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Master's Degree Program of Software Engineering
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Internet Voting System Requirements Specification Validation & Review

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1. Introduction

Product (internet voting system) will be developed for the purchase in the marketplace (i.e. Envato market). This document contains questionnaire about internet voting system from most important perspective to the selling company's – a standard marketplace customer, that is mostly to be expected to be a developer or CTO of buying organization that has to set up internet voting for some kind of local government.

Also this document includes product's requirement specification validation & verification summary from the buyer's perspective that has technical skills, meaning that buyer is some-kind of combination of all 4 perspectives – market analytics perspective, user's perspective, system analytics perspective & basic software system engineer perspective.

2. Stakeholders and their relationship to the product via “Onion Diagram”

2.1. List of all stakeholders

Stakeholder Class	Concerns of Stakeholder
<p>Product lead, owner & lead maintainer Role name: CEO (Chief Executive Officer) & Software Architect</p> <p>Notes: <i>This is me, the company’s CEO & Software Architect</i></p>	<ol style="list-style-type: none"> 1. Business Strategy 2. Company policy (partners to work with) 3. Coding standards 4. Software architecture 5. 3rd party services to integrate
<p>End-Users</p> <p>Notes: <i>These are the people who use the product, which is installed on buyer’s company servers</i></p>	<ol style="list-style-type: none"> 1. Vote in elections via product 2. Give a feedback to buyer’s company about issues with the system, so that they could report that to product creator’s (seller’s) company.
<p>All developers in the product owner’s company Role names: Sub-System’s Lead Developers, Senior Developers, Summer Interns (Junior Developers)</p> <p>Notes: <i>There are the maintainers as well.</i></p>	<ol style="list-style-type: none"> 1. Write the code. 2. Learn coding standards.
<p>#1 (main) paying customer (organization) Entity example: “California State Government”, “Vilnius City Municipality”</p> <p>Notes: <i>By the majority of the needs of this customer the system primary architecture is based.</i></p>	<ol style="list-style-type: none"> 1. Be the main tester of the system. 2. Be the main customer of the system. 3. Run the system for elections.
<p>All rest paying customers</p> <p>Notes: <i>These are the buyers of the dual licensed commercial plugin via Envato marketplace with ThemeForest Split license with Envato and AGPL license). We pay attentions to their needs and prioritize them.</i></p>	<ol style="list-style-type: none"> 1. Use the system. 2. Report bugs.
<p>Non-paying users of free version</p> <p>Notes: <i>These are the downloaders of minimalistic version “Guest Polls” W.org free AGPL plugin.</i></p>	<ol style="list-style-type: none"> 1. Try the system framework, share experience, tell what are the missing parts to buy the commercial software is.
<p>Main marketing person Role name: CMO (Chief Marketing Officer)</p> <p>Notes: <i>This is the Google AdWords-certifier guy who spends fixed company budget buying links on Google main search page as well as he does the remarketing with plugin’s banners across the internet.</i></p>	<ol style="list-style-type: none"> 1. Buy ads on Google for Google AdWords.
<p>Network (Server) administrators</p> <p>Notes: <i>Mostly expected that those are hired by buyer’s company.</i></p>	<ol style="list-style-type: none"> 1. Make sure all servers are up-to-date firmware-wise, OS-wise, WordPress-wise, WP plugins-wise
<p>Testers</p>	<ol style="list-style-type: none"> 1. Make sure all major functions are working.
<p>Website administrators</p> <p>Notes: <i>Mostly expected that those are hired by buyer’s company.</i></p>	<ol style="list-style-type: none"> 1. Insert decision makers. 2. Add voting. 3. Void false votes. 4. Investigate potential risks and report to server administrations.

