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VtUJI

Telematic Voting System

Usage guide for the
Voter

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Table of Contents

Presentation.....	3
VtUJI.....	3
System overview.....	3
Why should I trust VtUJI?.....	3
How do I know that I'm not using a tainted VtUJI?.....	4
I'm still afraid about somebody spying on my vote.....	4
Then, who am I trusting on VtUJI?.....	4
Comprehensive guide.....	4
Obtaining your local authentication credentials.....	5
Accessing the voting server.....	6
Authentication selection page.....	6
Local authentication page.....	7
Security advice.....	8
External authentication providers.....	9
Voting application: main interface elements.....	10
Header.....	10
Voting application main page.....	11
Verifying that you are counted on the election rolls.....	11
Current elections area.....	11
Casting your ballots.....	12
Pending polling area.....	13
Something went wrong.....	14
I can't log in.....	14
I log in but I can't vote.....	14
The program seems hung up.....	15
The application reported problems and prompted a password.....	15
Information about past elections.....	16
Verifying my participation.....	16
Elections with receipt.....	16
Elections without receipt.....	16
Credential renewal.....	16
Reporting complaints, violations and irregularities.....	17
I don't trust the voting server.....	17
The eSurvey Toolbar.....	18
Quick reference guide.....	18

Presentation

You are going to vote through a VtUJI server. Please, read carefully this guide to understand how VtUJI works and how your anonymity and the security of your vote are granted.

VtUJI will try to make things really simple for you, but VtUJI is only one end of the election system. You will be faced with some decisions and you will have to be aware of some rules to make sure you are not being cheated. In this guide we'll walk you through all this process.

At the end of this document, you will find a really visual quick reference guide. Use it to schematically overview the voting process. Refer to the comprehensive guide for more detailed information about how and why are things done this way.

VtUJI

VtUJI is a powerful and complete tool, developed at the 'Universitat Jaume I', to hold polls, elections and any other kind of referendum through the Internet, where you can participate from any location with your own browser, with no need for additional software nor hardware and providing the highest guarantees of security, integrity and anonymity.

System overview

Now you'll learn the pillars of VtUJI, how it works and how it deserves your confidence.

Why should I trust VtUJI?

Because it is completely impermeable. VtUJI is distributed in the form of a full operative system on a Live CD. This way, its contents can't be altered by malicious agents and the machine where it is deployed doesn't need any further auditing or security checks. Once started on the hosting server, it launches a web application (remotely accessible through any browser on any computer) which you will use to participate on the elections.

The information is kept cyphered, and the cyphering key is shared among a committee. If all the members of the committee don't provide their fragment of the key, it can't be rebuilt.

Besides the web voting application, the only access point to the system is an operations menu through the server computer which only can be used after rebuilding the key as a way to acknowledge their authorization to do so. The web application also has some critical administration routines, but they can only be performed by allowing so from the earlier mentioned operations menu, this way the committee has full control of any critical action to be performed on the system.

How do I know that I'm not using a tainted VtUJI?

Logical security measures applied on VtUJI are oriented on minimizing the effects from physical and administrative security failures, but if the deployment and operation of the voting server is left to its own luck, you don't have any guarantee that the voting system has not been maliciously altered. What is more, it may look like VtUJI and don't be VtUJI at all.

That is why, VtUJI provides a set of administrative procedures and tools that, if followed strictly from the moment it is deployed, guarantee that the system is legitimate. This is what we call ***the chain of confidence***.

When deployed properly, the previously named committee members will execute some procedures that gives them the security that the deployed VtUJI is totally legitimate. The members of the committee must represent all the interests of all the members of the electorate: voters and candidates. If you, as a voter or candidate, are suspicious about the legitimacy of the voting server you have a procedure to resolve it, which will be explained in this guide.

Besides the problem of an illegitimate server, there is another one you must be aware of to avoid using a tainted VtUJI: avoid being cheated by an attacker to access a VtUJI server that is not the legitimate one. In section 'Security advice', in page 8, you will find information on how to avoid this.

I'm still afraid about somebody spying on my vote.

