Case Study:
Hemmo App for Pelastakaa Lapset Ry

This document describes a Futurice Chilicorn Fund charity project for Pelastakaa Lapset Ry (Save the Children Finland).

Customer

Pelastakaa Lapset Ry is the Finnish member organisation of the Save the Children International. Founded in 1922, they are a politically and religiously independent non-governmental organisation that promotes children's rights, provides relief and helps support children both locally and in developing countries.

They envision a world where every child has the right to life, protection, development, and active participation. Their mission is to improve how children are treated and accomplish immediate and permanent improvements in their lives.

Challenge

Pelastakaa Lapset Ry was looking for assistance for creating an app to help their employees better understand the experiences and the mood of the children visiting their foster homes.

Children are the real experts on their own lives, acting as important change makers for their peers and the community at large. Save the Children recognises the need for age appropriate (digital) methods for collecting feedback from the children so that we can better our services and understand children's experience. They also find that most of the times children's experience is heard through adults.

The application must talk to small children, since they do not have the means for written feedback.

The primary goals of the app are to a) receive feedback about the homes, in order to improve, and b) encourage the children to communicate; to not only share experiences, but their feelings and thoughts related to these experiences.

Chosen approach

The application uses audio, it will talk, because small children have no means for written feedback. This means it must also listen – recording audio is required. For the older children traditional text based information exchange should be supported, as they may prefer that.

The types of questions we are interested in are:

- How was your weekend with the contact family?
- How did you experience your visit?
- What was fun / not so fun?
- What would you like to do more / less?
- If there was any problems or concerns.

Getting this information is not easy. With young children you cannot just outright ask and expect to get a good answer. The app should attract them to talk about all sorts of topics, and the employee will then, using their experience and intuition, extract the necessary information.

We decided to make an app with a game-like cartoony user interface. It will play prerecorded audio questions, talking to the child, and then record the response. The recorded response will be uploaded to the backend system, where it is only accessible to the authorised Save the Children employees. They will listen and read through the feedback, after which it will no longer be required, and can be erased.

There is no need to make the children identifiable in the communication between the client and the backend. The employee knows who the person leaving the feedback is. There is also no need to transfer information from the backend towards the client, other than a simple session token.

For the client technology we decided to go with React Native. This gives us both Android and IOS support, using mainly the same codebase. For the backend we chose Node.js and PostgreSQL.

Choosing this stack allowed us to use [Pepperoni](#). Pepperoni is Futurice's open source react native blueprint for building cross-platform mobile experiences rapidly with ready-to-use integrated building blocks for common mobile app features.

Project

Initial design was produced in collaboration with UX students from Tampere University and Tampere University of technology in an intensive two day workshop. In the workshop groups of three to four students followed the Futurice [Lean](#) [Service](#) [Creation](#) methodology. The process included problem definition, brainstorming, service concepting and sketching, concept evaluation, and finally presentations by the groups in an informal setting. The workshop was intended for final-year Master students and Doctoral students; the students already had a strong background in the general methodology of user-centered software development.

The first day of the workshop started with a presentation by Save the Children about their needs and based on this presentation groups filled Business goals and limitations and Segmentation LSC posters. After this phase, the students generated concept ideas using "How might we…" statements. For each concept idea, they filled Concept sheets and created Value propositions. Finally, the first workshop day ended by sketching fake advertisements to present their concepts.

On the second day, the workshop started by planning for Solution interview. During the solution interview, groups presented their fake advertisements to one of Save the Children representatives involved in the workshop and had a chance to ask further questions about the target user group and their needs. Based on the interview results, the groups listed the main use cases of their application concept, drew navigation map and sketched wireframes for the main use case flows.

Some of the groups also proceeded into creating visuals for the screens and even into creating an interactive prototype. At the end of the second day, each group gave a final presentation about their target users and the concept. Based on the final presentations, jury consisting of the two customer representatives and three experts from the collaborating company gave feedback on each concept and selected the winning concept to be taken further.

A member of the winning team, Sanna Paaso, joined the Futurice implementation project as a volunteer and refined the concept together with Futurice [Tammerforce](#) senior designers Heli Ihamäki and Mirkka Länsisalo. Another volunteer designer, Eeva Andrejeff, joined the project and produced the visuals for the implementation team.

Emmi Siitonen from Futurice's Tammerforce took the lead developer responsibility for the React Native app, with help from Rasmus Eskola and Oskar Vuola in Helsinki. Rasmus and Oskar
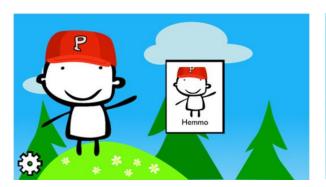
wrote an open source [audio](#) [library](#) for React Native to support Emmi's app. Rasmus then took the lead developer responsibility for the backend system. Emmi and Rasmus, supported by Eeva for the visuals, created the service in four months.

Backend installation to the Save the Children environment was easily done, and both Play Store and the App Store accepted the apps into distribution without questions. The pilot use by two Save the Children employees and their six support families began in October 2016.

Hemmo App

Some screenshots from the app:

The backend is just a simple browser viewable collection of lists, allowing basic user management, listing, and reviewing the received feedback from the children.

What next?

The initial reaction to the app has been positive. Children have used it to submit feedback, and the employees can review these on the backend. We have already received some usability improvement ideas, such as:

- Even very young children seem to intuitively attempt to use the app by swiping. Currently the UI does not support that, but relies on buttons, or automatic transitions.
- The audio elements (talking to the children, and recording their response) encourage the children to try voice commands, which are not yet supported.
- The backend UI could be clearer and some notifications should be implemented to encourage the employees to check the feedback addressed to them promptly.

We will have a meeting to decide the next steps, but it seems that the concept itself is sound. The implementation should be taken a bit further.

We are also in process of publishing this solution as open source. We have to change some graphics for that, because the Hemmo character is not our intellectual property to publish.

More information

If you are interested in this project or solution, get in touch!

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Web links
Chilicorn Fund: www.chilicorn.org
Futurice: www.futurice.com
Pelastakaa Lapset: www.pelastakaalapset.fi
Pepperoni: www.getpepperoni.com