Human–computer Interaction Technical English

S.O.S Alert - real-time emergency reporting app

Students: Alexandre R. Tavares, Diogo da Silveira, Richard Silvello, Yulric Poblete
Teacher: Evandro Manara Miletto, Aline Rosso

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The Problem

Have you ever felt misoriented in a emergency situation?

The aftermath of the attack on the base in Yavoriv between the city of Lviv and the Polish border. Ukraine said that 35 people had died but denied Russia's claims that "foreign mercenaries" were among them

War reaches Nato border

Russia strikes base 15 miles from Poland ● Putin 'asked Chinese for military help' ● Oligarchs' homes set to house refugees

Richard Spencer Kyiv

The war in Ukraine moved to the frontline of Nato for the first time on Sunday when Russia bombed a military base used by western volunteers less than 15 miles from the Polish border.

A volley of missiles hit the facility, in the village of Yavoriv near the border and the city of Lviv in western Ukraine.

The blasts at the International Peacekeeping and Security Centre could be for miles around, shaking windows and lighting up the pre-dawn sky.

The Ukrainian authorities said that 35 people had been killed, although they did not say whether any of the dead were members of the "foreign legion" of international recruits that President Zelensky has called to the country's colours. The Russians said the attack had killed up to 180 "foreign mercenaries".

In other developments:

● Russia was reported to have asked for Chinese military assistance, threatening western efforts to contain the war.

● Ukrainian forces were reported to be finally using white phosphorus in bomb attacks and wanted to leave cities in order to fight the Russians in Syria.

● Officials say the besieged port city of Mariupol said more than 2,000 civilians had been killed there.

● Russian and Ukrainian negotiators held a second round of talks but were set to strike any deal.

● An American journalist was shot dead near Kyiv, becoming the first western reporter to die covering the war.

● The United Nations said that more than 1.5 million refugees and declared itself full and unable to settle any more.

● Boris Johnson spoke to President Zelensky by phone and said President Putin's claim that the war was justified was not just "Ukraine but all of humanity".

● No 10 is supporting an expansion of the Sizewell nuclear power station, the construction of another nuclear power plant to cut reliance on foreign energy.

● The government gave more details of its scheme to settle Ukrainians in Britain. Each sponsor will receive £10,000 per person.

● Michael Gove, the housing secretary, said that he was ready to house refugees in the homes of sanctioned Russian oligarchs.

● Liz Truss and Ben Hextonoxone, the former chief of the defence staff, told Times Radio that Ukraine and Russia must be given a deadline to reach a deal after which Nato should intervene.

● The Red Cross set up a humanitarian corridor for people trapped inside the country, and hundreds of thousands have passed through it to the safety of the west. Europe's The United Nations high commissioner for refugees said that as of Saturday 2.7 million people had fled Ukraine, almost 1.7 million to Poland.

● Ukraine's border guard service said a large convoy six miles long was massing on the edge of Yavoriv, a base that attacks a Nato member state, even if accidental, would meet a response.

Elsewhere in the conflict the battle-hardened troops of Chechnya's Kadyrovtsy from their relocated column of tanks, heavy armour and supply lorries, now fitted from the southwest of Kyiv, the Russian strike force reportedly 40 miles long, is still bogged with heavy fighting in and around the towns of Irpin and Bucha. There were reports that the Ukrainian army had given a death toll for the Ukrainian side for the first time, of 1,300 troops.

Brent Renaud, 51, an experienced American videographer, was shot dead in Irpin, according to first reports. Details were unclear. His colleague, Juan Arredondo, said they were under "thoughtless" and would have crossquarters: "We warned the United States flag on the vehicle." Another, Oleksandr Kuleba, 37, was killed in Irpin, and two journalists, Fox News and Reuters, were injured.

Russia's military had already expanded their air campaign in Ukraine to targets to the west of the country on Friday. Lviv, close to the Polish border, has become a Nato member state, and the attack prompted a warning from the United States. Jake Sullivan, President Biden's national security adviser, said that Russia "crossed a line" and made clear "that any Russian military activity that attacks a Nato member state, even if accidental, would meet a response.