As a direct recording voting system, users would usually have to trust on the security of VtUJI not to be breached to keep their anonymity, but as anonymity is usually the main concern for the elector, VtUJI has been built with full compatibility with project [eSurvey](#), which allows you to easily take control over your own anonymity. This way, even in the worst and most improbable prospects of security breaches and inner corruption, your anonymity won't be violated.

To do so, you will have to install the eSurvey Toolbar for Firefox. See page 18 for further information.

Then, who am I trusting on VtUJI?

The main achievement of VtUJI is that all hidden trustees and procedural measures to assure security present on any other system are removed. From the moment VtUJI is installed, you only have to trust the key custody committee.

Thanks to the strength of VtUJI, you don't have to trust system administrators, other users, janitors or security personnel with access to the server room. Not even the developers of VtUJI.

If you trust the committee, then you have the certainty that the deployed VtUJI is legitimate.

Comprehensive guide

In this section we'll give an extensive explanation of all your tasks (some of them conditional to some event) associated with the usage of VtUJI, and a clear description of the interface elements you will find there.

We will start from the beginning:

When you want to participate in an election where you are enrolled, you need two things:

1. Learn how to get to the voting application (the URL).
2. Get a way to log into the application (your credentials).

You will be notified by the electoral authority or at some information desk on the address of the server (the URL), but the authentication is something a bit more intricate.

As we'll explain later, VtUJI has an internal authentication method and supports configuring external authentication providers. If your organization has a corporate authentication system, they may decide not to use the internal authentication, but as it is the most reliable and secure one, it will probably be the chosen one. In order to use it, you need to obtain your VtUJI internal credentials.

Obtaining your local authentication credentials

To distribute credentials, voter registration desks will have been deployed by your organization. Direct yourself to one of them. **Don't forget to carry your identification card (with photograph) with you, to acknowledge your identity.**

This procedure must be done if local authentication is available to be used. You have to do it just **ONCE**, not before each election. Don't wait until the last minute.

You will **repeat this process** only if you **lose your credentials or suspect** they have been **revealed**.

Remember that you can't delegate this procedure. You and only you may obtain your credentials personally on the desk.

Hand over your identification card to the operator. He will check its authenticity and compare your photo. He may ask you to confirm some data on your card. Then, he will check that you are allowed to belong to the voting system and will search/input your data on the voting system.

The operator will give you back your ID card.

You will be informed about the user name you must use for the voting system. It can be either your ID number, your corporate user name or a new one.

The operator will hand you a box with several cards. Pick one of your choice and give it to the operator. This will be your voter card.

You may be given some data cession contract to be signed. Do it now.

The operator will register on the voting system the temporary password printed on the card and will write the user name on it.

The operator gives you the voter card.

From this moment, this password has a **period of validity of 48 hours**. This means that if you don't finish this procedure before this deadline, you will have to start over.

Go back home or to some computer you trust. **Don't use any shared or public computer**, since you could be under surveillance and your definitive credentials would be revealed.

Access the voting server, with the user name and the temporary password (We will not deepen on this right now. If you need help on the topic, refer to section '*Accessing the voting server*' in page 6).

Once you are logged in you will be shown a page with some text in black, clearly identified. This page informs you that the text in black is your definitive password, and you **must write it down on the card** on the voter card (Caps sensitive). The temporary password on the card is no longer valid.

If you hit continue or close the browser before writing the new password, you will have to start over, since you will have lost your credentials.

Why should I write the password on the card?

Self-generated secure passwords are hard to remember. Also, this password will be used sparsely, since you don't participate on elections daily. Trying to remember it would be wasted effort and registration posts would be collapsed by the avalanche of voters realizing that they have forgotten the password in the last minute.

If you store it safely until the election day, it would be really hard for anyone interested to steal your password. Also, you can change it as many times as wanted from the application, without having to go the registration post, as long as you have this valid password.

Accessing the voting server

To access the voting server, you may be offered several ways, but the most common and the one that you will use the obtained credentials on is the local authentication. The number of available methods depends on your organization.

For **each election, different authentication requirements may be set**. This means that only some of those methods may be valid to be allowed to participate, or sometimes more than one would be required. The application doesn't give you information about which are needed. Once you log in, it just tells you that you need to increase your authentication status to be allowed to participate. If you haven't been notified about which are the required methods, try them all or ask someone (like the polling station officers).

