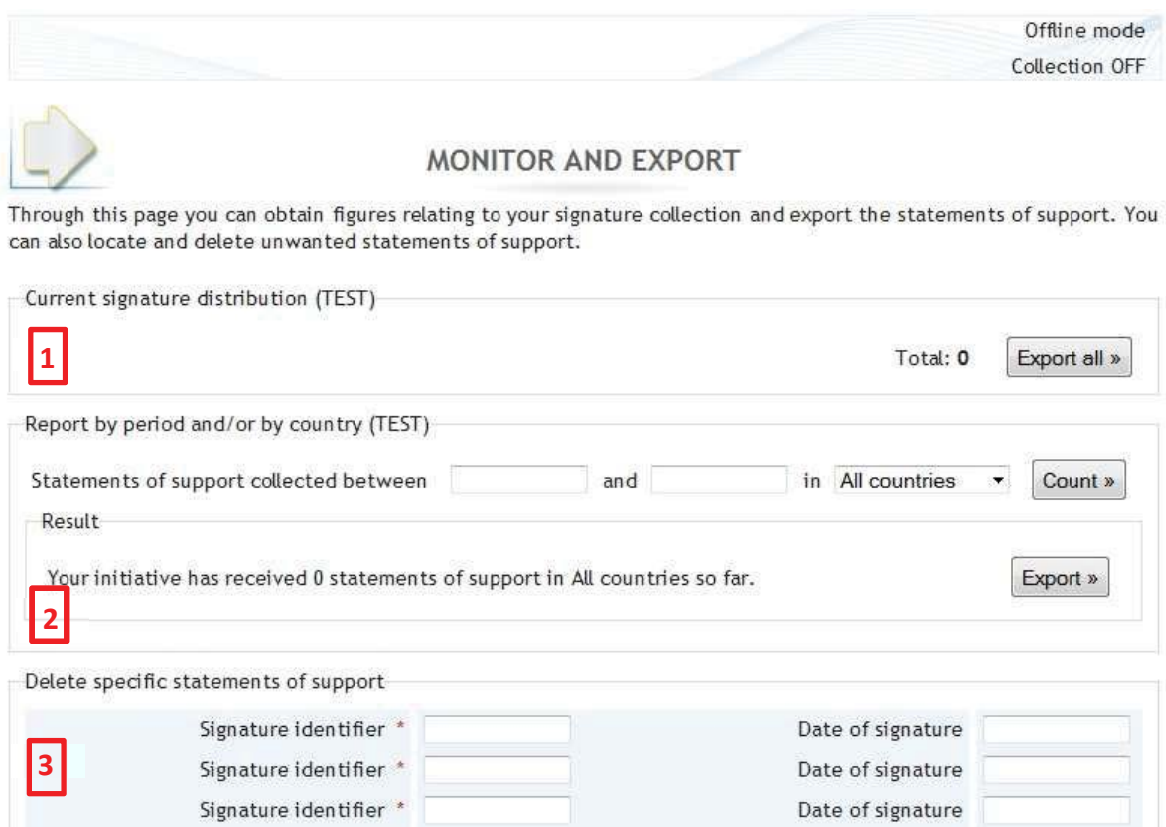
Figure 43: Monitor and Export section of admin interface

System Status

*System Status* section supports two features. The main feature is that the system can be switched to Online Mode here (*Figure 44, 3*) and the other characteristic is that the user can decide whether the support form should appear in the public interface (*Figure 44, 1*).

In order to switch to Online Mode (11):

- the software needs to be certified by a competent national authority and the certificate to be uploaded
- the XML File should also be uploaded into the system; it will be available after the approval of the proposed initiative by the European Commission

The upload of the conformity certificate issued by the national authority can be seen in *Figure 44, 2*. As mentioned at the beginning of this chapter, once the system is in Online Mode, it is not possible to go into Offline Mode again.

The appearance of the statement of support form in the public interface can be enabled and disabled in Online- and Offline Mode. By disabling the feature, signatories will not have the possibility to submit statements of support but the public interface will be still accessible. By

default, the statement of the support form is enabled for the Online Mode and disabled for the Offline Mode. In order to test some data in Offline Mode the statement of the support form needs to be enabled (11).
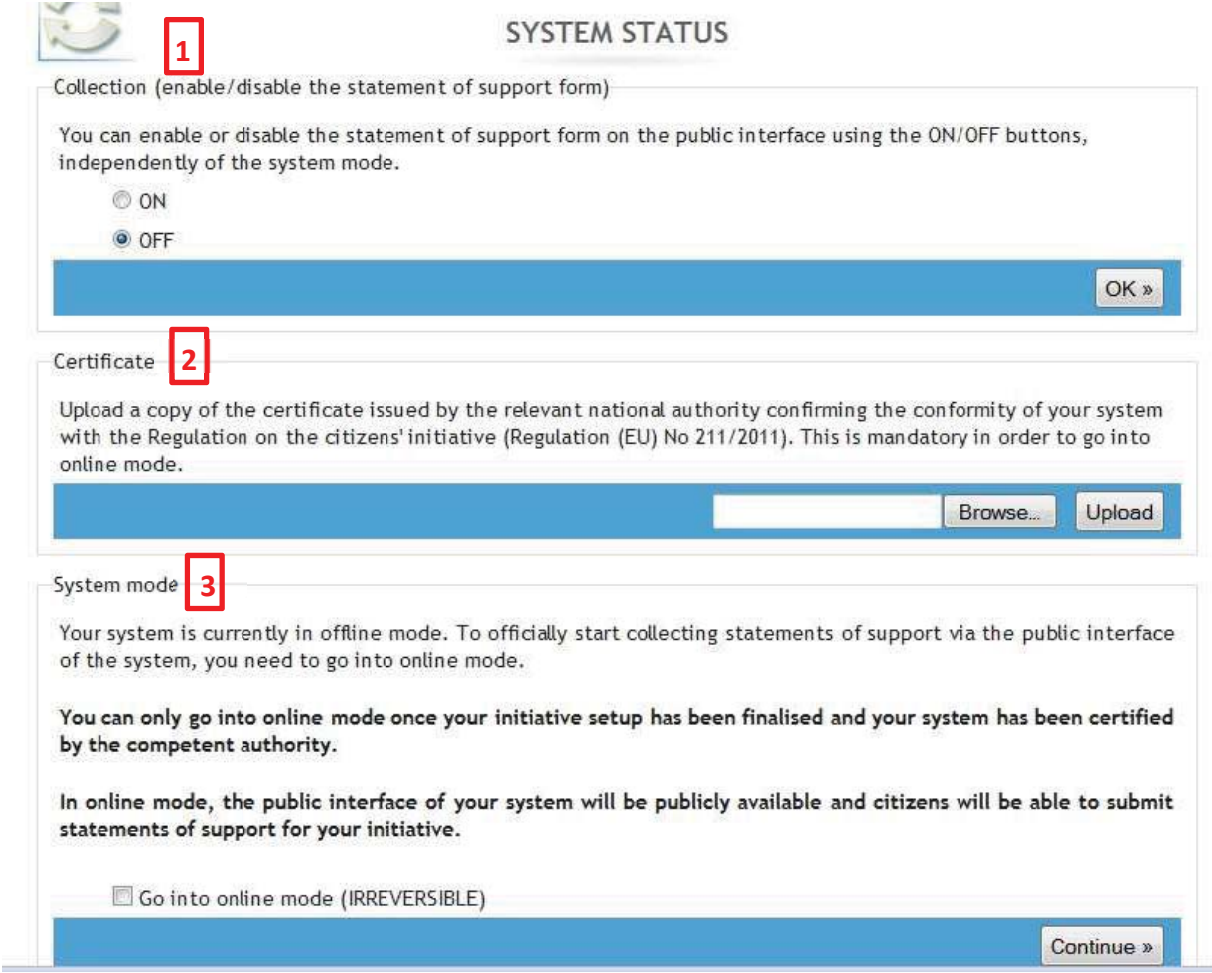


Figure 44: System status section on the admin interface

### 3.2.4. Overview of public interface

The public interface can be launched as described in *Figure 38* by clicking on the *Launch* link of the module name *oct-web-public.war*. *Figure 45, 1,* illustrates the login page of the public interface. The language of the interface can be changed anytime into another EU official language as in the admin interface. In order to login, the same procedure as described in *Figure 39* needs to be run through. The public interface is protected during the Offline Mode, once the system is in Online Mode, it can be accessed without login (11).

If the login was successful, the page as shown in *Figure 45, 2* appears. It informs the user that the system has not been configured yet. In order to configure the system, first initiative needs to be entered into the system as illustrated in *Figure 42*. After the submission of the initiative, the support form will be available in the public interface. This process will be discussed in detail in the following section.

