

# Application requirements analysis

## 1. Application Overview

1.1 The Networks application is intended to graphically display connections between nodes, the strength and the matrix view.

- Paragraph 1.1 is correctly written, the requirement does not contradict anything.

1.2 The application must be executable at almost all modern operational systems and hardware specifications.

### **Comment on paragraph 1.2:**

- The requirement is generalized, it needs to be detailed. What modern operating systems should the application run on?
- Minimum/recommended hardware requirements?
- Additional software components, software services to install?

1.3 The application must not hang and crash during execution.

### **Comment on paragraph 1.3:**

- The wording of the requirement is generalized. Clarification is needed on the moments at which a hang and crash are possible during execution and how the user should act in these situations.
- Can you clarify the exact application response times?
- The number of concurrent users?
- What is the acceptable application recovery time?

## 2. Application interface and design

2.1 The application should use the specified brand design “Network” – see appendix 1 for details.

### **Comment on paragraph 2.1:**

- In Paragraph 1 there is no information regarding the branding of the application “Network”.
- Appendix (attachment) 1 is not attached. Submit Attachment 1. What are the requirements for the corporate design of “Network” (font, size, color, background)?

2.2 The application shortcut icon must be “Network” (network.png) – see appendix 2 for details.

### **Comment on paragraph 2.2:**

- This item cannot be checked. Appendix (attachment) 2 is not attached. Submit Attachment 2 and specify your design requirements.

2.3 All application windows must have “Networks” brand icon near the name on the top left of the window (networks\_icon.png) – see appendix 3 for details.

### **Comment on paragraph 2.3:**

- Paragraphs 2.2 and 2.3 contradict each other.
- Should the application be called “Network” or “Networks”?

- This item cannot be checked. Appendix (attachment) 3 is not attached. Send attachment 3 and specify what exactly should be placed next to the title.

2.4 Application must be displayed as a brand “Networks” shortcut in the Windows taskbar when application is active or minimized – see appendix 2 for the icon.

**Comment on paragraph 2.4:**

- Since paragraphs 2.2 and 2.3 require clarification, this requirement also needs to be clarified after the revision of paragraphs 2.2 and 2.3.
- Application launch window structure?
- The structure of the application's inner windows?
- Is logo size on the start window?

## **Main Window**

2.5 Application must have next items on the main window which are designed in grey colors:

- Button “Add Node”;
- Button “Clear”;
- Button “Matrix” in the left bottom;
- Textbox with increment/decrement ability with text above it: “Connection:”;
- Grey rectangular area where the nodes will be.

**Comment on paragraph 2.5:**

- This clause states that elements must be gray - what shade of gray should be used?
- Also not specified where the "Add Node" and "Clear" buttons will be placed. It is not specified in which part of the window “Textbox with increment/decrement ability with text above it: “Connection:” and “Grey rectangular area where the nodes will be” will be placed. There is an error in the name of the "Connection:" button - it is necessary to remove ":" from the name.
- The graphical interface of the start window (window size, button size, shape, color, window layout, size/font of window captions)?
- Where does the text box appear in the window?
- Limiting the characters that we enter in the text field?

2.6 Each window can be minimized/maximized and window’s dimensions can be changed by dragging the interface with the mouse.

**Comment on paragraph 2.6:**

- How can I minimize/maximize a window?
- how exactly should the drag-and-drop interface be?

2.7 The main window can be minimized until two buttons and checkbox are visible.

**Comment on paragraph 2.7:**

- Which button will be responsible for the process of minimizing the window?
- How can I minimize/maximize windows?
- The type and location of the window when minimized / maximized?

## Nodes

2.8 User cannot change "Edit Node" window dimensions.

### **Comment on paragraph 2.8:**

- Where is the "Edit Node" window located? What actions can the user perform with the "Edit Node" window? Paragraph 2.9 states that when you click on a node, a window appears with the name "Edit node #A", and paragraph 2.10 states that the node must have a number in the #Number format - thus, as the window should be called when clicking on a node - "Edit node" or "Edit node #Number"?
- Graphical user interface of the "Edit Node" window?
- How is the "Edit Node" window called?

2.9 When user clicks on node #A he should see appeared window with the text "Edit Node #A".

### **Comment on paragraph 2.9:**

- An incorrect format for writing nodes is specified - node numbers in the "Edit nodes" window must be in the #Number format (see requirement 2.10). It is more logical that this requirement should be after the requirement with information about the format of the nodes, that is, it should be numbered 2.10, and not 2.9.

2.10 Node's numbers in "Edit Node" window should be in #Number format and be sorted in the ascending order.

### **Comment on paragraph 2.10:**

- It is more logical for this requirement to be numbered 2.9, not 2.10. Where is the button to sort nodes in the "Edit Node" window? How does the button to sort nodes work?
- What number does the numbering start from and are there any restrictions on the last number?

