UX Design

Savox Case

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Design Problem

Savox's CEF-Vision system is a safe and reliable camera solution for vehicles, meant to be used by trained soldiers. When unmounting troops from an SUV vehicle in combat situations, the squad leader needs information about the environment to be sure that the soldiers can get out of the vehicle safely. The CEF-Vision system can help in these situations by providing real life video footage about the surroundings of the vehicle.

The system consists of a switch, monitors inside the vehicle and cameras that are attached to different sides of the vehicle. While the system is shipped in preconfigured condition, there is still room for improvement. For example, users may want to attach additional cameras to the vision system, add thermal cameras or change the way that the camera feeds are displayed on the monitor screens. All these situations require modifications to the factory configuration of the vision system. Currently if the user wants to change something in the configuration, they need to communicate with Savox. An alternative solution to this would be a graphical configuration tool, where the users could do simple changes on their own.

The configuration tool has to be user-friendly and easy to modify and maintain. It must to include functionality to configure which monitor displays image of which camera. Multiple camera view configuration must also be included. The configuration tool is to be controllable via a laptop keyboard, because the users may want to make changes to the configuration inside the cramped SUV vehicle. In addition to the graphical configuration tool, a command interface is also needed to update the firmware of the system.

Customer journey map

Nidal

Personas

Stakeholder analysis helped to identify three of the most important stakeholders of this project: officers, squad leaders. From the point of view of these three roles fictional personas were created to better understand the needs of the users. The personas are presented in figure 1, figure 2 and figure 3 respectively.

Figure 1. Officer persona

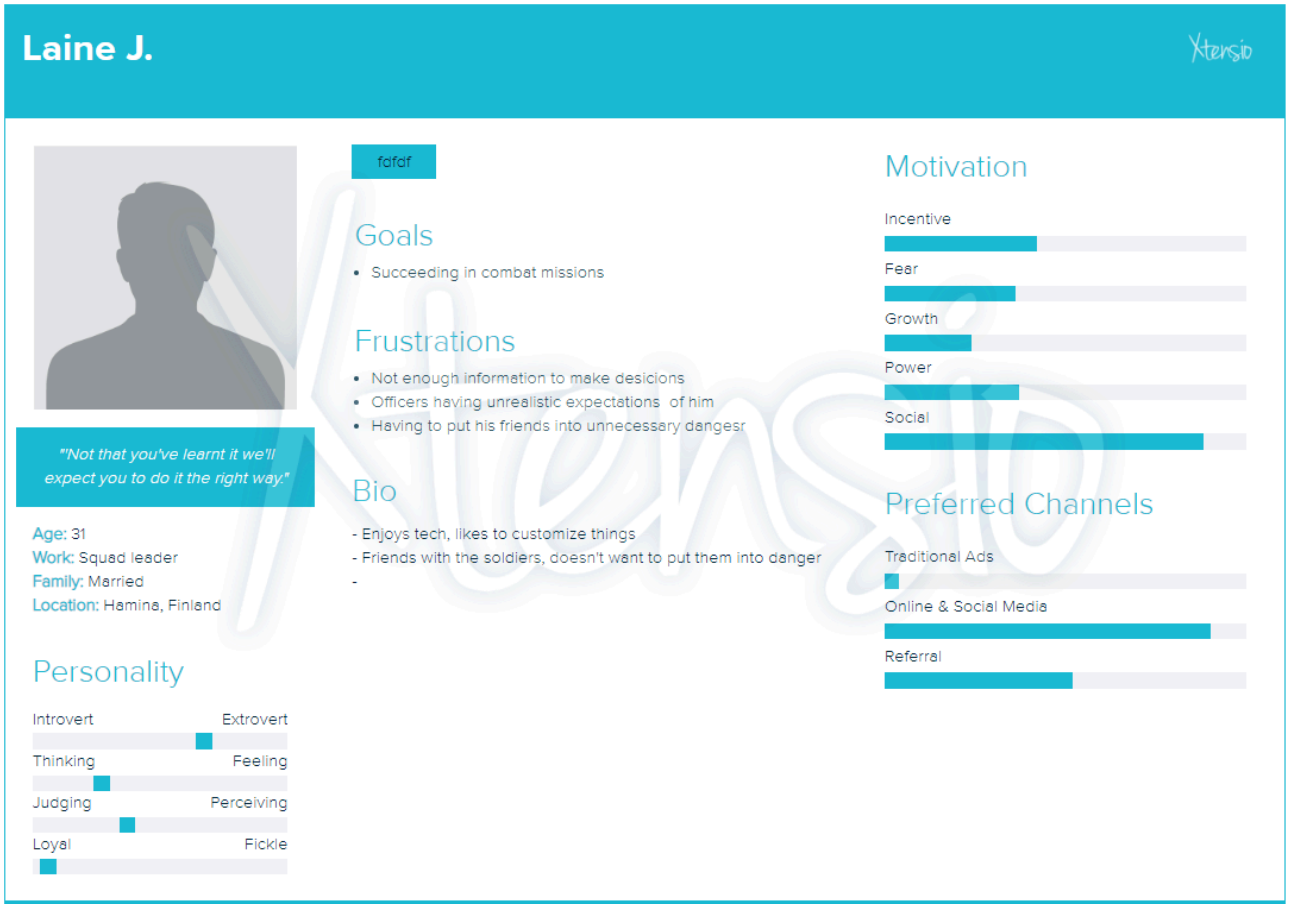

Figure 2. Squad leader persona

Figure 3. Soldier persona

Brainstorming

To collect ideas about how to design a better experience for the identified user groups, a brainstorming session was held. Round robin brainstorming method was selected to involve every team member in the brainstorming process. The results of the brainstorming session are presented in table 1.

- we should design the UI to be usable with keyboard only (they may want to configure on the road where mice are inconvenient
- voisi olla tabeja, joita voisimme käyttää navigoinnissa
- outputit voisi jakaa tabeihin
- työkalut voisi jakaa tabeihin
- kannattaa olla vähän tavaraa ruudulla kerralla, jotta pienresoluutioiset läppärit toimii
- every view should have attributes to configure: view type (single / multi), name, input and output
- f1, f2, f3… buttons could be used for navigation between tabs
- Multiview could be configured by first selecting type and after that the individual camera views one by one
- multiview type could be selected in a view where all of them are visible at the same time on the screen, and you select one with number button or by arrow keys
- configuration could be done installation wizard style, where things are given for the user to configurate one by one
- alternative drag and drop view for mouse controls
- f1 f2 f3 buttons to control everything in the program
- instead of f1 f2 f3 we could use arrow keys because they are more intuitive
- main menu could include links to configuration and installation
- there are things in our current prototype that look very similar to interactable buttons. We should make those parts look different, since they are there just to provide information, not to interact with.

- we need a way to show the user where they are at all times (which monitor and which view)

Affinity diagram

Round robin brainstorming is known to produce ideas that are not linked to each other. To organize the results of the brainstorming session an affinity map was created (figure x).

Six thinking hats