By clicking on *View conformity certificate*, the system informs the user that the certificate has not been uploaded yet (*Figure 45, 3*). The option *View privacy statement* informs the user about the processing of his/her personal data during the initiative (*Figure 45, 4*).
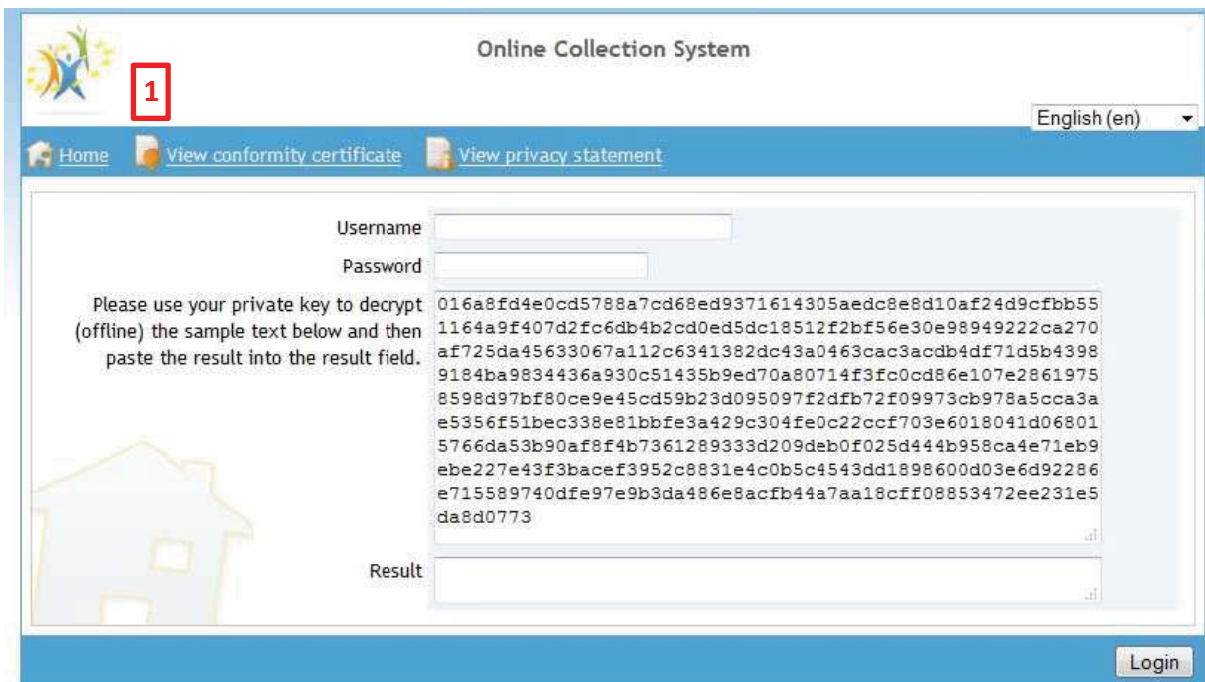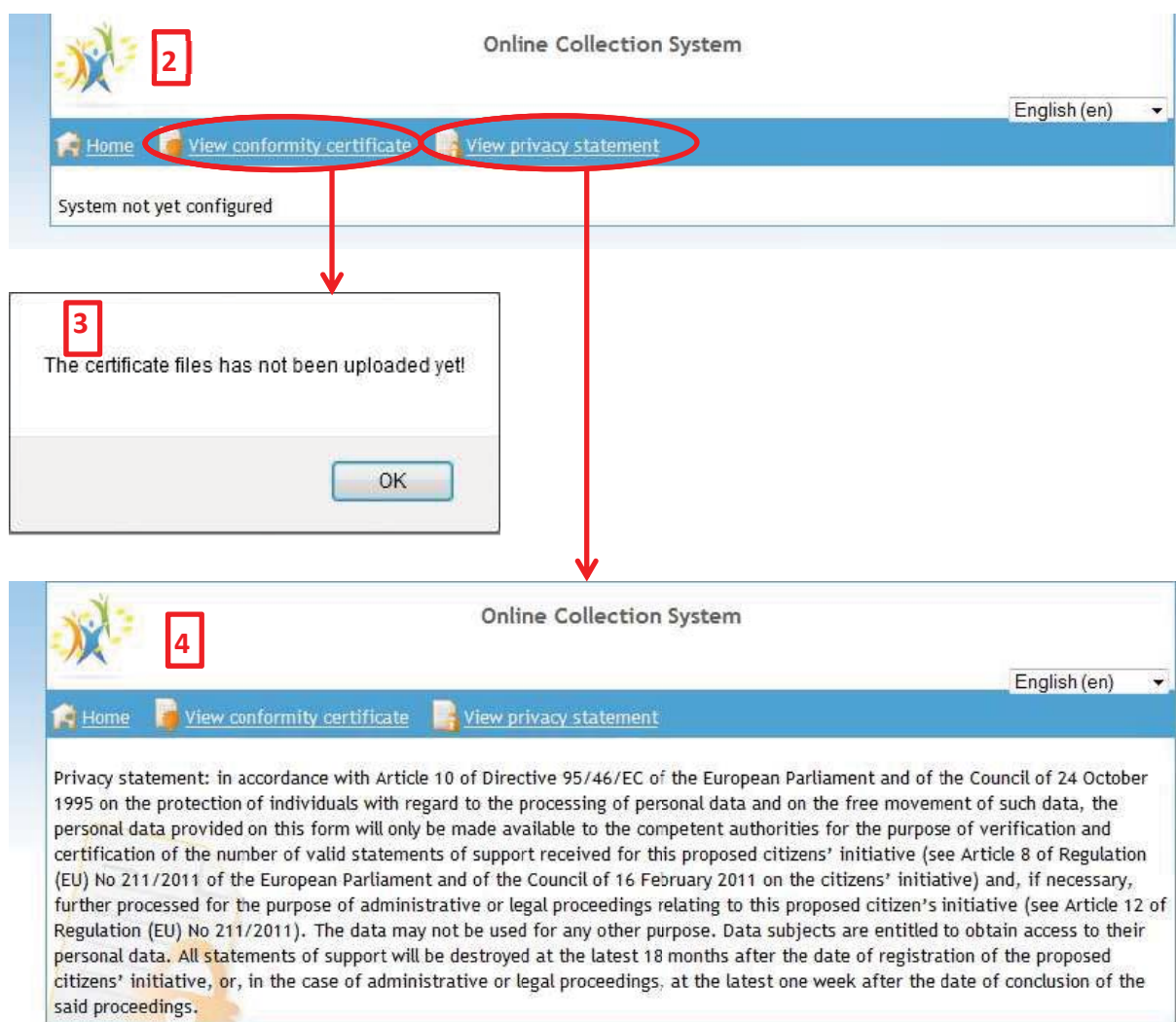
**Figure 45: Overview of the public interface**

## 3.2.5. Input of data

Enabling the statement of support form in Offline Mode

In order to test the system in Offline Mode, an initiative has to be entered manually into the system. The initiative can be entered manually in the *Initiative Setup* section in the admin interface as already shown in *Figure 42, 3*, after clicking on *Enter/Edit information manually*. As mentioned before in chapter 3.2.3., in order to set up an initiative in Offline Mode, it is not mandatory to fill in all the required information, the title and the language of the initiative would be enough to set it up.

The title of the initiative was setup as *TEST*, the language *English* and the initiative was saved (*Figure 46*). The statement of support form in the public interface can now be enabled in the *System status* section of the admin interface as already illustrated in *Figure 44, 1*. The activation is shown in *Figure 47*.

**Figure 46: Manual set up of an initiative**



**Figure 47: Activation of the statement of support form**

The proposed initiative appears now in the public interface as illustrated in *Figure 48.*



**TEST**
**Online Collection System**

🏠 Home | 📄 View conformity certificate | 📄 View privacy statement | English (en) ▾

**Proposed European Citizens' Initiative:**
**TEST**

| | |
|---|---|
| Subject matter: | |
| Main objectives: | |
| Information on this proposed initiative is available in the following languages: | English |
| European Commission registration number: | |
| Date of registration: | |
| Web address of this proposed initiative on the European Commission register: | /en |
| Names of organisers: | |
| Names of contact persons: | |
| E-mail addresses of contact persons: | |
| Website of this proposed citizens' initiative (if any): | |

To support a European Citizens' Initiative, you must be an EU citizen (national of an EU member state) and be old enough to vote in European Parliament elections (18 except Austria where the voting age is 16).
For more information on the rules and conditions for the European Citizens' Initiative: http://ec.europa.eu/citizens-initiative

Support »

Figure 48: Display of the proposed initiative

Statement of support form

In order to give a statement of support, the signatory has to click on the *Support* button on the homepage of the public interface (*Figure 48*). In the statement of support form, illustrated in *Figure 49*, two links can be found with information for the signatory. The first link provides information on the necessary personal data depending on the selected country and the other, on the sign up procedure. Besides, after selecting the country, the system provides an information link to Annex III-Part C of the Regulation (EU) No 211/2011 on the citizens' initiative.

**Figure 49: Submission of a statement of support**

Submission of a statement of support

In order to test the public interface of the system a fictive statement of support was submitted in *Figure 49*. *Austria* was selected as signatory's country, *ID card* was chosen and some fictive *number* was entered. Later, *name, date of birth, place of birth, nationality* and *residence* of the signatory were filled in. Next, the signatory needs to confirm two statements: that the provided information was correct and that he/she had not already supported the proposed initiative, and he/she already read the privacy statement. Finally, a set of characters displayed in the captcha needs to be typed in.

After the successful submission of the statement of support a confirmation window is to show up with the information about the *date of signature* and *signature identifier* as illustrated in *Figure 50*.
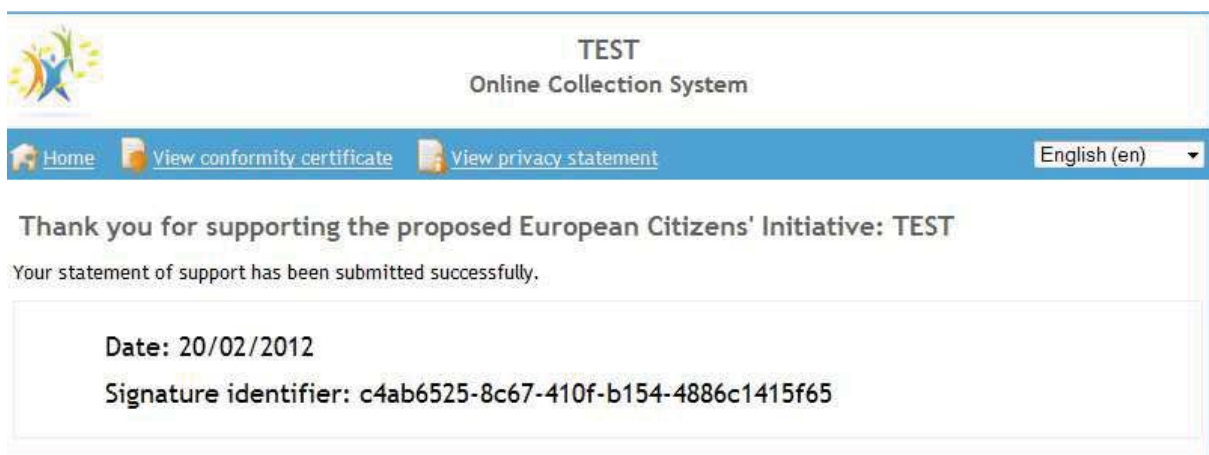


**Figure 50: Confirmation about the successful submission of statement of support**

After the successful submission of the statement of support, it is not possible for the signatory to sign up for the same initiative twice. If the signatory tries to sign up for the same initiative again:

1. By entering the same data as shown in *Figure 49*, the system displays an error (*Figure 51*).



**Figure 51: Error message if the signatory wants to sign up for the same initiative twice**

2. Different number of passport:

| Field | Value | Comment |
|---|---|---|
| Number | A6472846 | Successful submission of statement of support |

3. Second first name:

| Field | Value | Comment |
|---|---|---|
| First name | Max Müller | Successful submission of statement of support |

4. Additional space between the first names:

| Field | Value | Comment |
|---|---|---|
| First name | Max  Müller | Successful submission of statement of support |

5. Second family name:

| Field | Value | Comment |
|---|---|---|
| Family name | Meier-Grass | Successful submission of statement of support |

6. Different date of birth:

| Field | Value | Comment |
|---|---|---|
| Date of birth (dd/mm/yyyy) | 12.06.1964 | Successful submission of statement of support |

7. Different place of birth:

| Field | Value | Comment |
|---|---|---|
| Place of birth | Graz, Austria | Successful submission of statement of support |

8. Different nationality:

| Field | Value | Comment |
|---|---|---|
| Nationality | German | Successful submission of |

| | | statement of support |
|---|---|---|

9. Different address:

| Field | Value | Comment |
|---|---|---|
| Address | Löwen Gasse 8, 34 | Successful submission of statement of support |

10. Different kind of ID document:

| Field | Value | Comment |
|---|---|---|
| ID document | Passport | |
| Number | J 7634567 | Successful submission of statement of support |

11. Different permanent residence:

| Permanent residence | | |
|---|---|---|
| Field | Value | Comment |
| Address | Bachstraße 11 | |
| Postal code | 13629 | |
| City | Berlin | |
| Country | Germany | Successful submission of statement of support |

12. Different countries:

| Field | Value | Comment |
|---|---|---|
| Selected country | Austria | |
| Place of birth | Berlin | |
| Nationality | German | |
| Permanent residence | | |
| Address | Rue de l'Imprimerie 12 | |
| Postal code | 44220 | |
| City | Couëron | |
| Country | France | Successful submission of  statement of |

| | | support |
|---|---|---|

If a signatory enters the same data for the second time, as illustrated above, the system mistakenly submits this statement of support. Other cases where the signatory is able to successfully submit a statement of support are:

- While having a dual citizenship
- or entering nationality and the permanent residence as two different countries,
- or using additional space, abbreviation etc.