2.2. List of Proxy-Stakeholders

Stakeholder	Concerns of Stakeholder
<p>Main copywriter & copywriters manager Role name: CCO (Chief Content Officer)</p> <p>Notes: <i>This is the guy who writes all the SEO articles on company's website about how great the system is, as well as he communicates the Forbes.com, NYTimes.com and "HuffPost" (HuffingtonPost.com) writers that writes the articles how personthe gre personat & secure the plugin / system is.</i></p>	<ol style="list-style-type: none"> 1. Write articles on Forbes.com, NYTimes.com, HuffingtonPost.com and other websites.
<p>Partners for premium support & reselling</p> <p>Example: GreatSupportCompany.com</p> <p>Notes: <i>These are the companies (preferred) / individuals (possible scenario) who do individual/premium support (skype calls, 24/7 support etc.) for the end-customers as well as they are one who make the website/network-setup for end-customers, that includes the buying of "Internet Voting System" license for ever customer.</i></p>	<ol style="list-style-type: none"> 1. Boost the sales. 2. Do a premium support.

2.3. Stakeholders relationship to the product via “Onion Diagram”

The Stakeholder Onion Diagram is useful in that it maps stakeholders’ relationship to the final product or deliverable of a project, rather than on the basis of power, influence, support, or other metrics. It’s useful in that it can help show the importance of stakeholders with little power or influence, but who will be important to the success of the final product.

There is a 4 layers in chosen Onion Diagram (see Figure 1). From the center out, these layers represent:

1. The Product
2. The Business System
3. The Business
4. The Environment (also known as “Proxy stakeholders”)

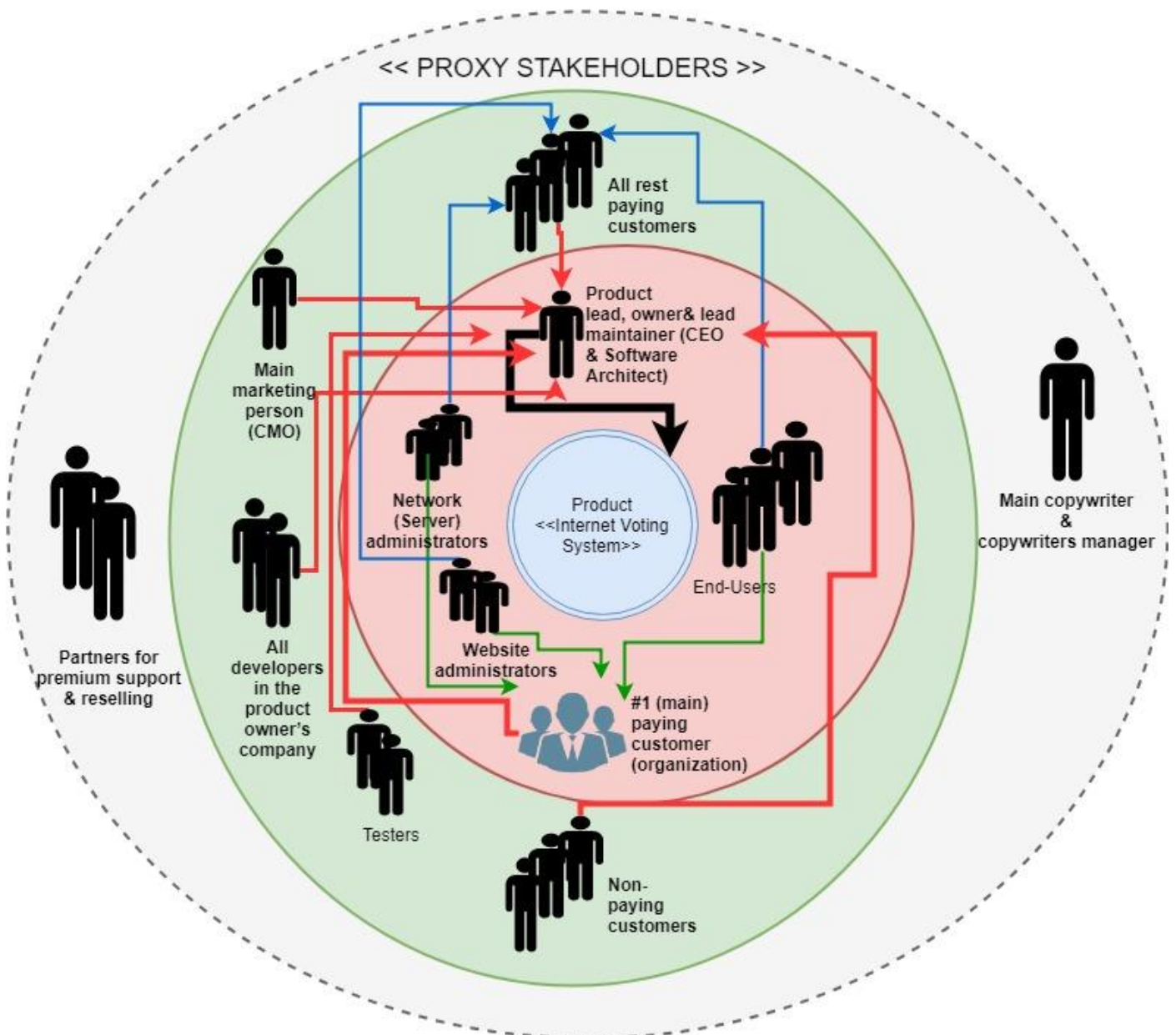


Figure 1. Stakeholder's onion diagram with relationships

3. Questionnaire from technically skilled buyer's perspective

3.1. General questions about the price and support?

- I. Is there is basic support provided? – Yes, for 6 months.
- II. Can basic support be extended? – Yes, it can be extended for 6 or 12 months unlimited times, as long as the product is for sale on the market.
- III. Is the basic support time is reasonable-fast (no longer than 1 months)? – Yes, the support time is up to 10 business days (2 weeks), mostly the most basic questions are answered via 1 day.
- IV. Is there is e-mail support to send screenshots? – Partial*
**Available via premium support for a rate of 50 USD / hr.*
- V. Is there is an ability to get a phone or skype consultations? – Partial*
**Available via premium support for a rate of 50 USD / hr.*
- VI. Is there is an ability to ask to visit our office and get help us to install the system? – Partial*
**Available via premium support for a rate of 100-150 USD / hr. + transportation & accommodation costs.*
- VII. Can you help us to select data center, server or provide hosting services? – Partial*
**Server setup-up services available via premium support for a rate of 50 USD / hr., the hosting can also be selected depending on buyers needs and location, i.e. for California that would be US-based servers from Amazon AWS (S3, CDN) and Windows Azure, that supports WAMP and LAMP stacks and Ubuntu-Linux or Windows Server OS.*

3.2. General questions about product features?

- I. Is there is an ability create an election in the system? – Yes
- II. Can we select if the voting will be secret or public? – Yes

3.3. General questions about product security?

- I. Does system use trusted algorithms that by Moore's law won't be decrypted in upcoming 30 years? – Yes, by Moore's law to decrypt data encrypted with SHA2-512 algorithm on currently fastest super computer on earth it would take over 10,000 years, and even computer's computational power will speed-up by Moore law of increasing transistors amount in the computational processors, it will still be longer than 30 years.

3.4. General questions about product scalability & performance?

- I. Can system handle 10 million voters? – Yes, by using shredding via chunks of 500,000 voters per database.
- II. Can the whole voting process for one voter happen in less than 10 minutes? – Yes, the in the worst scenario the voting process for one voter won't take longer than 5 minutes.

3.5. Questions, specific to buyer's country (Lithuania, a part of European Union)?

- I. Integration with Lithuanian "Centre of Register" for citizen's authentication? – Partial*
**System has an API and detailed step-by-step instructions how to add new citizen register callback validation. As the system code is based on known coding standards and technologies, if the buying company has it's own developers onboard, they can add that feature themselves, or they can order this feature as a custom works from buying organization's partner company at additional cost with a rate of 50 USD / hr.*

4. Requirement specification validation & verification from buyer's perspective

After going over buyers questionnaire, it is clear that system fits majority buyer's needs by default, and the rest buyer's needs, that are most likely to be optional can be implemented via custom works via selling organization partner company at additional cost, so it will all depend if the local government will do really need those additional features to be implemented at all, or they can just use the system as is.

5. Findings

As the questionnaire about the product fulfill majority of buyer's needs, it is expected that this buyer would buy the system, and may order some custom works for additional features he needs.