Authentication selection page

Every time you access the system and you are not authenticated, you will be shown the authentication selection page, which has the following layout:

- **Authentication method list:** Below the title area, centered and in a single column, all the available authentication methods will appear. Either as logos or as text links. Click on any of them to use it to authenticate. The first one

will be the default method, and the local authentication is identified by an animated logo with colored numbers dancing randomly.

- **Report a problem:** At the bottom of the authentication method list, this link will send you to a form to contact a polling station officer to ask him for help or to report irregularities. It will sequentially ask you for the following data (in order of appearance, hit proceed after each selection):
 - **User ID:** Your user ID. Not your user name or full name, to identify yourself.
 - **Election:** The election you need help or want to complain about.
 - **Officer:** (or All) The name of the officer to whom you want to address your complaint/request.
 - **Message:** The message you want to send.
 - **Image numbers:** An automated Turing test, for security reasons. Write the numbers on the image.

Sometimes you will be **redirected to some other external page** (check the address bar on your browser) instead of this one. It will be an external authentication method and this is because the redirection to the default authentication method is activated. To **force showing the authentication selection page**, access again and you won't be redirected.

When you are set a temporary password (see the credential distribution procedure), if you try to log in with any other method, you will be directed to the local authentication page to set your definitive password. You won't be able to continue until you do so.

Local authentication page

It is the basic and the only independent and autonomous authentication method. These are the fields shown.

- **User ID or user name:** Your user ID or your user name.
- **Password:** The password you have been given (either the temporary or the definitive one, depending on the state of your credential distribution process).
- **Image numbers:** An automated Turing test, for security reasons. Write the numbers on the image.
- **Enter:** Submits the authentication request.
- **Generate new password:** If you check this box, once you are successfully authenticated, a new definitive password will be generated. It will override your current one and you will be directed to the '**definitive password settlement**', the same as after logging in with the temporary password.
- **Back:** Sends you back to the authentication selection page.

If you fail, you will be notified why in red below the submit button.

Security advice

When accessing the voting server (and by extension, any other critical site), even though the server is totally secured, there are many ways you can be tricked to access a fake voting server and make you cast a forged ballot or steal your credentials while you believe you did what you wanted. These are external hazards that the voting server can't fight. Only you can prevent them by observing carefully the following rules, which follow a common idea: *'don't trust blindly what you see or what you are told'*.

1. **Obtain the address (URL) of the voting server from a reliable source.** An e-mail, even if the sender looks legitimate, may not be a totally reliable source, since it can be an impersonation. Get this information at voter registration desks, corporate web pages or personally. If you get it by e-mail, double check it and confirm it from another source.
2. **The address (URL) of the voting server must look legitimate.** That is, it should be a sub-domain of the main domain of your organization. If they don't have one, it should be a sub-domain of some partner or generally regarded as reliable organization.
3. **When accessing, make sure you are accessing the proper address.** This means, type it yourself on the address bar at the browser, or if accessed from a link, make sure the source is valid and carefully check the address visually for misspellings; not only on the address bar after loading, but on the status bar before clicking it; the real address you are accessing will be shown on the status bar when you put your mouse over it. Sometimes it may not look like an address; it probably is a call to Javascript code, which could be used to obfuscate the real address they are sending you. Be careful. Many *phishing* attacks rely on the user not noticing that the address is slightly different from the legitimate one; and slightly different means accessing a TOTALLY different server located someplace different in the world.
4. **Make sure you are accessing a SSL secured web server.** If connections are not SSL secured, all your data will travel through the network in a fashion that any eavesdropper connected to any network between you and the voting server will be able to see and alter any non-encrypted data you are sending. The ballots are internally sent cyphered, regardless of SSL configuration, but your credentials are not, so they could be revealed. You will be accessing a Ssl secured server only and only if the address starts with **https://** instead of **http://**.
5. **Make sure that your browser trusts the SSL certificate presented by the server.** You don't only need secrecy over your communications, but also the certainty that the server you are connecting is the expected and not a fake one. You can be attacked to make your computer believe that he is connecting to server A while he is really connecting to server B. To avoid this, the server will present a signed certificate that he is the proprietor of the domain you are connecting to. In order to trust it, you need to trust in the certification authority that signs the certificate. The only two ways to trust it are:
 - Your browser trusts it by default

Usage guide for the Voter - Comprehensive guide

- You tell him to trust it, by installing yourself the certificates from the authority (obtained of course from a reliable source).