As a result, there is a need for an appropriate data check. At least for the countries which require ID personal/document number, the number should be checked for uniqueness.

For the test reason another statement of support was submitted. The next fictive signatory was chosen from Italy (*Figure 52*). After the successful submission of the support form, the confirmation window appeared again with the *date* and *signature identifier* (*Figure 53*).

Figure 52: Submission of a second statement of support



Figure 53: Confirmation of successful submission of the second statement of support

Entering of a new initiative into the system:

It should be mentioned, if a new initiative is entered into the system, as shown in Figure 46, all the collected statements of support will be deleted from the folder where the data is stored. This action seems to be redundant in Offline Modus while the system is being tested. At least it would be desirable that the system displays a notification before the data disappears.

The table below analyses in detail the required fields for data in a statement of support form.

| Field | Type | Comment |
|---|---|---|
| Selection of country | List of EU countries | It is possible to provide country specific information:<br>• By selecting the county in the statement of support form<br>• By selecting the nationality<br>• By selecting the country of the permanent residence<br>Currently it is possible to select different countries for each field. It would be preferable, if the selected country in the statement of support form would match the selected nationality or the selected country of residence. |
| Date of birth (dd/mm/yyyy) | manual or calendar | The date format is being displayed correctly:<br>• Invalid date format or useless data is recognized while providing a corresponding error notification.<br>• If a date of birth is entered manually, there is a lack of automatic transformation or sample of the date format.<br>The minimum age to vote for the selected country should be:<br>• Austria – 16,<br>• Other countries - 18.<br>If a signatory has an inappropriate age to vote, the system displays the message "invalid format", without providing any error explanation. |

| Postal code | manual | Postal codes are not verified for correctness. |
|---|---|---|
| ID personal/document number | manual | Any alpha numeric combination can be entered. Validation of the most known formats is not supported. |
| Captcha | | Captcha field is supported in order to prevent automatic submission of a statement of support. Unfortunately, there is no possibility for the signatory to create a new combination of characters in case of difficulties to recognize them. Furthermore, there is no audio playback of characters which is needed for blind people. |

Table 1: Field analyses of statement support form

It will be tried on purpose to submit a statement of support with unacceptable data of the signatory (data which do not comply with the Regulation (EU) No 211/2011 on the citizens' initiative).

First a German signatory was chosen who lives in Austria and has an Austrian nationality as illustrated in *Figure 54*, 1. According to Annex III-Part C of the Regulation (EU) No 211/2011 on the citizens' initiative the signatory has to be a permanent resident in Germany or – when residing outside the country – a German national. Consequently the statement of support was submitted successfully although the system should not be able to submit it. The same procedure was carried out for signatories from the United Kingdom and Belgium. By selecting the United Kingdom, the signatory has to be a permanent resident of the UK. In *Figure 54, 2* the signatory lives in Austria and is able to submit a statement of support. The same issue applies for Belgium. The signatory has to be a permanent resident of Belgium or, when residing outside the country, a Belgian national. In *Figure 54, 3* the signatory who selected Belgium is an Austrian and lives in Austria. According to the findings it can be assumed that the system does not check the conformity of data.

🏠 Home    📄 View conformity certificate    📄 View privacy statement           English (en) ▼

## Support the proposed European Citizens' Initiative: TEST
**1**

### Statement of support form
Please select your country, complete the required information and submit.

You should select the member state you come from. The data you will be asked to fill in will depend on the country you select.

The requirements for each country can be found here: http://ec.europa.eu/citizens-initiative/files/requirements-en.pdf

For further information on signing up to a European Citizens' Initiative go to:
http://www.ec.europa.eu/citizens-initiative/public/how-to-signup

Selected country **Germany**   [ Change ]

In accordance with Annex III – Part C of Regulation (EU) No 211/2011 on the citizens' initiative, by selecting this country you must be a permanent resident in Germany or a German national residing outside Germany provided you have informed the German authorities about your place of residence.

| | |
|---|---|
| Full first names * | Emanuel |
| Family names * | Schmid |
| Date of birth (dd/mm/yyyy) * | 06/03/1956 |
| Place of birth * | Vienna |
| Nationality * | Austrian ▼ |

| | |
|---|---|
| Full first names * | Emanuel |
| Family names * | Schmid |
| Date of birth (dd/mm/yyyy) * | 06/03/1956 |
| Place of birth * | Vienna |
| Nationality * | Austrian ▼ |

**Permanent residence**

| | |
|---|---|
| Address (street, number, other) * | Kreuzgasse 6/5 |
| Postal code * | 1170 |
| City * | Vienna |
| Country * | Austria ▼ |

☑ I hereby certify that the information provided in this form is correct and that I have not already supported this proposed citizens' initiative.

☑ I have read the privacy statement.

**Enter the characters you see in the picture**

s q v p

* sqvp

[ « Back ]   [ Submit » ]

![Test Online Collection System logo and header]

**Test**
**Online Collection System**

🏠 Home    📄 View conformity certificate    📄 View privacy statement

English (en) ▾

## Support the proposed European Citizens' Initiative: Test

**2**

### Statement of support form
Please select your country, complete the required information and submit.

You should select the member state you come from. The data you will be asked to fill in will depend on the country you select.

The requirements for each country can be found here: http://ec.europa.eu/citizens-initiative/files/requirements-en.pdf

For further information on signing up to a European Citizens' Initiative go to:
http://www.ec.europa.eu/citizens-initiative/public/how-to-signup

Selected country **United Kingdom**    [ Change ]

In accordance with Annex III – Part C of Regulation (EU) No 211/2011 on the citizens' initiative, by selecting this country you must be a permanent resident in the United Kingdom. UK nationals living in another member state should select that member state.

| | |
|---|---|
| Full first names * | Gabriel |
| Family names * | Akins |
| Date of birth (dd/mm/yyyy) * | 17/05/1966 |

| | |
|---|---|
| Date of birth (dd/mm/yyyy) * | 17/05/1966 |
| Nationality * | British ▾ |

**Permanent residence**

| | |
|---|---|
| Address (street, number, other) * | Rotenturmstrasse 8/5 |
| Postal code * | 1020 |
| City * | Vienna |
| Country * | Austria ▾ |

☑ I hereby certify that the information provided in this form is correct and that I have not already supported this proposed citizens' initiative.

☑ I have read the privacy statement.

**Enter the characters you see in the picture**

[CAPTCHA image: 4 3 d t]   *  [                    ]

[ « Back ]   [ Submit » ]

**Figure 54: Invalid statement of support**

Specific case:

The signatory may have no possibility to submit a statement of support, which has nothing to do with the functionality of the Online Collection Software but is worth mentioning. The countries were free in specifying the requirements for supporting an initiative, which led to unpredictable conflicts of interests. For example, a citizen of Ireland, Netherlands or Great Britain should have a permanent residence in his home country; otherwise, a signatory has to select the country of residence. However, when an Irishman lives in Austria, he/she cannot support the initiative because he/she has not the required ID document for this country.

The next test case is an attempt to submit a statement of support where the signatory is of an ineligible age to support the initiative. The reference date for the test was 14/05/2012. For example, in Austria the age of the signatory has to be minimum 16 in order to give a statement of support. When a 15 year old signatory from Austria tries to submit a statement of support, the system correctly does not accept it and displays an error message *Invalid format* as shown in *Figure 55, 1*. Likewise, when a 16 year old signatory from Germany, where the minimum age of the signatory has to be 18, tries to submit a statement of support, the system mistakenly accepts it (*Figure 55, 2*). However, when the age of the signatory is under 16, the system informs about the invalid format. The test was also carried out for Denmark with the same result (*Figure 55, 3*). It seems that the system detects an error only, if a signatory is under the age of 16, regardless of the country.

Figure 55: Invalid age of the signatory

### 3.2.6. Monitor, export and deletion of data

After input of some data it would be interesting to have a look at the *Monitor and Export* section of the admin interface shown in *Figure 56*. The *Current signature distribution* shows

the distribution of statements of support per country, in our example Italy and Austria each one including one signature, and the total amount of signatures.
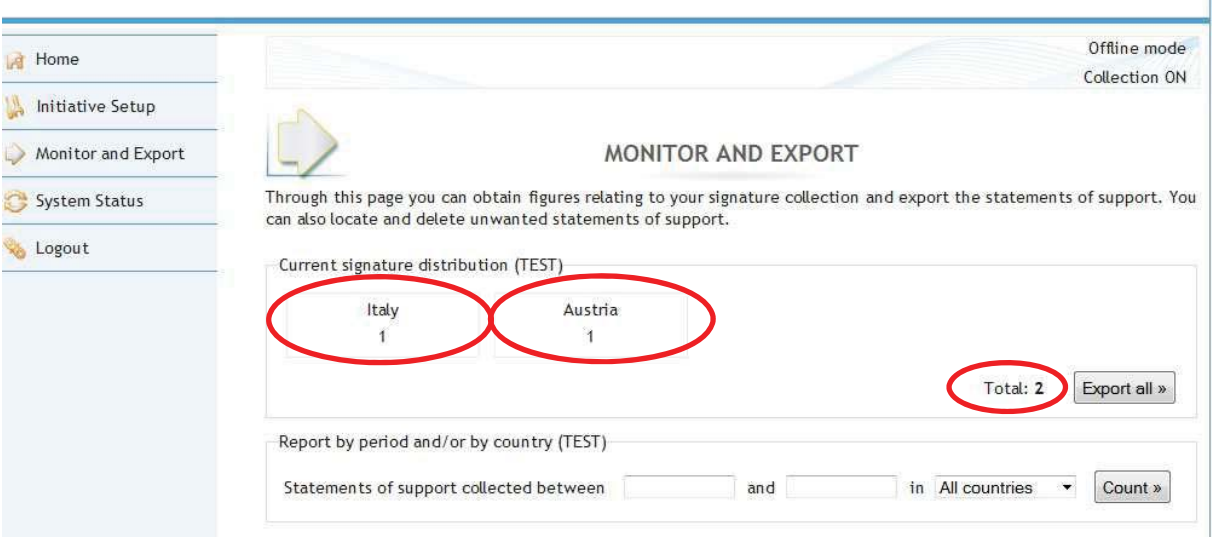


**Figure 56: Monitor and Export section of the admin interface after input of data**

For the purpose of analysis, the collected data can be reported. For example, if the organizer wants to look at the collected signatures in Austria, the organizer has to select *Austria* in the report section and click on the *Count* button (*Figure 57, 1*). The result shows that one statement of support has been received from Austria so far.

Another possibility to query data is by defining a time period as shown in *Figure 57, 2*. Both statements of support in the previous chapter were created on 20/02/2012. For example by defining a time period between 19/02/2012 and 22/02/2012 for all countries, the system outputs two statements of support that have been received so far.

