ALF BAE

EXPERIENCE DESIGNER

ALF | JustBrowse

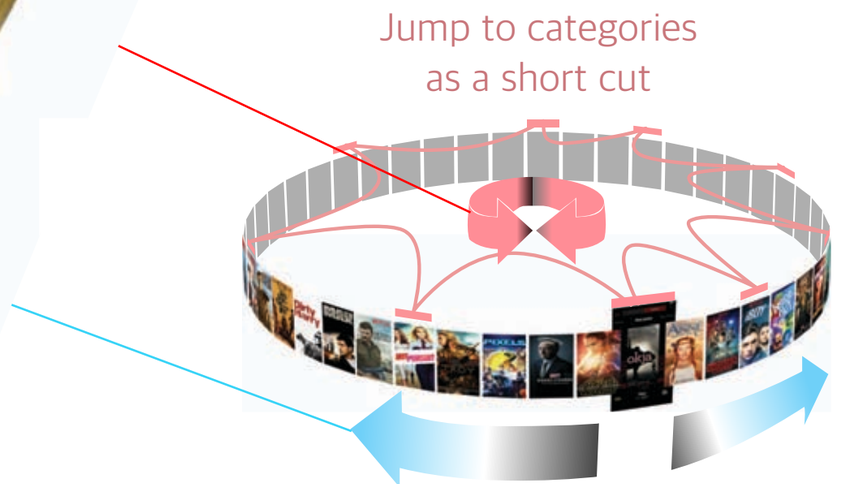
Full stack digital service system develop

Story

Just Browse is a video guide app for Netflix. It helps Netflix users browse seamlessly and find an interesting video intuitively.

It promotes related products over a video. If you are interested in new Star Trek TV series, it promotes a Star Trek toy via Amazon.

Design and iOS app development has been created by myself as a full stack designer.



Innovation

Just Browse provides easy and intuitive contents browsing experience by SpiralDonut browsing engine.

SpiralDonjut is based on my patented invention(US6920445B2). It helps a user to browse hundreds of contents through a multi-level circular data structure.

In Just Browse, a user can just swipe thumbnails to browse low level or browse categories on the upper level. Two levels interact always and a user can find a shortcut path to an interested one or just browse slowly until finding one.