There's another way to trust the certificate: adding an exception exclusively for this certificate. It is **absolutely discouraged**, since you are trusting it blindly, and the certificate is probably forged.

The way to **check that your browser trusts the certificate varies from browser to browser**. On the table are the signs of a trusted and an untrusted certificate for the most popular browsers.

If you can't trust the server, contact the board of officers or the administrator to report the problem. You should not access an untrusted server for an application as serious as voting.

	When trusted	When not trusted
<i>Mozilla Firefox</i>	The icon box next to the address bar will turn blue or green, depending on the kind of certificate	An internal page will be loaded informing that the site is not trusted and why.
<i>Google Chrome</i>	The icon box next to the address bar will turn into a green lock, and the https part of the address will be highlighted in green.	An internal page will be loaded informing that the site is not trusted and why.
<i>Internet Explorer</i>	An icon of a lock will appear at the right end of the address bar. Not much visible.	An internal page will be loaded informing that the site is not trusted and why.
<i>Safari</i>	A tiny icon of a lock will appear at the right end of the address bar. Barely visible.	The page won't load and a dialog will tell you the cause and ask you for your decision over trust.
<i>Opera</i>	The icon box next to the address bar will show a lock and will turn golden or green, depending on the kind of certificate.	The page won't load and a dialog will tell you the cause and ask you for your decision over trust.

6. **Don't use a public computer or a shared account.** If so, the other users may have installed surveillance software or tampered versions of the voting client to manipulate or discover the vote you are sending, or revealing your credentials. ALWAYS use a trusted and private computer.

External authentication providers

VtUJI is prepared to link with external syndicated authentication providers. This way, it can be integrated with the rest of services from your organization.

This means that when you choose an external method to authenticate, you will be redirected to one or more different sites (it can be a chain of redirections) to perform what is needed to authenticate, and then sent back to the voting server.

Also, if configured this way, when accessing to the voting server, you can be automatically redirected to another site. This is because the 'automatically

jump to the default authentication method feature'.

For your experience, it has two implications:

1. Redirection to a new site means loading one or more pages; so **for each page you interact with** you must take into account the **security advice** explained in page 8, especially if you have to input sensible information.
2. The **auto-jump feature may be used by attackers to trick you to connect to an illegitimate server**. If you click the link they provide without examining properly the address (as explained in page 8), it will jump to somewhere that asks you for your external credentials. If the address was a forged one, you have no guarantee that the destination of the redirection is trustful. As explained earlier, if you feel uncomfortable with this automatic jump, just reload the voting server page to be directed to the authentication selection page.

Also, you could belong to the population of the external authentication provider but not to the voting system population. In that case, after logging in, the voting server will tell that you are not an authorized user. If this situation is wrong, contact the board of officers or the election or system administrators to have it solved.

Voting application: main interface elements

To avoid replication, we'll introduce here the common elements of the interface, that will be referenced many times.

Header

Every page of the application shares a common header area, which contains the following elements (some of them will appear once authenticated):

Always

- **Title:** A title, 'Telematic voting' and a logo (optional) are located in the center of the header area.
- **Language Selector:** On the uppermost right corner, a set of flags let you change the language of the interface. You will be directed to the main page (or authentication selection page if not logged in) after each switch.
- **About:** Besides the language selector, this link will pop up a window showing information about the funders and developers of this project.
- **Help page:** Once configured, it will show help information about the use of VtUJl.

When authenticated

- **Start:** On the upper left corner of the header area, it will get you back to the main page.
- **Your full name:** Next to the 'Start' button. The full name of the user whose credentials you used to log in. You can always click on it to be directed to the authentication selection page, where you can authenticate with other method if you are required to. If you have a special role and you didn't reach your maximum access level, a red message will invite you to keep raising

your score.

- **Exit:** Next to the 'Start' button. Will immediately void your session and your score and direct you to the authentication selection page.