Figure 57: Report of statements of support

Export of data

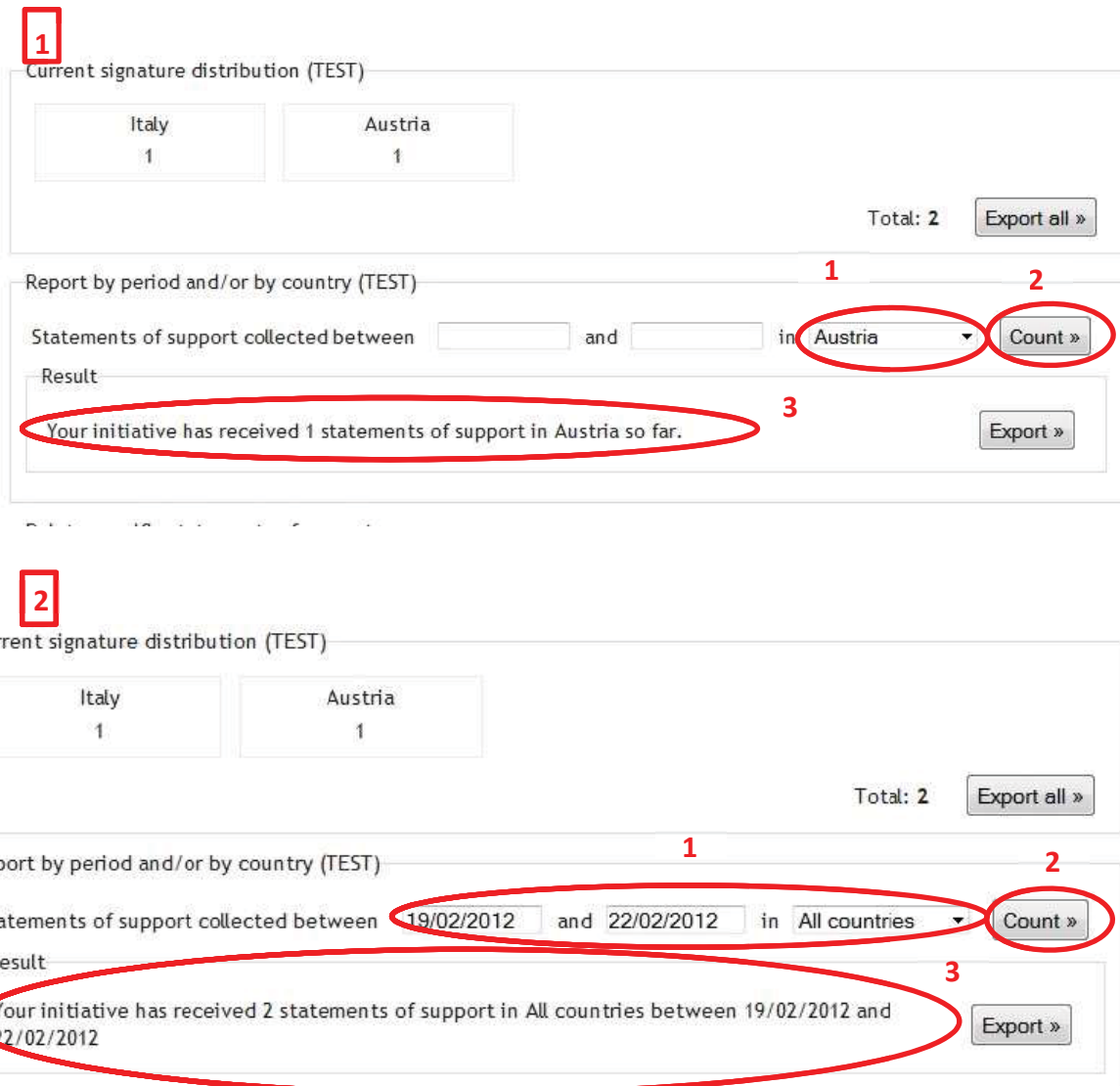The collected data so far exists only in the system, in order to make the data available it has to be exported. The system supports two ways to export the data, one by exporting all statements of support in *Current signature distribution* section and the other by exporting specific statements of support in *Report* section (**11**).

By exporting all statements of support by clicking on the *Export all* button in *Figure 57*, the system displays a message about the successful export of data (*Figure 58, 1*). The exported data should be located in the storage folder *D:/eci/storage/*, which was set in *Figure 18* during the installation. The system should create a subfolder named *export* (*Figure 58, 2*). The export folder includes subfolders for the countries Italy (IT) and Austria (AT) named after their country codes and each country folder contains a subfolder for the registered language of the

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initiative selected by signatories. Finally, the encrypted XML files are located in the folders with the language code.

By selecting statements of support for Austria and exporting the data (*Figure 57, 1*), the system again displays a message about the successful export (*Figure 58, 1*). This time no changes were made in the storage folder since the last data export. It seems that the export feature of the Report section does not work properly. During the runtime of the system it is possible to export data anytime. This means, e.g. when all statements of support will be exported again additionally a new subfolder will be created in the export folder named with information of date and time of export.
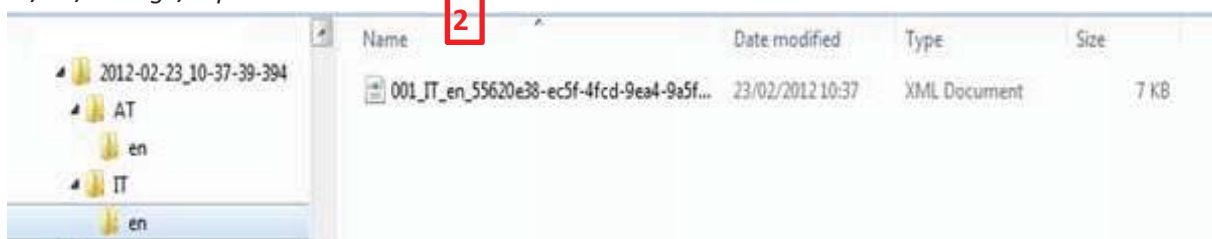


Figure 58: Export of statements of support

Decryption of exported data

The exported statements of support (XML files) are encrypted in order to protect the data in case of theft or other security reasons (*Figure 59*). However, the exported data needs to be decrypted to be readable.

In *Figure 60* the decryption process is represented step by step (11). The decryption will be done by starting the Cryptography Tool and clicking on the *Decrypt exported data* button (*step 1*). After the window for decryption opens, the data for decryption can be selected by clicking on *Add files or Add folders* button (*step 2*). During the test phase the export feature was tested several times, therefore the storage folder includes various export folders. The folder which was created for export in the previous section (*Figure 57*) was selected for decryption in *step 3*. In *step 4*, output folder *D:\eci\DecryptedData* and the file format XML for the decrypted data was defined. It is also possible to define the file format as PDF, but this may cause difficulties in deletion of data as described in the next section. Finally the decryption was started in *step 5* by clicking on the *Start decryption process* button.

<?xml version="1.0" encoding="UTF-8" standalone="yes"?><supportForm><f
<initiativeData><title>TEST</title></initiativeData><signatures><signa
<signatureIdentifier>c4ab6525-8c67-410f-b154-4886c1415f65</signatureId
name><properties><property><key>oct.property.country</key><value>
3cbf1e40f40fd5dc2ba026541b22d34e0c16a1f41b62bfa88a2989cc04fb6f3422b63e'
0f75d606e73005cc43fa8dc6e1e9410969f68b23615c7ee6e0d752762ea3484aa20c9c
f58bebfa7160d7e6ca127634b986ec77eab3e8a1f5cdb04268d02007e44c66efa029dbl
826dc24f4dffd7e18e895239a728d818771e35dc638b632cca758d0fb001d86178f4ed'
><key>oct.property.postal.code</key><value>
2542b63d038ae730aaf9155a14166138fe78f42763a16b3e087e8bff37caad87b8644b
11876305545c36150905cafa6ca0d98fdc851d82e8c059769bdef1d85e8c17e39fa8ee
312f2e319ecc6c627c21b28d854e9c4c2adf71582107f606177ab9c4f9d205f30e8f62
675bf8369efaff9e357d03653c3d1b7215998a628a7f55683f60b50880d81c36eb79cc
><key>oct.property.address</key><value>
08558453dc5cdc57a0fd7859866fadef16a9ad22046a5e840c6d8e5a66fc354c4c3fd2'
b9911a3eccc1d7a6c40815478f09591f7d869b40135832502ab4dd5b0e32057fac1fe7
078bdaeb8adc44fbd6ace905d318fa8a2ad0d4b7bd5991eddace0fa285a6903f220ce5'
f0740ad72827e95b4de541936c83e98d5c7d51205c334448b64cfceb8494d62367bfa1

Figure 59: Encrypted data (XML file)

The tool decrypted the data and informed as soon as the process was completed. The *Details* button in *step 6* provided the summary of the decryption process and informed that two files were successfully processed without any failure. After the decryption process, the decrypted data could be found in a readable form in the defined output folder (*Figure 61*).
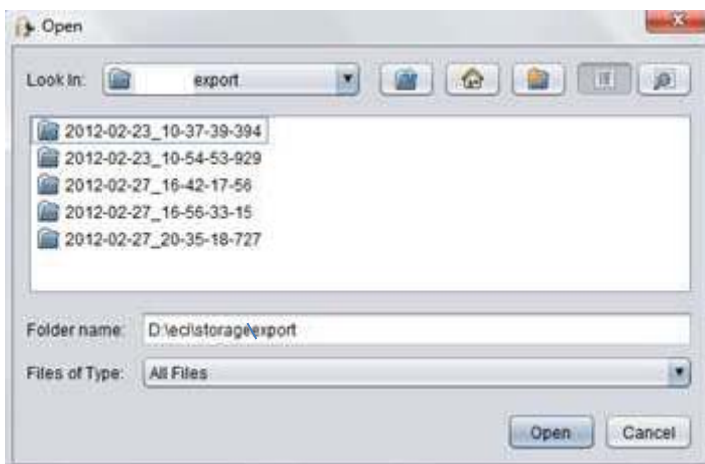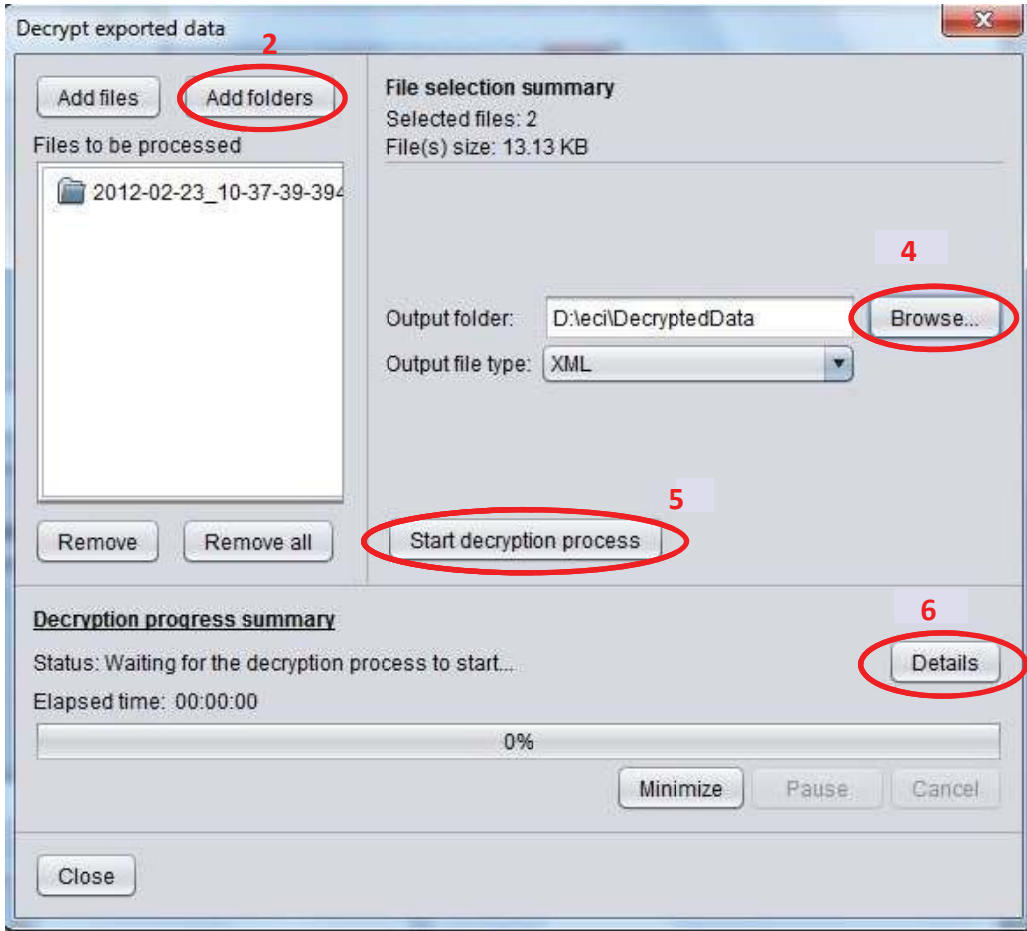
**7**