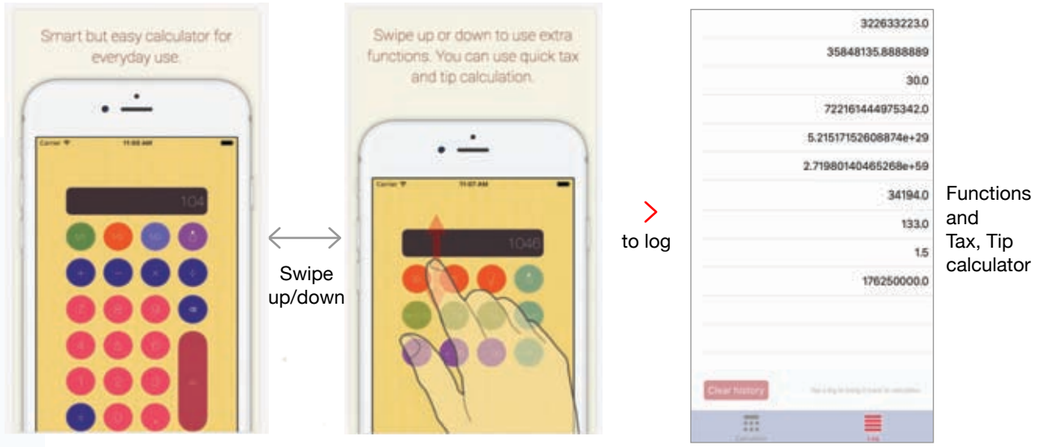
ALF | FIKSU LIFE TOOL SERIES

Full stack iOS app design & develop

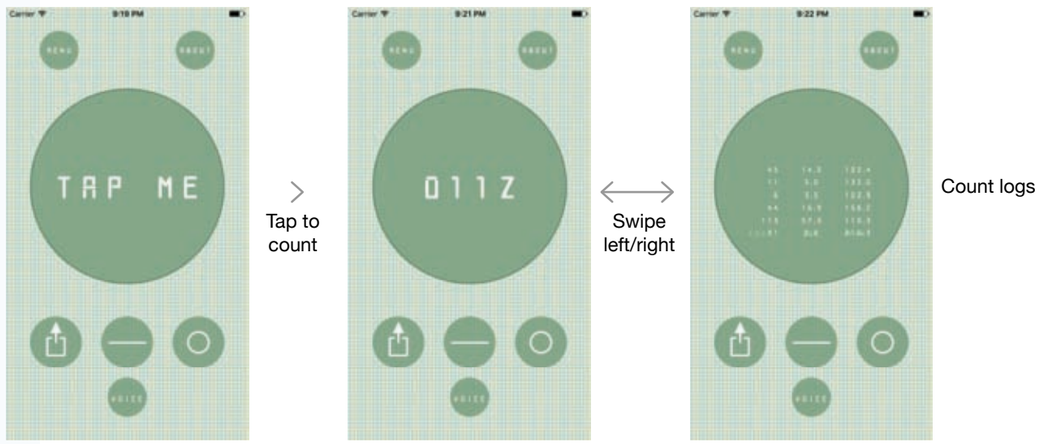
Story

Fiksu Calculator and Fiksu Counter are convenient life tool apps. It is a simple tool with a twist of smartness. These are my first public app on Apple appstore market.

Fiksu Calculator



Fiksu Tally Counter



Fiksu is “Smart” in Finnish

Fiksu counter, Fiksu calc, and Fiksu kitchen timer are iOS apps for daily life.
First app products from Forethink. Developed with SWIFT and based on SpiralDonut content browsing engine development. All interaction, graphics, font design and coding is created by myself.

ALF | Number space usage visualization

Big data visualization design

Story

Big data visualization design project for a telecom operator. It helps to manage a list of bulk numbers of phone numbers. In this project, designed a simple & smart way to see states by abstract graphic visualization.

In the challenge, the design has to visualize 2.5 million number space in the bulk. A manager can display it to used/ free space, display a rate of number/address reservation, and control a space by deep diving into data space.

Challenges

1. Making 2.5 million data in a sight.
2. Creating abstraction models
3. Creating intuitive inspection methods for any abstraction level.

Solution

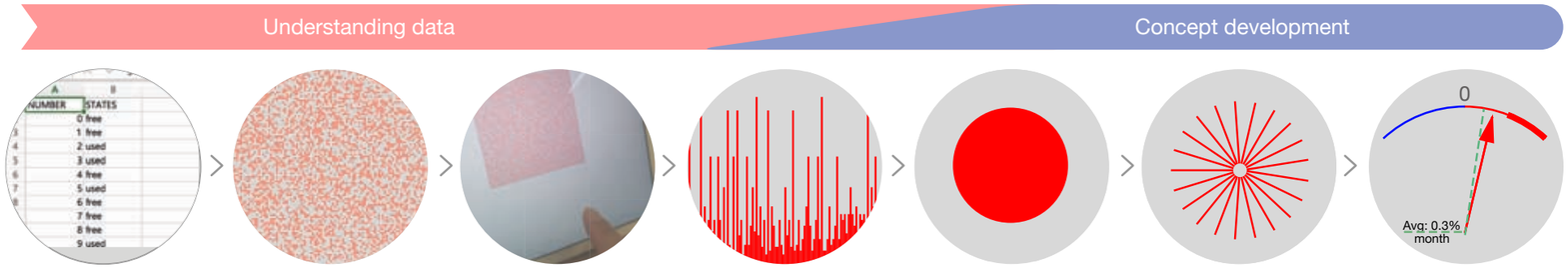
To test design, I created randomized 2.5 million raw data sets for simulation from miniTab. 10%, 30%, 44%, and 70% usage out of 10K set are tested on a prototyping app (iOS/Swift) and tested.

From area based visualization, found a visibility problem of the small-scale side. So designed a graphical mutation for alternative simplification class.

Along with number space visualization, dashboard widgets are designed to display performance indexes such as change rate, new reservation gauge, total usage, and usage projection. These are helping an operator to make a decision.

Final dashboard UI schematic (graphic design will be applied later) shows how to monitor key metrics, 2.5 million number space in a sight, and controls to manage blocks in an intuitive way.