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Ukraine reports, pages 2-12
Boris Johnson: Ukraine war is the third, leading article, page 33

A serviceman injured in the bombing

Lutsk
Military facility hit by Russian missile strike
POLAND
Yavoriv
UKRAINE
Kyiv
70 miles

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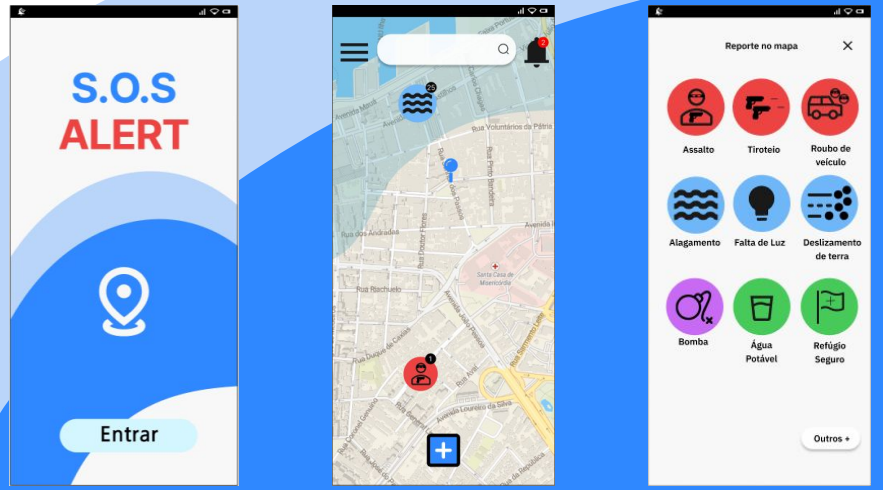
S.O.S ALERT

Your Ultimate
Real-time Emergency Reporting App

Add and See Reports

User Generated

Key Features



Technologies Considered

- **Crowdsourcing:** forms and quick-report buttons, with support for text, images and videos.
- **Geolocation and Mapping:** Mechanism of confirming a report, detecting a false report and outdating an event.
- **Data Validation and Processing:** GPS and Geofencing.

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Development

Core Features:

- Incident Reporting
- Real-Time Alerts
- Offline Functionality
- Route Planning
- Community Engagement

Design Considerations:

- User-Friendly Interface
- Enhanced Visibility
- Simplified Interface

Goal:

- Revolutionize emergency response through user-centered design and advanced technology.

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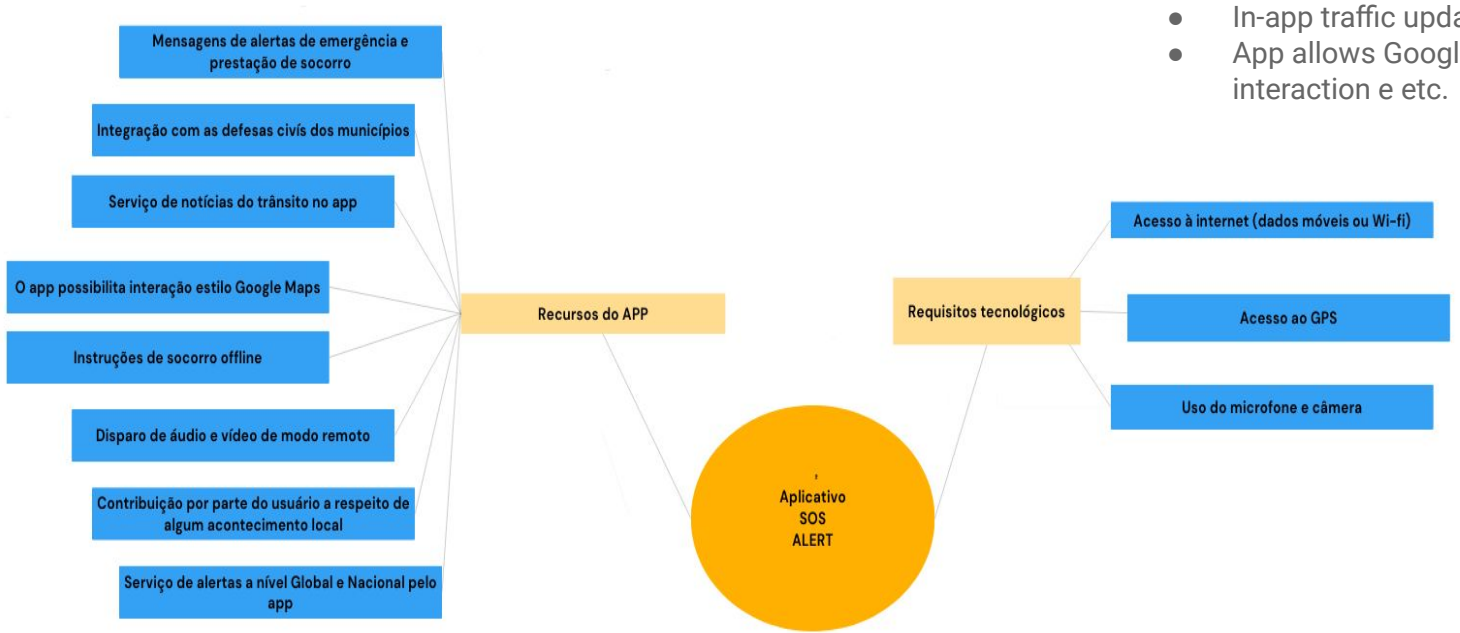
Mind Map