Voting application main page

The main page is divided in sections, delimited by horizontal colored areas. Each area clusters common data and operations. You will find three different areas: One regarding ongoing elections that are active and you haven't voted yet, another regarding ongoing elections where you have voted or still are not active, and another regarding past elections.

- Pending election area (default: light purple)
- Current elections area (default: pale yellow)
- Previous elections area (default: pale yellow)

Verifying that you are counted on the election rolls.

To avoid last hour problems and rushes, you should check before the election day that you are properly counted on the rolls for each election you expect to participate in.

To achieve this, you will need to log into the voting system (see section '*Accessing the voting server*' in page 6). If you are going to use the local authentication and still don't have your credentials, see section '*Obtaining your local authentication credentials*' in page 5.

When authenticated, you will be in the main page. All the elections that are programmed but still are not in progress will be shown on the *Current elections*. There you will find the following information about *each election*.

Current elections area

- **Status:** Shows the current state of the election.
 - *Programmed* if the board of officers still has not activated it (until at least half an hour before the election).
 - *Active* if it was activated.
- **Your participation:** Shows the current status of your participation.
 - *Still cannot participate*, if the polls opening date hasn't arrived yet.
 - *You haven't participated yet*, if you are able to vote but you still haven't.
 - *You have participated*, if you already have casted your ballot.
- **Start date:** The polls opening date. The date and time since when you will be able to vote.
- **Current time:** The moment you loaded this page.
- **End date:** The polls closing date. The date and time until when you will be

able to vote.

- **Polling post officers:** The names of all the members of the officer board for this election. Hoover over it to see the photograph of the member if he has one. Click on any of them to contact him. A text area and a send button will appear. Write your message to him and send it.
- **See the roll:** If it is allowed on the election configuration, you may see this link, that will load the whole elector list, so you can review it.
- **See the ballot:** click on this link to see how the ballot will look like. Review it for misspellings or omissions.
- **Contact the polling station officer board:** this link will load the standard form to contact the board of officers; it will sequentially ask you for the following data (in order of appearance, hit proceed after each selection):
 - **Officer:** (or All) The name of the officer to whom you want to address your complaint/request.
 - **Message:** The message you want to send.
- **Message marquee:** To show important notifications regarding an election (like there are less than five minutes left to participate and you haven't), a red scrolling marquee can appear besides the election block.

The **elections shown here are those where you are on the rolls**. If you don't find the expected elections, contact with the election authority or the election administrator to resolve the situation.

As seen above, elections can have its rolls published, if your electoral systems allows it. So if you have any interest (if you are a candidate you will be prone to), **you can check the correctness of the rolls** and notify any mistake detected to the election authority to get it solved before the polls opening.

Casting your ballots

You have decided to participate in an election.

Your first step will be to log into the voting system (see section '*Accessing the voting server*' in page 6). If you are going to use the local authentication and still don't have your credentials, see section '*Obtaining your local authentication credentials*' in page 5.

When authenticated, you will be in the main page. You will find a *Current elections* section, showing all the programmed elections where you are cast to participate. **Currently ongoing elections will appear sequentially on the Pending polling section**. That is, only one election is shown at a time in the pending area, and if you are cast to vote in more than one election at this moment, they will be shown one after the other when you are done voting in the current one or you abstain.

Before showing any election to vote, if **two or more of the pending elections are mutually excluding**, you will be shown the names of all of them listed on a radio button selector, with a *select* button below. Hovering your mouse over the name of any election will load the ballot for it, so you can make your decision. Make your choice and hit select. **This decision is irreversible**. You will have to participate on the chosen one.

After this, the pending election area will show the following information for each election you can vote.

Pending polling area

On top, you will find the same election information seen on the Current elections area (see page 11 for more detail), except for the '*see the ballot*' link, which is unnecessary now. Remember that you can contact the board of officers at any time using the link you will find here.

Below this, the ballot will be rendered, exactly the same as seen when you reviewed it.

At the bottom you will find the **Participate** and the **Abstain** buttons.