Design process



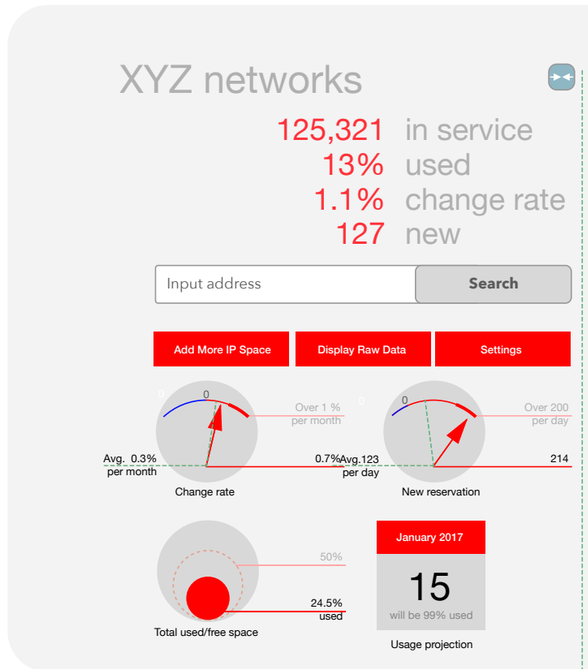
1. Generate sample data for simulation.
2. 100x100 sample data visualization
3. On display test prototyping app.
4. Histogram abstract visualization
5. Circle area visualization
6. Graphical mutation visualization
7. Performance rate meter gauge: Showing new number space increasing rate. Comparing with average rate of previous month (green)

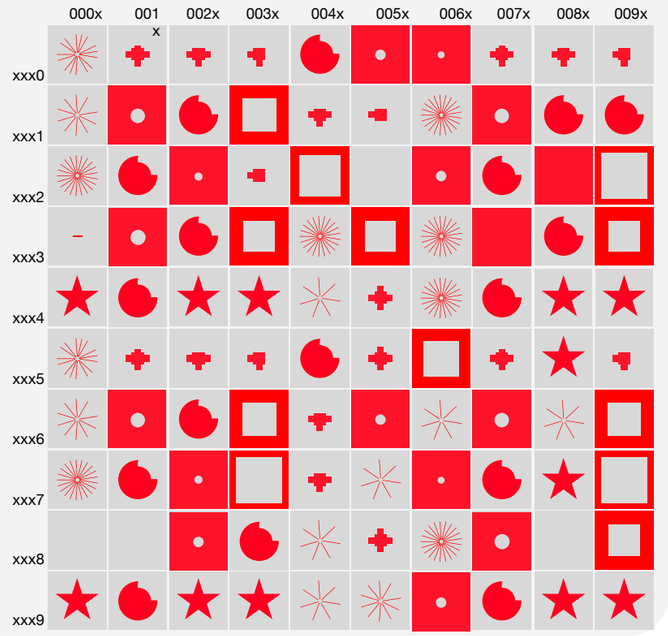
Distinctive graphical mutation for usage display unit

Simple circular area chart: unit size $S = u^2$, used space is πr^2. An intuitive way of displaying used amount but it is hard to see when the used area is small.

Graphical Mutation Visualization: More distinctive shape from small-scale, effect of growing makes it animated.

Dashboard UI schematic





ALF | Product Service System Design for a Flight Luggage Weight Management

Doctor in Design

Abstract

My doctoral research is about how social trust can be a design factor for a social product service system. Finished at 2015. Hong-ik university, International Design school for Advanced Studies. Seoul, Korea. The doctoral thesis focus on the problem in a flight luggage service system.

If airlines can manage total luggage weight for a flight, they can save cost, carbon footprint, and more. Often travelers bring heavier carry-on luggage. The weight of check-in luggage is easy to know but they can't know total weight until last moment before a flight. There are interests conflicts between travelers and airline. For resolving this, the social trust level is the important design factor.

Proposed 3 models each based on the different social trust level. Using social trust level as a design parameter, develop models by simulation and survey models through iterative design rounds. An ideal model is not just a high social trust-based vulnerable system nor costly full surveillance system.Finally, proposed to drive the system for finding mutual benefits by adopting an efficient system.

Models

Build, measure, and learn is the iterative design framework of PSS design method here. Initially, proposed 3 models for travel weight measuring, and reporting system. Product and service elements are combined. After design rounds, models are analyzed for operational range, operant conditioning.

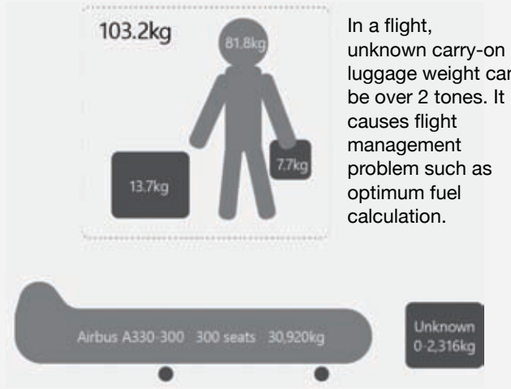
Test

From the simulation, finds an operational boundary, which can be managed by a positive/negative punishment strategy. For airlines, the Self-Service web is preferred. It can be cost-effective, scalable and can be effective in managing operational boundary. But vulnerable for low trust.
From the survey, auto weigh gate is welcomed by travelers. but it costs high and not scalable. Privacy concern is issued as well.