**Figure 60: Decryption procedure of exported data**



```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><supportForm><forCountry>at</forCou
<initiativeData><title>TEST</title></initiativeData><signatures><signature><submissionDate>
<signatureIdentifier>c4ab6525-8c67-410f-b154-4886c1415f65</signatureIdentifier><signatoryIn
name><properties><property><key>oct.property.country</key><value>at</value></property><prop
<value>1180</value></property><property><key>oct.property.address</key><value>Kreuzgasse 2,
oct.property.city</key><value>Vienna</value></property></properties></group><group><name>oc
<key>oct.property.date.of.birth</key><value>12/02/1985</value></property><property><key>oct
</property><property><key>oct.property.nationality</key><value>at</value></property><prope
Max</value></property><property><key>oct.property.place.of.birth</key><value>Vienna</value>
>oct.group.id</name><properties><property><key>oct.property.id.card</key><value>A12345677<,
groups></signatoryInfo></signature></signatures></supportForm>
```
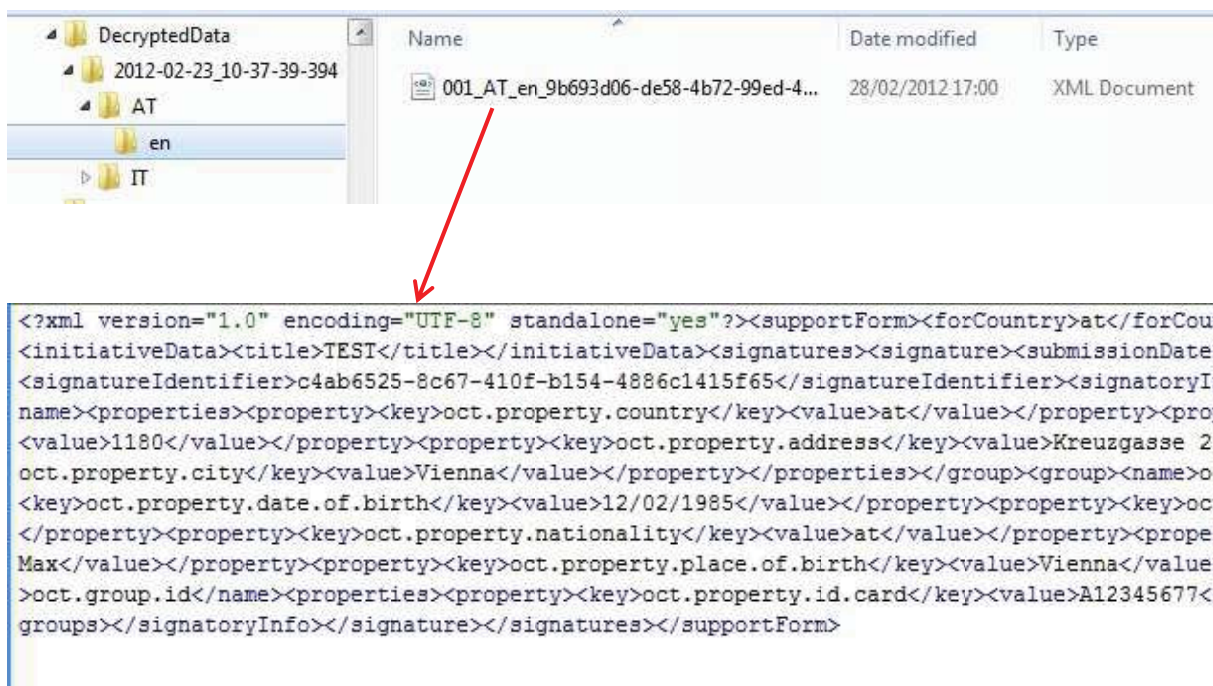
**Figure 61: Decrypted data (readable)**

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Deletion of specific statements of support

In order to test the deletion of specific statements of support, the Austrian signatory, which was created in the previous section, will be deleted from the system. The deletion of the signatory effects only the system, it means when the signatory once was exported, the data will still be available in the storage folder of the file system.

In order to delete the Austrian signatory, the *Signature identifier* is needed, which is *c4ab6525-8c67-410f-b154-4886c1415f65* as illustrated in *Figure 50*. By entering the signature identifier and clicking on the *Delete specific statements of support* button shown in *Figure 62, 1*, the system verifies the intention of deleting the form (*Figure 62, 2*) and finally displays information about the successful deletion (*Figure 62, 3*). In the *current signature distribution* section the signatory is not displayed anymore.

**Figure 62: Deletion of the Austrian signatory**

Exception PDF files:

There is an exception when it comes to decryption of the exported data in PDF format. The signature identifier, which is needed in order to delete a specific statement of support, cannot be found in the PDF file. It is also not possible to obtain it from the exported data as the data is encrypted. This fact can cause difficulties in deleting of the data.

## 3.3. Country and language codes

| Short name, source language(s) (geographical name) | Short name in English (geographical name) | Country code |
|---|---|---|
| Belgique/België | Belgium | BE |
| България | Bulgaria | BG |
| Česká republika | Czech Republic | CZ |
| Danmark | Denmark | DK |
| Deutschland | Germany | DE |
| Eesti | Estonia | EE |
| Éire/Ireland | Ireland | IE |
| Ελλάδα | Greece | EL |
| España | Spain | ES |
| France | France | FR |
| Italia | Italy | IT |
| Κύπρος | Cyprus | CY |
| Latvija | Latvia | LV |
| Lietuva | Lithuania | LT |
| Luxembourg | Luxembourg | LU |
| Magyarország | Hungary | HU |
| Malta | Malta | MT |
| Nederland | Netherlands | NL |
| Österreich | Austria | AT |
| Polska | Poland | PL |
| Portugal | Portugal | PT |
| România | Romania | RO |
| Slovenija | Slovenia | SI |
| Slovensko | Slovakia | SK |
| Suomi/Finland | Finland | FI |
| Sverige | Sweden | SE |
| United Kingdom | United Kingdom | UK |

Table 2: List of EU member states (11 p. not stated Annex II)

| Source language title | English title | ISO code |
|---|---|---|
| български | Bulgarian | bg |
| español | Spanish | es |
| čeština | Czech | cs |
| dansk | Danish | da |
| Deutsch | German | de |
| eesti keel | Estonian | et |
| ελληνικά | Greek | el |
| English | English | en |
| français | French | fr |
| Gaeilge | Irish | ga |
| italiano | Italian | it |
| latviešu valoda | Latvian | lv |
| lietuvių kalba | Lithuanian | lt |
| magyar | Hungarian | hu |
| Malti | Maltese | mt |
| Nederlands | Dutch | nl |
| polski | Polish | pl |
| português | Portuguese | pt |
| română | Romanian | ro |
| slovenčina (slovenský jazyk) | Slovak | sk |
| slovenščina (slovenski jezik) | Slovenian | sl |
| suomi | Finnish | fi |
| svenska | Swedish | sv |

Table 3: List of official EU languages (11 p. not stated Annex III)

In *Table 2* and *Table 3*, the member states and official languages of the European Union are listed and used in the software (11). The lists correspond with the country and language specifications of the European Union (24). The language and country codes will be used for the export of data as already illustrated in *Figure 58, 2*.

## 3.4. Conformance to requirements of the statement of support forms in Annex III of Regulation (EU) No 211/2011 on the citizens' initiative

The Online Collection Software has to guarantee the accurate implementation of the statement of support forms specified in Annex III of Regulation (EU) No 211/2011 on the citizens' initiative (1 p. L65/6 Article 6(4c)). In this chapter resulting requirements and the implementation on the software are discussed.

**General requirements**

First of all the system has to provide information regarding the proposed initiative (1 pp. L 65/12-15 Annex III):

- Commission registration number
- Date of registration
- Web address of the proposed citizens' initiative on the Commission register
- Title of the proposed citizens' initiative
- Subject matter
- Main objectives
- Names of organisers
- Names and e-mail addresses of contact persons
- Website of the proposed citizens' initiative (if any)

In section *Initiative Setup* on the admin interface the proposed initiative can be set up. The provided information fields in *Figure 63* comply with the points above.



**Figure 63: Information fields of the initiative**

➡️     *Information about the proposed initiative* ✔

The collected statements of support have to be classified by country, in order to assign the competent national authorities to process the data. This issue can also be observed on both statement of support forms, as only one country can be selected per form. The form also allows the usage of only one language, since the information fields of the initiative need to be filled in by the organiser (1 pp. L 65/12-15 Annex III).

The *Monitor and Export* section on the administrator interface displays signatories per country (*Figure 56*) and the data will be exported and classified by country and by the selected language of the initiative (*Figure 58*).

➡️     *Classification of countries and selected language of the initiative* ✔

On the statement of support forms shown in *Figure 6* and *Figure 8,* there is a notice for the signatory, that he/she certifies the correctness of the provided information and has not supported the initiative before. Additionally, in the second section of the forms there is an info-box with a privacy statement.

The statement of support form of the system provides two small boxes, which comply with the requirement above and need to be confirmed by the signatory (*Figure 64*).



**Figure 64: Confirmation of the signatory**

➡️     *Confirmation of the signatory* ✔

Requirements for the statement of support form

As already discussed in step 4, chapter 2.2, the European countries are classified according to the statement of support form into two categories. In order to accomplish this requirement, the system has to make sure that:

- countries are classified and the required personal data of the signatory on the form changes appropriately
- information, illustrated in *Figure 5*, for countries which do not require a provision of personal identification number/document is provided on the support form

For test purpose, one country was selected from each category. The Netherlands was chosen as a country, which does not require a provision of personal identification number/document.

By selecting Netherlands on the support form it could be noticed that (*Figure 65, 1*)*:*

- information regarding Netherlands was provided for the signatory
- the required personal data *Full first names, Family names, Date of birth, Place of birth, Nationality, Adress, Postal code, City, Country* and *Name at birth*, is in accordance with the specification of the statement of support form in *Figure 6*

Bulgaria was selected in order to test the category which requires the provision of personal identification number/document number.