- **Participate:** Will send the vote to the ballot box. Click it when you are done choosing your options on the ballot. Before submission, you will be prompted with the exact text that is going to be sent, with the internal format. Read it to verify that the shown options match your choices. If you hit cancel, you will abort the sending, so you can change your choices and retry. The message and the color of this button will change when you start the submission. If you hover your mouse over it, a panel will show the legend for the colors of the messages.
- **Abstain:** Click it to skip the present election and be shown the next one on the list. **This is not a permanent decision, you will be able to vote on it later;** Once you have gone through all the pending elections, you will only be shown a **continue** link. Click it to load the first pending election again.

At the bottom, a **text area may appear**, sometimes from the beginning (if the election was configured this way), sometimes at the end or sometimes after an error situation. Don't panic: it shows internal messages of how is working the ballot sending process. It may also show errors or warnings. Save this information to send it along the report if you experience difficulties.

Another text area may appear, if the election is configured this way. When the ballot is submitted, it will show a receipt. Write it down or store it. You will be using it at the end of the election to verify that your ballot was properly tallied (see section '*Verifying my participation*' in page 16).

Sometimes, the participate and abstain buttons may be substituted with a message telling you to increase your authentication level, due to election needs. See section '*Accessing the voting server*' on page 6 for more information. Hit *increase* to be directed to the authentication selection page, or *check* to skip this election for now.

If you see the *participate* button in green, everything is all right. Make your choices now. Note that there may be **previously marked ballots**. You can choose any of them and submit it or choose one as a reference and then edit its default choices at your will.

If you are using the **eSurvey Toolbar** (see page 18), Javascript is disabled as a security measure, so you usually might not be able to use the previously marked ballots.

To solve this, instead of automatically launching the bar, the *Participate* button will read '*Start after marking*', so make your choice now and then hit it to launch the bar. Remember that you still can force to launch the bar at any moment from the Tools menu option in Firefox.

To submit the ballot, you must use the *participate* button in the bar.

When **you are done choosing your options, click on participate** for your ballot to be submitted. Wait until the button turns to a **blue message telling that the sending is complete**. Don't close the page or your browser until you see this message or you will lose your right to vote in the present election.

The error situations that may appear here are discussed in section '*Something went wrong*', page 14. Read carefully every prompt you may be shown.

Once you are done, click on the '*participate*' button (that now reads '*continue*') to load the next pending election (if you hit the end of the queue, you will be shown no thing, or the *continue* link if you skipped some election).

When the polls closing date for each election where you haven't voted yet is reached, it will be automatically dropped from the queue of pending elections.

Something went wrong

I can't log in

The main causes for this problem are:

- You **didn't go to the voter registration desk** to obtain your temporary password. See section 'Obtaining your local authentication credentials' in page 5.
- You **went to the registration desk but didn't log into the voting system**, so after 48 hours the temporary password was voided. See section 'Obtaining your local authentication credentials' in page 5.
- If using an external authentication method, and you do it successfully, **maybe your user is not registered on the system**. Report to the the elections administrator or the registry operator for help.
- If there's no other cause, **someone has deliberately or accidentally reset your password**; either an impersonator or an unlawful registry operator. Report the issue to the election authority and renew your credentials as soon as possible (page 5). If you suspect of a certain registrar, go to another one and ask him information about who and when did the last password reset.

I log in but I can't vote

You need to seek the election you want to vote in at any of the three areas.

If it is on the **pending polls area**, and you can't vote it is because you don't meet the authentication requirements for this election (as told by the message that shows where the *participate* button should appear). Refer to page 6 for more information on the issue.

The pending pollings area may show an election (even though it is not the one you are seeking), or a continue link. If **there's a continue link**, click it to show an election. If there's an **election different** from the one you are looking for, click abstain until you find the one you want or the continue link appears, to review all the pending elections.

If you find it on the **current elections area**, it means that you still cannot vote. Look carefully for the state of the election and the polls opening date. Look at your participation field: there it states whether you have voted or not. If it says that you have voted and you haven't, report immediately to the board of officers or the election authority, since you have been impersonated.

If you find it on the **past elections area**, it means that you missed the election. Look for the end date. Look carefully for the state of the election and the polls opening date. Again, if it says that you have voted and you haven't, report immediately to the board of officers (if the form is still available) or the election authority, since you have been impersonated.

If you **can't find it** on any of the three areas, you have been accidentally or deliberately disenfranchised. Report immediately to the board of officers or to the election authority to be admitted on the rolls and exercise your right to vote if there's still time.