Conclusion

The high social trust PSS cannot be a panacea. Instead, user-centred design principles and social norms in a society should be respected and pursued. Suggests that the designers should endeavour to find a way to drive the system for a better tomorrow. The system may use positive/negative reinforcement for control social trust level in the system.

Challenge

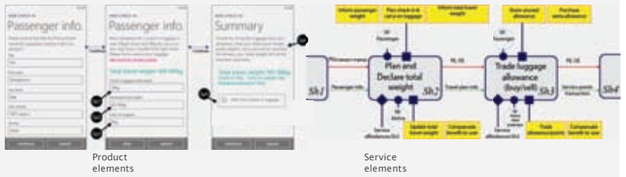


In a flight, unknown carry-on luggage weight can be over 2 tones. It causes flight management problem such as optimum fuel calculation.

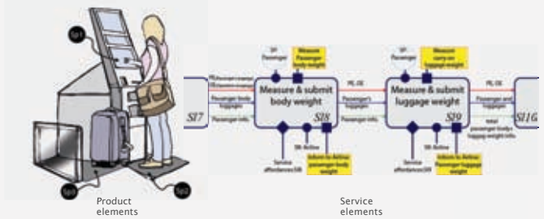
If one kilogram is reduced for a flight, 5 tonnes of Carbon footprints and 2M USD fuel cost can be saved per a year from top 100 airlines.

Solution models

Self service mobile app



Self service kiosk



Auto weigh reporting gate

Analysis

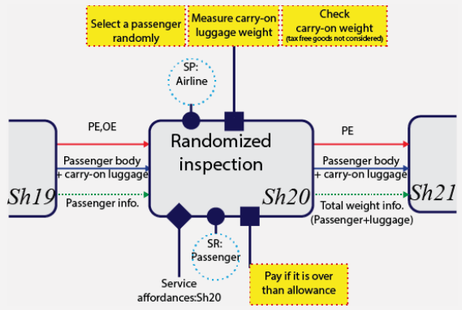
Social Trust Level	Cost	Scalability
High	Lesser	High
Med	Med	Low
Lesser	High	Low

High social trust level is required

Privacy issue is critical

High cost, difficult to maintain

Positive/Negative Reinforcement



After self-reporting, randomized inspection can be a negative reinforcement strategy for managing the system.

For positive reinforcement,

Sharing luggage weight allowance service can be an effective system to save weight, control weight, and encourage high social trust level.

ALF | Nokia Motion Monitor

User eXperience design

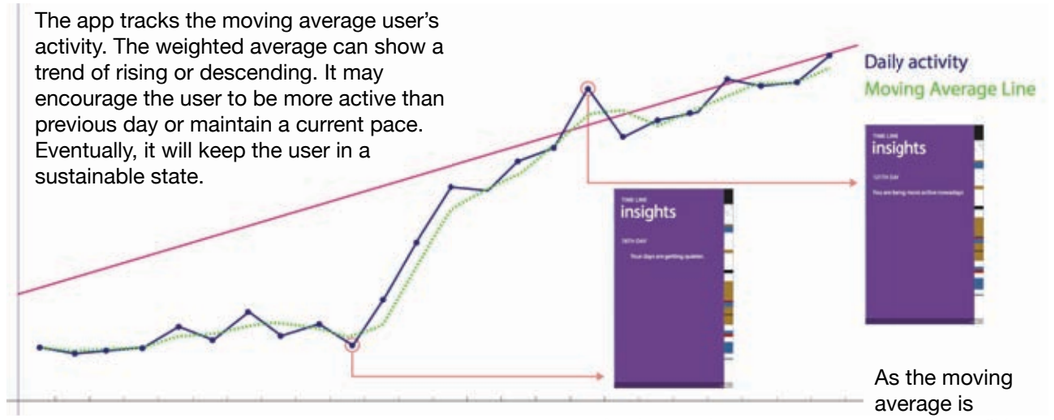
Story

Nokia Motion Monitor app for Lumia phone tracks your physical activity – both steps and other motions – and shows just how much you really move.

The Timeline is where your daily activity is recorded. Here you can see when you were moving, how intense activities was and your total step count. The Events view gives insights into your motion and summaries of your day, while the Week and Month views will help you discover if there are any patterns to your movement.