2.10 The nodes must look like black balls with medium diameter with white numbers inside that show the exact node's number.

### **Comment on paragraph 2.10:**

- The numbering of requirements has gone astray, this requirement should be numbered 2.11.
- Do the numbers inside the black ball have to be Arabic or Latin?
- Font size for numbers?
- In the ball there can be a number consisting of 2, 3 numbers - the ball increases?
- Number format, character input restrictions?
- How is an inactive node displayed?
- The specific size of the diameter of the balls and the size of the numbers inside the balls?

2.11 Connections between nodes must be shown as black arrows with pikes depending on the directions of the connection.

### **Comment on paragraph 2.11:**

- The numbering of requirements has gone astray, this requirement should be numbered 2.12.
- Where and where will the arrow go?

- Arrow size? Should the arrows be curved or straight?
- How many nodes can be added at the same time?

2.12 Not more than 10 nodes can be added at a time.

**Comment on paragraph 2.12:**

- The numbering of requirements has gone astray, this requirement should be numbered 2.13. Specify in which paragraph information is indicated regarding the process of adding nodes.
- 10 nodes inclusive or exclusive?
- What happens if you add more nodes?

### **3. Functionality**

3.1 When user clicks on “Add Node” button, the node #1 should be added to the rectangular field and be displayed to the user as it was told in these requirements.

**Comment on paragraph 3.1:**

- The requirements above do not provide information on where information about added nodes is displayed. Where exactly should the rectangular field with the added nodes be located?
- Where exactly in the window should node 1 be located?

3.2 User can move nodes around the rectangular area.

**Comment on paragraph 3.2:**

- How can the user move nodes around a rectangular area?

3.3 Wherever the node is, it can be accessible at any time.

**Comment on paragraph 3.3:**

- The requirement is too general, it needs to be specified. Where exactly is the node located?

3.4 When user clicks on the node and then presses “Enter”, he should see “Edit Node #Number” window appeared.

**Comment on paragraph 3.4:**

- Does it have to be the exact number inside the node, or can it be edited?

### **Edit Node**

3.5 “Edit Node #Number” window must contain “Save”, “Edit” and “Cancel” buttons.

**Comment on paragraph 3.5:**

- Where should the buttons be placed in the window and what should they look like?
- Duplicate functions - Edit and Edit node number.

3.6 If user presses “Save” button, all his changes are saved.

**Comment on paragraph 3.6:**

- Is there a confirmation message that the changes have been saved after clicking on the “Save” button? (For example, "Your changes have been saved")

3.7. If user presses “Cancel” button, all his changes are discarded and “Edit Node #Number” window disappears.

**Comment on paragraph 3.7:** no comments.

3.8 If user presses “Edit” Button, he can Add, Delete and Edit nodes that are connected with this one.

**Comment on paragraph 3.8:**

- How is the process of adding, editing and deleting nodes?

3.9 Not more than one “Edit Node #Number” window can be opened at a time.

**Comment on paragraph 3.9:** no comments.

## **Nodes Connections**

3.10 The “Connection:” textbox must have default value “1”.

**Comment on paragraph 3.10:**

- There is a typo in the name of the “Connection:” button, you need to remove the “:”. This clause is inconsistent with clause 2.5 which states that: “Textbox with increment/decrement ability with text above it: “Connection:”.

3.11 User can be able to enter integer values to this textbox from 1 to 1000.

**Comment on paragraph 3.11:**

- In which field the user can enter integer values from 1 to 1000?

3.12 Nodes Connection – TBD.

**Comment on paragraph 3.12:**

- The demand does not specify who is responsible for deciding the TBD when it expires. Also in paragraph 2.11 it is stated that “Connections between nodes must be shown as black arrows with pikes depending on the directions of the connection”. Thus, additional detailing of paragraph 2.11 and paragraph 3.12 is required.

3.13 When user presses on “Clear” button, the nodes should disappear from the screen and when user adds new nodes, their numeration will start from 1.

**Comment on paragraph 3.13:**

- Where the "Clear" button and the "Add Node" button are located.
- Should all nodes disappear from the screen when the clear button is clicked?

## **Matrix**

3.15. When user presses on “Matrix” button, a Matrix should appear which would display all connections between nodes and the connection power.

**Comment on paragraph 3.15:**

- Incorrect numbering - the item should have the number 3.14.
- Where should the connection power be displayed? In what format?

3.16. The values for the same node's connection must be "x".

**Comment on paragraph 3.16:**

- Detailing of this point is necessary. What should the same connection node be "x"?  
Incorrect numbering - the item should have the number 3.15.