- Emergency alert messages and rescue assistance;
- Integration with municipal civil defense agencies;
- In-app traffic updates;
- App allows Google Maps-style interaction e etc.



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Testing on paper

First Round of Testing (October 31st):

- **Identified Issues:**
  - Missing "close" buttons in menus, profile pictures, and comment pop-ups.
  - Lack of enabled/disabled buttons.

Second Round of Testing (November 4th):

- **Identified Issues:**
  - Missing confirm button on the report screen.
  - Inability to interactively drag the "incident here" icon on the map.
- **Remaining Issues:**
  - Despite improvements, some issues persisted from the first round of testing.

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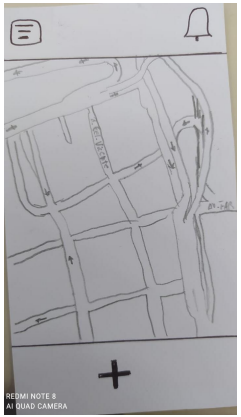
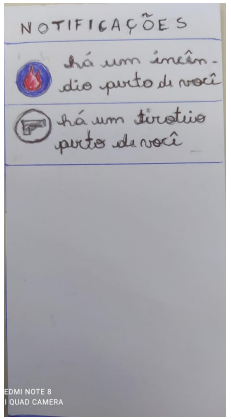
Paper Prototype - Screens

Initial Screen

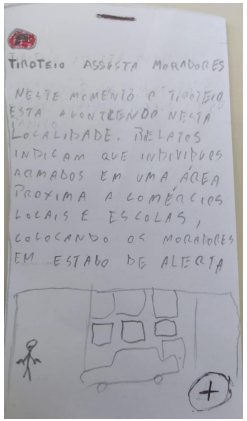


Menu

Notifications

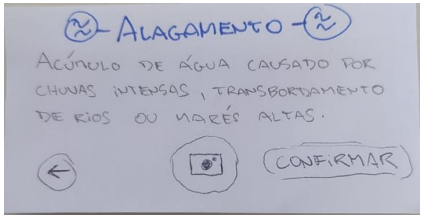


Detailed Notifications



New Report

Register New Screen:



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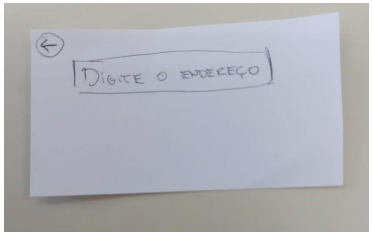
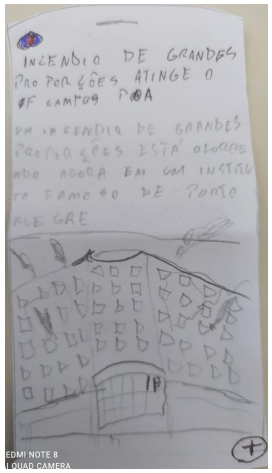
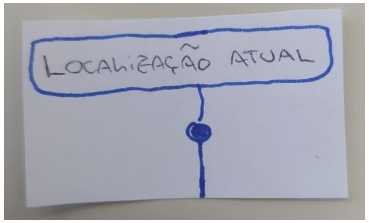
Paper Prototype - Support Screens and Icons