By selecting Bulgaria it could be noticed that (*Figure 65, 2*):

- personal number as determined in *Figure 7* was provided
- the required personal data *personal number, full first names, family names, father's names, nationality*, is in accordance with the specification of the statement of support form in *Figure 8*

**Figure 65: Analysis of statement of support form**

In *Table 4* all countries were tested.

| Category A | Information | Support | Personal data | Support |
|---|---|---|---|---|
| Belgium | - residents<br>- if outside national authority informed | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Denmark | - residents<br>- if outside national authority informed | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Germany | - residents<br>- if outside national authority informed | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Estonia | - residents<br>- outside the country | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Ireland | - residents | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Netherlands | - residents | ✓ | - full first names<br>- family names<br>- name at birth<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Slovakia | - residents<br>- outside the country | ✓ | - full first names<br>- family names<br>- name at birth<br>- permanent residence<br>- date and place of birth<br>- nationality | ✓ |
| Finland | - residents<br>- outside the country | ✓ | - full first names<br>- family names<br>- permanent residence (only the country)<br>- date of birth<br>- nationality | ✓ |
| United Kingdom | - residents | ✓ | - full first names<br>- family names<br>- permanent residence<br>- date of birth<br>- nationality | ✓ |

| Category B | Pers. identification number/document type and number | Support | Personal data | Support |
|---|---|---|---|---|
| Bulgaria | - personal number | ✔ | - full first names<br>- family names<br>- father's name<br>- nationality | ✔ |
| Czech Republic | - national identity card<br>- passport | ✔ | - full first names<br>- family names<br>- nationality | ✔ |
| Greece | - identity card<br>- passport<br>- residence certificate | ✔ | - full first names<br>- family names<br>- father's name<br>- name at birth<br>- date of birth<br>- nationality | ✔ |
| Spain | - identity card<br>- passport | ✔ | - full first names<br>- family names<br>- permanent residence<br>- nationality | ✔ |
| France | - passport<br>- national identity card<br>- residence permit<br>- driving licence<br>- other | ✔ | - full first names<br>- family names<br>- permanent residence<br>- date of birth<br>- nationality | ✔ |
| Italy | Including issuing authority:<br>- identity card<br>- passport | ✔ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✔ |
| Cyprus | - identity card of national or resident<br>- passport | ✔ | - full first names<br>- family names<br>- nationality | ✔ |
| Latvia | - personal identification number | ✔ | - full first names<br>- family names<br>- name at birth<br>- date and place of birth<br>- nationality | ✔ |
| Lithuania | - personal number | ✔ | - full first names<br>- family names<br>- nationality | ✔ |

| Country | Identification | | Personal data | |
|---|---|---|---|---|
| Luxembourg | - national identification number on the social security identity card | ✔ | - full first names<br>- family names<br>- place of birth<br>- nationality | ✔ |
| Hungary | - identity card<br>- passport<br>- personal identification number | ✔ | - full first names<br>- family names<br>- nationality | ✔ |
| Malta | - identity card | ✔ | - full first names<br>- family names<br>- date of birth<br>- nationality | ✔ |
| Austria | - passport<br>- identity card | ✔ | - full first names<br>- family names<br>- permanent residence<br>- date and place of birth<br>- nationality | ✔ |
| Poland | - PESEL identification number | ✔ | - full first names<br>- family names<br>- permanent residence<br>- nationality | ✔ |
| Portugal | - identity card<br>- passport<br>- citizen's card | ✔ | - full first names<br>- family names<br>- date of birth<br>- nationality | ✔ |
| Romania | - identity card<br>- passport<br>- registration certificate<br>- permanent residence card for EU citizens<br>- personal identification number | ✔ | - full first names<br>- family names<br>- permanent residence<br>- date of birth<br>- nationality | ✔ |
| Slovenia | - identity card<br>- passport | ✔ | - full first names<br>- family names<br>- date and place of birth<br>- nationality | ✔ |
| Sweden | - personal identification number (ID card or Passport) | ✔ | - full first names<br>- family names<br>- date and place of birth<br>- nationality | ✔ |

Table 4: Analysis of the statement of support form for all countries

## 3.5. Access to application server over a network

Once the software is in Online Mode, signatories may want to access the homepage of the initiative and submit statements of support. In order to test the proper function of the server, it makes sense to try to access to the server from another computer. As the Online Collection Software runs on a computer, the computers need to be in a network, so that they are able to communicate with each other. The network can simple be established by connecting the PCs with an Ethernet (Network) cable as shown in *Figure 66*.

**PC Server/OCS**                                    **PC Client/Signatory**
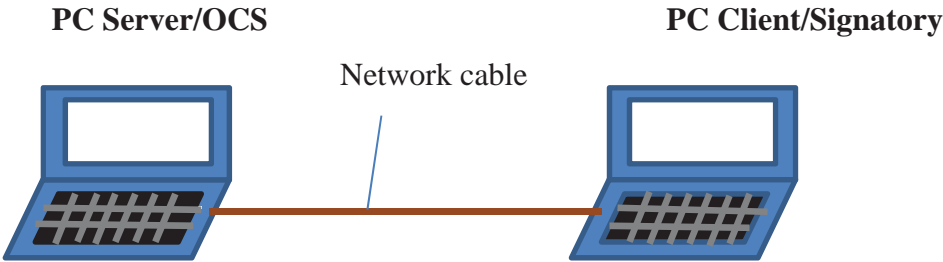
Network cable

**Figure 66: Access to OCS from another computer**

The status of the established network can be found in Windows 7 *Control Panel -> Network and Sharing center* as shown in *Figure 67*.
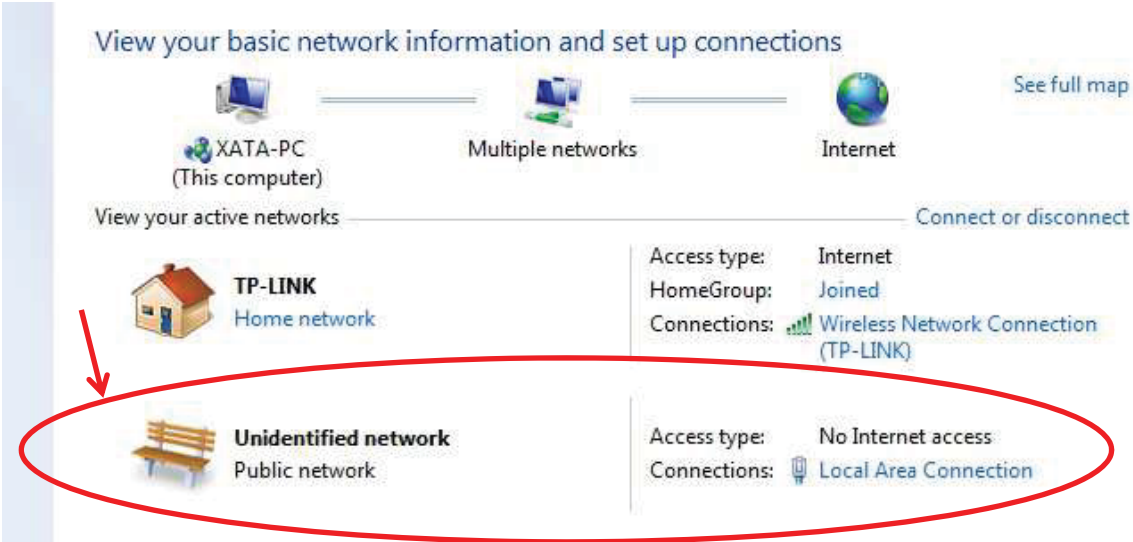
**Figure 67: Established network between two computers**

After the network connection was established, both interfaces (admin and public) could be launched from the Client-PC by the provided URLs of the application in *Figure 38*.

## 3.6. Analysis of technical specifications

In this chapter, technical specifications will be described which are prerequisite for the use of an Online Collection System. The chapter includes two points: first point specifies requirements which were derived from the Regulation (EU) 211/2011 on the citizens' initiative and the second point - technical specifications of the Regulation (EU) 1179/2011, which were originally derived from Article 6(4) of the Regulation (EU) 211/2011 on the citizens' initiative (25).

Requirements that were derived from Regulation (EU) 211/2011 and are supported by the software:

- The software needs to be certified by a competent authority in the Member State where the data will be stored (1 p. L 65/5 Article 6(1)).

  SUPPORTED: The software needs to be certified, in order to be able to switch into Online Mode.

- After obtaining the certification "*The organisers shall make a copy of that certificate publicly available on the website used for the online collection system.*" (1 p. L 65/5 Article 6(2)).

  SUPPORTED: The certification needs to be uploaded into the system and will be available on the public interface.

- The organiser has to provide information of the proposed initiative "*prior to initiating the collection of statements of support from signatories.*" (1 p. L65/5 Article 5(1)).

  SUPPORTED: In order to collect statements of support and switch into Online Mode, the registered initiative needs to be uploaded into the system with a help of a provided file.

- The organisers are asked to provide regularly "*updated information on the sources of support and funding for the proposed citizens' initiative.*" (1 p. L65/4 Article 4(1)) on the online register or if available on their website.

  SUPPORTED: Once the system is in Online Mode, the organiser is able to update information regarding the initiative anytime.

Technical specifications from the Regulation (EU) 1179/2011 were originally derived from Article 6(4) of the EU Regulation on the citizens' initiative and specify security and technical matters (25). They are based upon the findings of Open Web Application Security Project's (OWASP) Top 10 2010 project which worked out "*the most critical web application security risks as well as tools for addressing these risks;*" (25 p. L 301/3 (4)).

The implementation of the technical specifications will assure the certification of the online collection system by the EU Member States' authorities (25 p. L301/3 (5)). It should also ensure the right implementation of technical and organisational measures defined by Directive 95/46/EC of the European Parliament and of the Council "*on the security of the processing activities, both at the time of the design of the processing system and at the time of the processing itself, in order to maintain security and thereby to prevent any unauthorised processing and protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access.*" (25 p. L301/3 (5)).

The Online Collection Software of the Commission can be seen as a part of the Online Collection System. This fact will be understandable by the definition since an Online Collection System "*is an information system, consisting of software, hardware, hosting environment, business processes and staff in order to accomplish the online collection of statements of support.*" (25 p. L301/3 (2)). Consequently, in this chapter only specifications will be described, which fall within the framework of an Online Collection Software. Moreover, only specifications can be analysed, which fall within the perspective of user knowledge determined through the analysis of the software in this work. Specifications which fall within development-specific matter were omitted and can be answered by the developers.

**System requirement:**

*"only natural persons may submit a statement of support form online"* (1 p. L65/6 Article 6(4a))

Resulting technical specifications:

„1. *In order to prevent automated submission of a statement of support using the system, the signatory goes through an adequate verification process in line with current practice before submission of a statement of support. One possible verification process is the use of strong 'captcha'.*" (25 p. L 301/5 (1))

SUPPORTED: When the signatory wants to submit a statement of support, he/she has to enter a set of characters shown by the captcha on the support form.

**System requirement:**

*"the data provided online are securely collected and stored, in order to ensure, inter alia, that they may not be modified or used for any purpose other than their indicated support of the given citizens' initiative and to protect personal data against accidental or unlawful destruction or accidental loss, alteration or unauthorised disclosure or access;"* (1 p. L65/6 Article 6(4b))

Resulting technical specifications:

*"2.3. The online collection system consists of a web-based application instance set up for the purpose of collecting statements of support for a single citizens' initiative."* (25 p. L301/6 (2.3))

SUPPORTED: The Online Collection Software is a web-based application and only a single citizens' initiative can be set upped for collecting statements of support. In case the system is in Online Mode, the entered initiative cannot be changed anymore.