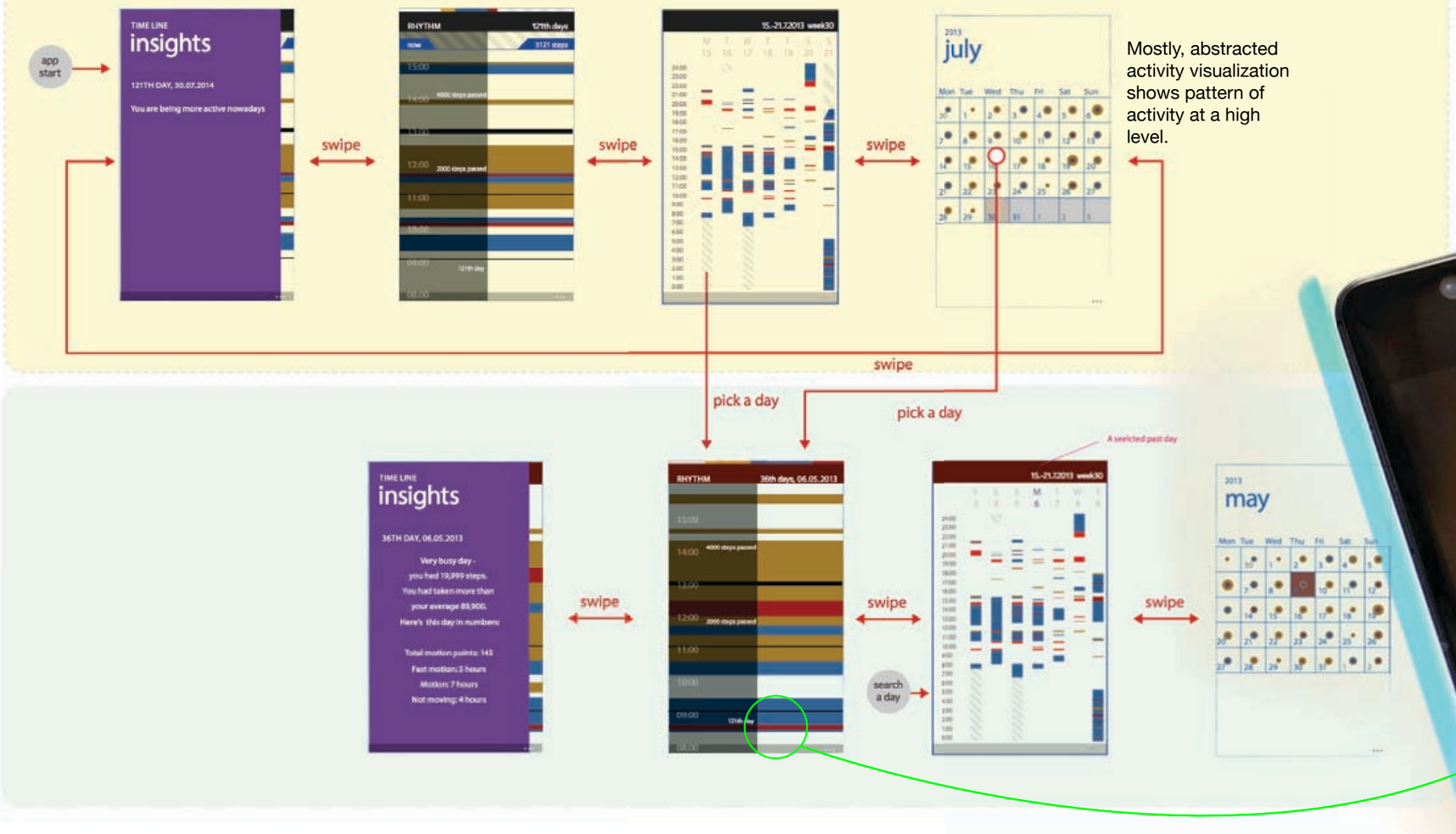
I created the basic architecture of motion class, insight logics, visualization, and all UI flow.

The app tracks the moving average user's activity. The weighted average can show a trend of rising or descending. It may encourage the user to be more active than previous day or maintain a current pace. Eventually, it will keep the user in a sustainable state.



As the moving average is decreasing. "78th day, your days are getting quieter."

As the moving average is increasing. "You are being more active nowadays."



Mostly, abstracted activity visualization shows pattern of activity at a high level.

Display activity summary and timeline on the Glance screen (always ON screen) of Lumia phone