Report Icons

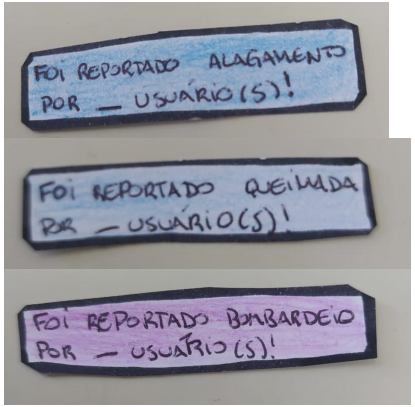




Pin Icons



Report Icons



Toggle Switch

Disturbance Icons

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Problems and Improvements

Problems:

With user experience, it was possible to identify some issues

- Absence of a "close" (x) button in menus;
- Absence of a "close" (x) button in profile pictures;
- Absence of a "close" (x) button in comment pop-ups;
- Lack of enabled/disabled buttons;
- Absence of a confirm button on the report screen;
- Inability to interactively drag the "incident here" icon on the map.

Improvements:

- Make the interface simpler by removing unnecessary clutter;
- Make icons easier to see by making them bigger and clearer;
- Offer optional training for new users to get them started;
- Add explanations for any symbols that might be unclear;
- Let users customize the map to show the information they want.

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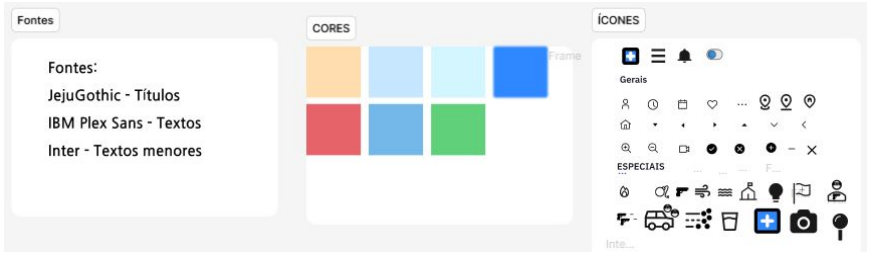
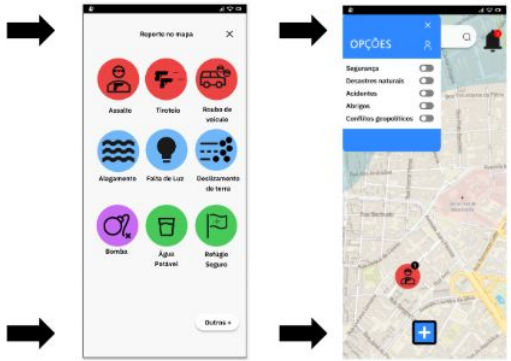
Nielsen's Usability Heuristics

- Aesthetic and minimalist design
- Recognition rather than recall
- Consistency and standards





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Tools Used and Challenges

Figma

Figma is a great intuitive platform for creating interfaces, but for us was a little bit challenging. As we were not fully familiar with the tool, we made inefficient use of its features, often creating unnecessary screens and redundant elements that complicated the design process. Despite these challenges, working with Figma provided a foundation for improving our design skills.

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Future Work

To improve the applications functionality and user experience, several additions and features need to be added.

- **Notifications Settings:** Add customizable notification options to alert users based on their preferences. For example, users could choose to be notified only about events within a 500-meter radius.
- **Route Planning:** Integrate a feature to map that allows the user to choose routes that avoids specific events or areas marked as dangerous.
- **Follow Profiles:** Introduce the ability to follow verified profiles, such as Civil Defense agencies, to receive reliable notifications from trusted sources.

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