The program seems hung up

If while voting, things don't seem to go on properly, this means that there are network connectivity problems. Be patient and **don't close the page, the browser and don't shut down the computer**. Otherwise, you might lose your right to vote.

At some point, if things are going wrong, the log area should appear, if it was not shown from the beginning. There you can find detailed messages of what's going on.

The application reported problems and prompted a password.

If you are using the eSurvey network to relay your vote (see presentation and page 18), and the sending is taking too long, eventually you will be **prompted with a password**. Save it or write it down as quick as possible. It is an emergency measure to save your right to vote. It will be stored on the server, cyphered with this password to keep your anonymity and privacy. **Don't reveal it to anyone**. This will let you shut down your computer and try again to vote later (even from a different location). Once logged and the election is loaded, you will be prompted for this password. Write it and you will be able to go on voting

Information about past elections

It is quite important to show you a history of all the elections you have/could have participated in for personal reference.

Elections will be shown in this section after the polls closing time is reached.

This is the information shown for each election:

- **End date:** The date the polls were closed for real (remember that it can exceptionally be delayed).
- **Record:** Shown only when the board of officers have finished tallying and the record is created.
 - **See:** Will load the election results record on a frame the right.
 - **Receive:** Will send the record to your e-mail address. If they have been digitally signed by the board, you will receive them signed. This is the only way they are legally bounding.
 - **Receipts:** If the election is configured to allow so, here you can access the list of receipts to check your participation in this election.
- **Contact the officer board:** If the records are not generated yet, you are shown the officer contact form explained earlier (page 11), since their duty is not over.
- **Your participation:** Either if you participated or not.

Verifying my participation

Once you are done voting, you can review if you voted properly.

Elections with receipt

If the election gave it away and you stored it, you can use the receipt to check that your vote reached the ballot box safely and without being tampered. Notice that you still have to trust the server for the tallying to be correct.

With the receipt, you will be given a public address which you can access to obtain the full list of receipts, or you can access it from the link on the election information *past elections* section.

Visually search your receipt on the list (or use the browser built-in search tool).

Elections without receipt

If the election didn't give away a receipt, for security or legal issues (like avoiding coercion), the only thing you can verify is that you have participated, on the *participation state* field in the *current elections area*. You will have to trust the system (and the eSurvey network if you used it) that everything went alright.

Credential renewal

Sometimes you will need to renew your access credentials for a set of reasons, and you have two ways to do it.

- If you lost or forgot the password, you need to do it at the registration desk.

Do it as soon as possible to prevent credential theft.

- If you suspect that your credentials have been stolen and misused, go straight to the registration desk to report this event. The operator will obtain further information and report to the election authority.
- If you are doing it as a preemptive measure (this means that is unlikely that it was stolen and, even if it was, it could not be used to do any harm), you can do it from the local authentication screen of the application. Just check the *new password* box and successfully authenticate to get your new password. Write it down again.

We recommend changing the password on a regular basis, like before each election, or every six months, as a good measure to detect and prevent potential impersonations. You will immediately know if someone has unlawfully reset your password, (if you can't access with your valid password). Moreover, if someone stole it and was planning to use it to impersonate you in the election, it will be invalidated and his plans will be foiled.

Reporting complaints, violations and irregularities

If you suffered, suspect or witnessed electoral rights violations or irregularities or complaints, such as coercion, vote selling, ballot surveillance or manipulation by a third party, or selective disenfranchisement, you must contact the board of officials using the contact forms shown in page 11. In case the severity of the offense is elevated, you should contact the election authority by the means established on your electoral system.

I don't trust the voting server

VtUJI is prepared to allow any member of the voting system to perform an auditory without disturbing its proper operation. This process is grounded mainly on the confidence scheme of VtUJI, which can be summarized as following:

- You trust one or more key custody committee members, who represent your interests.
- They must acknowledge that they were present when the system was set up and that all the procedures to produce a legitimate VtUJI deployment were strictly followed.
- The server is sealed and can't be altered since it runs from a CD and you have the mathematical assertion that it can't be operated without the consent of those who you trust.
- They must acknowledge that any action performed over the server was legitimate and didn't harm its integrity.