*"2.5 The publicly accessed features are clearly separated from the features destined for administration purposes. No access control hinders reading of the information available in the public area of the system, including information on the initiative and the electronic statement of support form. Signing up for an initiative is possible only via this public area."* (25 p. L 301/6 (2.5)).

SUPPORTED: Two interfaces are provided by the Online Collection Software, one interface for the administrator and the other for the publicity where signatories are able to submit statements of support. The interfaces are clearly separated from each other, where each has a separate URL. Once the system is in Online Mode, there will be no login for the public interface which exists in Offline Mode.

*"2.6. The system detects and prevents submission of duplicate statements of support."* (25 p. L 301/6 (2.6))

➡ SUPPORTED: The system displays an error when the same signatory tries to support the initiative twice.

*"2.7.3. The system has strong authentication and session management, which requires at least that: (25 p. L 301/6 (2.7.3))"*

> *„credentials are always protected when stored using hashing or encryption. The risk that someone authenticates using 'pass-the-hash' is mitigated;"* (25 p. L 301/6 (2.7.3.a))

➡ *SUPPORTED:* The password of the administrator, as illustrated in *Figure 22*, is stored in a hexadecimal form in the database.

> *"credentials cannot be guessed or overwritten through weak account management functions (e.g. account creation, change password, recover password, weak session identifiers (IDs));"* (25 p. L 301/6 (2.7.3.b))

➡ SUPPORTED: The system does not support account management.

> „session IDs and session data are not exposed in the uniform resource locator (URL);" (25 p. L 301/6 (2.7.3.c))

➡ SUPPORTED: No information about session ID could be obtained in the URL on the web browser.

> „*session IDs timeout, which ensures that users log out;*" (25 p. L 301/6 (2.7.3.e))

➡ SUPPORTED: After a certain inactive time the user's session on the interface expires.

*"the administration part of the system is protected. If it is protected by single-factor authentication, then the password is composed of a minimum of 10 characters, including at least one letter, one number and one special character. Alternatively two-factor authentication may be used. Where only single-factor authentication is used, it includes a two-step verification mechanism for accessing the administration part of the system via the Internet, in which the single factor is augmented by another means of authentication, such as a one-time pass-phrase/code via SMS or an asymmetrically encrypted random challenge string to be decrypted using the*

*organisers'/administrators' private key unknown to the system.*" (25 p. L 301/6 (2.7.3.h))

➡️ SUPPORTED: The administrator interface is protected through authentication, for which admin's username and password are necessary. Also a hexadecimal text is provided which can be decrypted only by the private key.

"*2.7.6. Proper security configuration is in place, which requires, at least, that:*" (25 p. L 301/7 (2.7.6))

"*all software components are up to date, including the OS, web/application server, database management system (DBMS), applications, and all code libraries;*" (25 p. L 301/7 (2.7.6.a))

➡️ SUPPORTED: The required versions of the application and database server were up to date according to the release date of Online Collection Software.

"*2.7.7. The system provides for encryption of data as follows:*" (25 p. L 301/7 (2.7.7))

„*personal data in electronic format is encrypted when stored or transferred to the competent authorities of the Member States in accordance with Article 8(1) of Regulation (EU) No 211/2011, the keys being managed and backed up separately;*" (25 p. L 301/7 (2.7.7.a))

➡️ SUPPORTED: The keys can be found in the *data* folder of the Crypto Tool. Once exported, the personal data of signatories are stored encrypted on the file system. They need to be transferred by the organiser in an encrypted form to the competent authorities.

„*strong standard algorithms and strong keys are used in line with international standards. Key management is in place;*" (25 p. L 301/7 (2.7.7.b))

➡️ SUPPORTED: Strong keys are used and are managed by the Cryptography Tool.

„*passwords are hashed with a strong standard algorithm and an appropriate 'salt' is used;*" (25 p. L 301/7 (2.7.7.c))

➡ SUPPORTED: The password of the administrator is hashed with a strong algorithm.

„*all keys and passwords are protected from unauthorised access.*" (25 p. L 301/7 (2.7.7.d))

➡ NOT SUPPORTED: The *data* folder of the Cryptography Tool which archives the keys is not protected by the system. The protection falls therefore into the responsibility of the administrator.

„*2.7.9. The system uses sufficient transport layer protection. For this purpose, all of the following measures or measures of at least equal strength are in place:*"

"*the system requires the most current version of the hypertext transfer protocol secure (HTTPS) to access any sensitive resource using certificates that are valid, not expired, not revoked, and match all domains used by the site;*" (25 p. L 301/7 (2.7.9.a))

➡ SUPPORTED: The URLs of the interfaces can also be launched through https.

"*2.10. The data provided by the signatories is only accessible to the database administrator/organiser.*" (25 p. L 301/8 (2.10))

➡ SUPPORTED: The access to the database is protected through a password of the organiser/administrator.

"*2.12. Signatories only have access to the data submitted during the session in which they complete the statement of support form. Once the statement of support form is submitted the above session is closed and the submitted data is not accessible anymore.*" (25 p. L 301/8 (2.12))

➡ SUPPORTED: Once a statement of support is submitted, the entered data is not accessible anymore. The statement of support form expires after a certain time period of inactivity of the user.

"*2.13. Signatories' personal data are only available in the system, including the backup, in encrypted format. For the purpose of data consultation or certification by the national*

*authorities in accordance with Article 8 of Regulation (EU) No 211/2011, organisers may export the encrypted data in accordance with point 2.7.7(a).*" (25 p. L 301/8 (2.13)).

➡ SUPPORTED: The personal data of signatories first exist in the system. Once the data is exported on the file system, it can be found in an encrypted form. As already mentioned in 2.7.6 the organisers may export the data in an encrypted form to the competent national authorities.

"*2.14. „The persistence of the data entered in the statement of support form is atomic. That is, once the user has entered all required details in the statement of support form, and validates his/her decision to support the initiative, the system either successfully commits all of the form data to the database, or, in case of error, fails by saving no data at all. The system informs the user of the success or failure of his/her request.*" (25 p. L 301/8 (2.14))

➡ SUPPORTED: The system saves the data only after the successful submission of statement of support. If the system does not successfully submit the data an error will be displayed.

"*2.19.3. Administrator access to the management interface of the online collection system has a short session time-out (maximum 15 minutes).*" (25 p. L 301/9 (2.19.3))

➡ SUPPORTED: The session time-out was observed for less than 15 minutes.

**System requirement:**
"*the system can generate statements of support in a form complying with the models set out in Annex III, in order to allow for the verification by the Member States in accordance with Article 8(2).*" (1 p. L65/6 Article 6(4c))

Resulting technical specifications:

"*3.1. The system provides the possibility to extract for each individual Member State a report listing the initiative and the personal data of the signatories subject to verification by the competent authority of that Member State.*" (25 p. L 301/9 (3.1))

➡ SUPPORTED: The software allows the extraction of statements of support for each country in the *Monitor and Export* section of the admin interface. Furthermore the exported data is classified by country and selected language of the initiative.
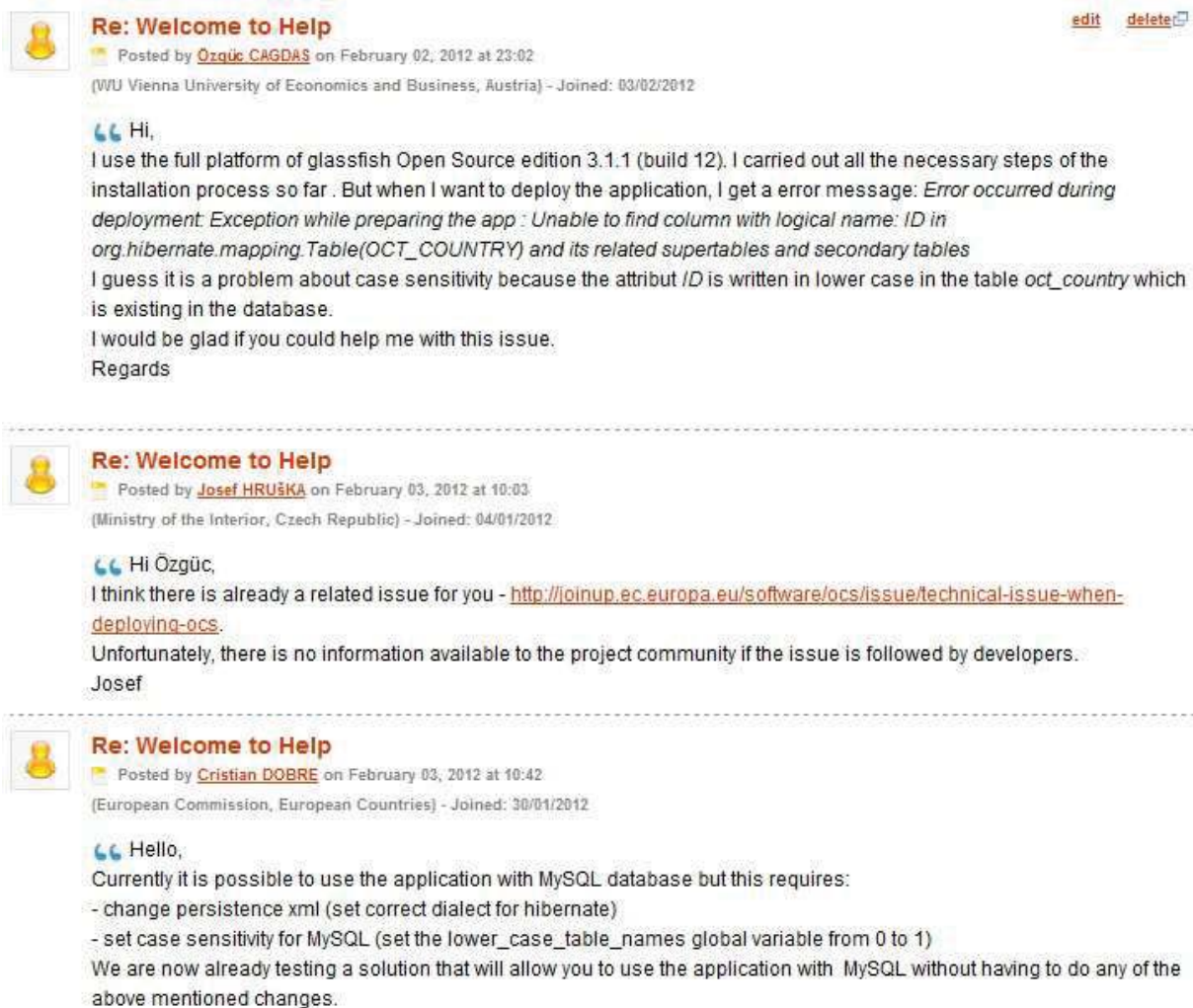
"*3.2. Exporting of signatories' statements of support is possible in the format of Annex III to Regulation (EU) No 211/2011. The system may in addition provide for the possibility of exporting the statements of support in an interoperable format such as the extensible mark-up language (XML).*" (25 p. L 301/9 (3.2))

 SUPPORTED: The statements of support are exported as XML files. The XML files comply with the format of Annex III of Regulation (EU) No 211/2011 on the citizens' initiative.

