Augmenting Social Interaction

Build a device wrist band where people can talk through vibrations with each other.

Pleasant Mobile Usage at -20 Degrees

Now Finland has (-20 - -32) degrees, and in this kind of weather, the touchscreen sometimes do not respond as expected. It would be nice to be able to interact with the telephone also in extreme weather conditions.

https://www.makeuseof.com/tag/winter-is-coming-using-a-smartphone-or-tablet-in-extreme-weather-conditions/

Tangible Kanban board

Kanban/scrum boards are used to keep track of tasks. Today you have to make a choice between a physical one with post-it's in the office or using a digital tool like Trello/JIRA. Goal of this project would be to combine both and record the movement of post-it's so that they can be mirrored digitally.

Air writing

I want to develop a way that camera recognizes hand writing in the air to convert it to text for the situation when other input(e.g. keyboard, touch screen pen & keyboard, voice etc.) is hardly usable.

Feel fabric

I want to invent a way to feel the clothes material when doing online shopping.

Barcode food shopping

I want to order the same product by scanning bar code on my phone camera when doing online food shopping.

Motion control train toy

I want to build motion controllable train toy for 2-3 years old kid.

Automatic volume controller

I want to have a system to control the audio volume automatically by the noise level of surrounding. It would be useful to control the volume of cafe music and shopping mall announcement.

TUI as a support for language acquisition

One of the most important factors in language learning is language acquisition through authentic contexts. With tangible and interactive objects, learning platforms could open up new immersive ways in acquiring languages and keeping students motivated and engaged.

https://www.researchgate.net/publication/325171198_TANGIBLE_INTERFACE_GAME_FOR_STIMULATING_CHILD_LANGUAGE_COGNITIVE_SKILL

https://www.researchgate.net/publication/221308792_Tangibles_for_toddlers_learning_language

Face Control Interface

This project will focus on creating a program that is able to identify your eyes and face gestures to interact between the user and the device.

https://www.visagetechnologies.com/HTML5/latest/Samples/ShowcaseDemo/ShowcaseDemo.html#

Inactive generative films

A computer vision/audio analysing system that allows altering of plot & narrative lines in films without the viewer actively making choices, but by analysing their behaviour in real-time. https://medium.com/@TheSkinDeep/the-future-of-media-is-content-that-is-alive-c5d251163264

Using Mixed Reality to assist in rebar detailing

Instead of using cumbersome 2D drawings, a rebar detailer uses a mixed reality headset with Ikea-like instructions on how to assemble the precast rebars.

https://en.wikipedia.org/wiki/Rebar_detailing

Remote Whiteboard & Sticky Notes

When having a team meeting and stuff is drawn on a whiteboard and sticky notes are posted to the wall, a person participating remotely doesn't have the chance to read the text on whiteboard an stickies due to bad camera qualities of the webcam's. We could create a tangible device, a pen, which recognises the information written and shows it to the remote user on his screen. The person remotely participating could also add information to that whiteboard somehow. Besides, there could be somehow virtual post it notes on the wall which can be easier "removed" and don't waste paper or fall down from the wall. http://note.ly/ Something like that but in the real world with a real pen and collaboration possibility.

Making a dumb light smart

Fancy lamps nowadays can already react to sound and switch on and off. However, old ones can't. We could build a sensor that can be plugged onto a switch. When clapping / making a different sound, it recognises the sound and switches on or off the light. This turns a dump light into a smart one. Alternatively, there could be a movable switch which gets connected to the actual switch and can be placed for example next to the bed. To switch off the actual switch, one can then switch off the remote one and like that turn the other switch too.

Sit Better

A chair that interacts with you when it notices your posture is bad, leading to better sitting and better back health in a world where many of us spend much of our day sitting.

Let's choose the best beer!

As we all know, the best beer is the cheap beer! We're in Finland and that's not easy to find. Let's create together a new app to easily check the price of the beer in different bars. HOW? Easy. Augmented reality is our friend.

Imagine this. You re randomly walking down the street around Kallio and you want to have a beer How to choose where? With our app. Basically the concept would be to use the camera of our phone to point to the bar. Our service is obviously a cool service, so it would identify the bar and it would automatically display on the screen the prices of the different beer. Awesome right? This could be extended to other information, such as rating of the bar, etc.."

Don't forget tag

The idea is to create a set of cheap, small tags (possibly RFID) that could be attached to objects you need to bring with you when you leave the house. A sensor placed near the door would alert the user if one of the things is missing and indicated which.

Non-visual UI

Somehow add sound to a website user interface so that you could explore it with a cursor, but the "empty space" and closeness to clickable objects would be indicated with sound. The objects could then be read aloud when hovering over them? I don't know if this would be helpful or just kinda like a game

Alternative Fidget Cube

I wanted to explore if there was a way to adapt the various tangible interactions on a fidget cube for a different purpose. I'm not sure what exactly but thought it would cool to explore.   https://blog.hackster.io/the-fidget-cube-gets-an-iot-makeover-c6b43cfb15fe?gi=a8c3aa84d5cc

Autoshower

Automatically adjusted showerhead. Using sensors to automatically adjust the height of the showerhead based on the length of the person.

Mechanical Room Design BIM

Layout planning using intelligent miniature objects with tags for placements, generating into a 3D BIM file once user is happy with end result.

Get to know a stranger: a message-passing station"A digital station is placed somewhere where passengers walk by.

a) It displays a question like ""What's the craziest thing you ever did?"" or ""What was the last movie you saw?"", ""What band have you been listening to a lot lately?"". People use their phone to reply, and the system remembers the phone.
Later you can ""pick up"" an answer of someone who answered the same question, and get into contact with them if you would both want to.

b) The same system, but people submit questions themselves.

c) You can leave the music you listen are listening to (with a website, QR, Bluetooth, NFC?), and the system plays the music. "

A game in physical space to play with strangers

"A simple multiplayer game that connects strangers. It would be cool if the game *required* people to ask strangers and not only friends to join, for example by asking questions that require participants to not know each other.
A passenger wide scoreboard could be kept for motivation. A webcam could take automatic photos of a group after a session."   Possibly in the form of a sort of quiz or party game (for example: Fibbage https://www.destructoid.com/fibbage-is-a-fun-digital-party-game-even-if-you-only-have-two-people-280200.phtml) or a mildly competitive game with tangible interaction http://kaiwei.design/#/work/taptile).