Based on this assumptions, the auditory process follows these steps:

1. You address one of the comissioners of your confidence, to ask him to perform this auditory.

2. On the next meeting of the committee, he will ask a technician to obtain a mathematical checksum of the CD that is running VtUJI on the server.
3. He will compare this checksum with the checksum extracted from his personal copy of the VtUJI CD. They should be the same or else, there was a fraud attempt.
4. You must obtain your own copy of the VtUJI CD. It must be the exactly the same version. Alternatively, you can take a duplicate of the commissioner's copy.
5. Verify that the checksum of your copy matches the commissioner's, which also must match the working copy.
6. Do yourself or order some technician to perform a thorough auditory on the CD you have, which contains all the source code used on the voting application. Do it until you are satisfied with the strength and integrity of the code. Any irregularity or security flaw found on it will also be in the working copy. Report it as soon as possible.
7. Ask a technician for help at any step of the process.

The eSurvey Toolbar

As stated at the top, VtUJI has full eSurvey support to allow you to control your own measures to guarantee anonymity.

VtUJI distributes the Javascript client, which is totally transparent for you, but is loaded from the VtUJI server or from the developer's page. Hence, if you are mistrustful about the voting system, you have no guarantees that you are not being eavesdropped by the destination server itself (yet vtUJI servers, if deployed properly, are totally reliable, the confidence chain may not be clear enough for you and you don't know if the server is a proper VtUJI server at all). This is the rationale for the eSurvey Toolbar.

The eSurvey Toolbar is an independent eSurvey client, developed as an extension for the Mozilla Firefox web browser platform (works on all operative systems).

You can easily download and install it from the following address:

<http://paco.nisu.org/eSurvey/eSurvey.xpi>

Since it is a locally installed, wholly developed in Javascript client, you can get it from the source you trust more and audit it as deeply as you want, since the source code is clearly visible. When you are convinced of its proper working, install it and use it, so no external sources can tamper with it.

It has been developed to counter any possible tampering attempt coming from the server and imposes itself clearly. It is designed to be clearly distinguishable from any attempt from the server to trick you into using a false client.

The bar can be activated at will, before or after marking the ballot. Use the bar to cast the vote after you are done.

Quick reference guide

VtUJI Quick Reference

When accessing a web application with sensible information:

- Get the address from a reliable source.
- Check that the address looks legitimate.
- Write the address yourself or carefully check that has no misspellings.
- Make sure it is secure (address starts with https://).
- Make sure the presented server certificate is trusted.
- Don't access from a public computer or a shared user account.

Logging into the voting application

- You may be offered different external methods and a local method on a selector page.
- Each election can require you to use a different or more than one method.
- If you are directed to one method and the selection page is not shown and you want to, simply access the application again.
- You can use the link to report authentication issues.
- Write your user name, password and the numbers on the image to access via local authentication.

Get your local authentication credentials

- Just once, not before each election. Also if you lose them or they are revealed.
 - Do it with enough time, don't wait to the last minute.
1. Go to a voter registration desk with your ID card with photo.
 2. Pick a card from the box. Write your user name there. Sign contract if applicable.
 3. Let the operator register your card and data. On the card there is a temporary password.
 4. Go to your computer and log into the voting system before **48 hours**. You may need to authenticate with an external method before.
 5. Write your definitive password on the card and store it properly.

Verify your presence on the rolls.

- Do it with enough time to solve it if you were left out.
1. Log into the voting system with your definitive password / an external method.
 2. Look for the elections you are interested in at the *current elections* section.
 3. If you don't find it, contact the election authority to resolve it.

To participate on the election

1. Log into the voting system with your definitive password / an external method.
2. If the election shown on the *pending polling* area is not the one you want, cycle through them with the abstain button (*continue* means that you have reached the last).
3. Make your choices on the ballot. You can use the previously marked ballots.
4. Click **Participate** when done. Don't close the page, the browser or the computer.
5. When the button says 'sending complete' it is done. Write down the receipt if given.

To do after the election

- Check if your state on the election is 'has participated'.
- If given, check your receipt on the list.

Reporting errors, problems and violations

- Use the contact form related to each election. Contact one officer personally or all of them.