## 3.7. Analysis of user support

In this chapter the user support for the software provided on Commission's website will be analysed.

In order to submit an inquiry for support a user account had to be created. During the analysis of the software two issues emerged that needed support forum. The first one was regarding an error that occurred during the deployment of the application. The comment was posted in the forum on February 2. Next day in the morning two users replied, who had already some experience with the problem (*Figure 68*). The second issue was regarding the dysfunction of the export feature, as already discussed in chapter 3.2.6. This issue related to the basis function of the software was posted on February 23. After five days only one comment was posted and till March 13, it was read 64 times but no helpful reply was received (*Figure 69*).



**Figure 68: First issue posted in the support forum (26)**

## Export statements of support

Hi,

Im running the software and have created some "test" signatories in Offline Mode. However when I export the signatures the system confirms of successful export and that I should check my file system. When I check the "storage-folder" on my file system, the folder is empty. During the preparation of the software I updated the *oct_system_prefs* table with the value 'D:\eci\storage' as the storage-folder for export. When I check the table in SQL the values is inserted, so what am I doing wrong?

I would appreciate any help.

|  |  |
|---|---|
| Project: | OnLine Collection Software for ECI |
| Version: | 1.0.0 |
| Component: | Miscellaneous |
| Category: | Task |
| Priority: | Critical |
| Assigned: | Unassigned |
| Status: | Active |
| Identifier: | 45140 |

### Comments

**#1**
Posted by Xavier DUTOIT on February 28, 2012 at 21:51

Login or register to post comments

Can the user that runs glassfish (or whatever you are using) write to D:\eci\storage ?

**Figure 69: Second issue posted in the support forum (27)**

After the analysis of the support forum, it is worth mentioning, that the main topic with which the developer and user were struggling, was the installation of the software, particularly the deployment of the application. The users received errors when they tried to install the software on Unix-like systems, such as operating system Linux. Furthermore when MySQL database was used, the *persistence.xml* file located inside the ear file of the application, should be customised as already shown in *Figure 36*. Problems that occurred while using the software received were of secondary importance in the forum. Moreover, it could be noticed that there were active users, who regularly posted software related comments in the forum.

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# 4. Conclusion

This study is focused on the critical evaluation of the Online Collection Software (version 1.0.0), which was developed by the Commission to collect online statements of support for the European Citizens' Initiate. Following features of the software were tested to verify the compatibility of the software's functionality with the expected requirements: online collection of statements of support, data export for certification by the competent national authorities, storage and encryption of the exported data, etc. Additionally, the installation of the software was analyzed step-by-step, as well as different statement of support forms.

According to the definition of the Regulation "*The procedures and conditions required for the citizens' initiative should be clear, simple, user-friendly,... so as to encourage participation by citizens and to make the Union more accessible*" (1 p. L 65/1 (2)).

Based on my observations during the implementation, configuration and analysis of the software, I bring following recommendations for consideration in order to improve the functionality and usability of the software.

Installation of the software

The installation of the software seems to be a time-consuming and complex procedure and may require from the user advanced IT-skills and -understanding regarding the use of database, application server and some configuration activities, which have to be carried out manually during the installation procedure. It is recommended that the user brings along knowledge in deploying similar applications. The installation procedure could, of course, be achieved with support of the user's manual, provided by the developers of the software, but the user could face great difficulties during the installation e.g. errors, insufficient knowledge on how to correct or handle this errors, or how to work with the server etc. Out of the box installation file could facilitate the installation procedure and make the system more user-friendly.

As the software is only a part of the Online Collection System, the user should have appropriate hardware, operating software and hosting environment which have to comply with the technical specifications set out in the Regulation (EU) 1179/2011.

The deployment of the application in Unix-like systems may output an error message due to case sensitivity of SQL commands in MySQL database. The error can be avoided by altering

the global value of the database. Furthermore, an error may appear by employing the Crypto Tool in Linux. The application-specific file persistence.xml may need to be customized by the user, if MySQL is used as a database, as the application was initially configured for the Oracle Database (*Figure 36*).

Overview of the system

The system is well protected and provides two interfaces: one for the administrator (management of the system) and one for public (collection of statements of support). It provides enough useful information and both interfaces appear user-friendly. It was also possible to access the provided interfaces through a second computer over an established network.

In the administrator interface one can find a comprehensive description of how to use and manage the system. Moreover, the language of the interfaces can be changed anytime into any official language of the European Union.

The administrator interface includes following features:
- Setup of the initiative (loading information of the initiative into the system and the possibility to update it anytime)
- Monitor and Export (report of successfully submitted statements of support, export of data and deletion of specific statements of support)
- System status (feature for enabling and disabling the statement of support form on the public interface, loading of system's conformity certificate, changing the system mode to Online Mode)

The public interface includes following features:
- Information about the initiative (if enabled also in different languages)
- Submission of statement of support forms
- View of the system's conformity certificate
- View of privacy statement

System Mode

The analysis was carried out only in Offline Mode. The Online Mode with its corresponding features was not tested. These features are:
In the public interface:

- Collection of statements of support (in Online Mode)
- Abolishment of the login page
- View of conformity certificate *

And in the administrator interface:
- Loading of the file of the proposed initiative (available in the organizer's account) into the system and update of the initiative in Online Mode, e.g. when the organizer adds new language versions of the initiative *
- Abolishment of the feature that enables manual input of the initiative data
- Changing the system mode into Online Mode which is irreversible
- Upload of the certificate which confirms the conformity of the system *

*These features are also available in Offline Mode but in order to test them sample files are required, which could have been provided by the Commission.*

Statement of support form

The system complies with the requirements resulting from the statement of support forms specified in Annex III of the Regulation (EU) 211/2011. These requirements are:
- Information about the initiative (also in other registered language of the initiative)
- Required personal data of the signatory depending on the selected country
- Confirmation of the signatory that he/she supports the initiative for the first time and accepts the privacy statement
- Classification of statements of support by country and selected language of the initiative

Country and Language codes

The software uses correct identification of the European member states and official languages of the EU. The country and language codes used by the software are correct, which was tested as some statements of support were exported and the data was classified by the code of the country and selected language of the initiative.

Input of data

Statements of support can be submitted successfully. After submitting a statement of support, the signatory gets a confirmation of the successful submission with indicated *date* and a

*signature identifier*. The successful submitted statements of support can be found in the section *Monitor and Export* in the admin interface.

Upon any correction or simply re-saving of the initiative data, all collected personal data vanish from the folder where the data is stored. This measure seems to be unnecessary, because in the online mode there is no opportunity to manually amend the initiative whatsoever. On the contrary, in testing stage (in the offline mode) amendments may often take place.

Unfortunately, the system did not recognize some unacceptable statements of support. If the signatory was of ineligible age to vote, the system did not display any error message. The system was likely configured to recognize 16 as the minimum age to vote, whereas a signatory has to be at least 18 years old for all the countries except Austria, where the minimum age to vote is set to be 16. Another fault was that, for example, a person could support the initiative as a German national, although he/she was not a permanent citizen in Germany and was a national of a different country, which does not correspond with Annex III of the Regulation (EU) 211/2011 on the citizens' initiative.

However, the system recognized a signatory who wanted to support the initiative twice and output an unspecified error. In this case, it would be desirable that the system displays an appropriate error message for the signatory about the reason of the error.

The postal codes are not verified against the formats known for each country. There are three countries on the statements of support form: the chosen country (the one the vote will be assigned to), the home country (citizenship) and the country of permanent residence. At the moment all three may be different, though the chosen country should correspond either to the citizenship or permanent residence. All this potentially renders the collected data inconsistent and leaves room for manipulations.

<u>Export of data</u>

The collected statements of support exist in the system. In order to forward them to the national authorities they need to be exported into the file system. For this purpose, the system provides a feature for export. The exported data is encrypted and is in XML format. The collected statements of support are classified by country and selected language of the initiative. The organizer is able to decrypt the exported data as XML or PDF file in order to analyze it. Choosing PDF format could cause difficulties in deletion of data from the system,

as there is no way to obtain the signature identifier in the PDF file which is needed to delete a specific statement of support.

The system provides two options to export the data: either all collected statements of support or statements of support specified by country and/or time period. Export of all collected statements of support works correctly but after exporting specific statements of support no data was found in the file system and may point to a system error. Regarding this error a topic was created in the support forum but no solutions were offered.

Technical specifications

The technical requirements of the software were derived from the Regulation (EU) 211/2011 on the citizens' initiative and Regulation (EU) 1179/2011 laying down technical specifications for Online Collection Systems.

Four points, concerning the functionality of the software, were derived from the Regulation (EU) 211/2011 on the citizens' initiative and analyzed. The software supported all of them.

The system should also comply with technical specifications specified in the Regulation (EU) 1179/2011 in order to ensure adequate security and technical features. In this work, technical specifications which fall within the framework of the developer or the Online Collection System, since the Online Collection Software is a part of it, were not considered.
However, an examination of the systems' ability to guard against known vulnerabilities and exploits such as SQL, LDAP, XPath query injection (Article 2.7.1), cross-site scripting (Article 2.7.2), invalidated redirects and forwards (Article 2.7.10) is left for future analysis; it needs proper simulation of the attacks.

The software complies with all appropriate security and technical features. There is only one case when the protection of the provided keys from an unauthorised access (public and private key are stored in the file system) falls within the responsibility of the organizer and is not supported by the software.

The system uses 'captcha' in order to prevent automated submission of a statement of support in accordance with Article 6 (4) (a). There is no possibility for visually impaired people to solve an audio 'captcha' or to request another combination of 'captcha'.The system detects and prevents submission of duplicate statements of support, but only for entirely identical sets of personal data. The system can be misled by exploitation of a multiple citizenship, permanent residence in a country other than the homeland, variations in name spelling, extra spaces etc.

The personal data ought to be verified more rigorously. For example, the ambiguity and the format of the personal ID number (if available) should be validated.

Recommendations:

Comments from the users in the support forum of the software were analysed and two interesting suggestions were found:

- A proposal to limit the data access of the organizer to signatory's personal data. Currently the organiser is able to decrypt (make readable) the encrypted personal data. As this issue requires a great responsibility/liability of the organiser, the user's idea was to limit or cancel this feature and leave the responsibility for handling the signatory's personal data to national authorities (28).

- The Online Collection Software exists as an isolated part in the process of the citizens' initiative. An idea would be to provide appropriate APIs in order to establish connection between the Commission, Online Collection Software and competent national authorities, shown in *Figure 70*. This approach would automate the organisational process during the initiative and make the whole procedure easier for all parties. Furthermore, there would be no need for communication channels to send and receive the data, which security of transmission could be jeopardised (29).

| Commission | | Online Coll. Software | | National Authorities |

Figure 70: Online Collection Software with provided APIs

One organisational remark: As each Member State was able to modify the requirements to the dataset and there has assumedly been no cross control of these requirements, some non-compliances took place. At the moment some citizens have no possibility to support a citizens' initiative only due to incompatible requirements of some Member States.

The last recommendation would be for the Commission to consider setting up one central Online Collection System in its premises. The organiser of the initiative could simply access the system, e.g. from the homepage of the European Citizens' Initiative, to manage his/her proposed initiative. This would spare every organizer the complex installation process, including dealing with hosting environment and setting up the system for the initiative procedure, or arising issues with data security, as well as organizer's liability.

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