Otso Case CodeCamp - Winter 2015

Group 1

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1. Introduction

Code camps are special events in which a case of study is solved in teams creating software in a fixed time, Lappeenranta University of Technology and LTC-Otso proposed the Otso case code camp for offering a real problematic that can be solved via coding opened to creativity of the participants.

Otso Company wishes to enjoy a professional business services for insurance clients and to expand its services from traditional "insurance risk" to more complex business partner services in a way that it is able to create a network of companies for its clients where seeking additional services and new subcontractors would be less risky for clients due to community feedback and insurer's risk data.

2. Business Case

Manufacturers build a chain of subcontractors for deploying their products, in many cases, they have a lot of companies that serve their services and selecting the best ones for certain assignments of products could be a difference between providing a good customer experience or a bad one.

Otso showed the case offered approaching this problematic in three main different ways:

First, creating a mobile app or web page for the customer to give feedback on his experience.

- o What does the feedback form look like?

Second, creating an app or a web UI where the manufacturer can manage his subcontractors

- o Manufacturer should be able to create an assignment...
- o Add subcontractors to it...
- o And choose the customers to send the feedback request to
- o Manufacturer should have a "scoreboard" view of the assignment and another for all his subcontractors

Third, Creating an app where the subcontractor can browse feedbacks from his services and see a "scorecard" of his performance:

- o What does the scorecard look like?

3. Brainstorming

Immediately finished the Otso presentation we gathered the whole group trying to find out which of the three options are the most affordable taking account the team member skills. We used to write our ideas on empty sheet of papers, sketch some thoughts in a form of diagrams, discuss them to each other and finally we came up with an idea for implementing the second point "Create an app or a web UI where the manufacturer can manage his subcontractors".
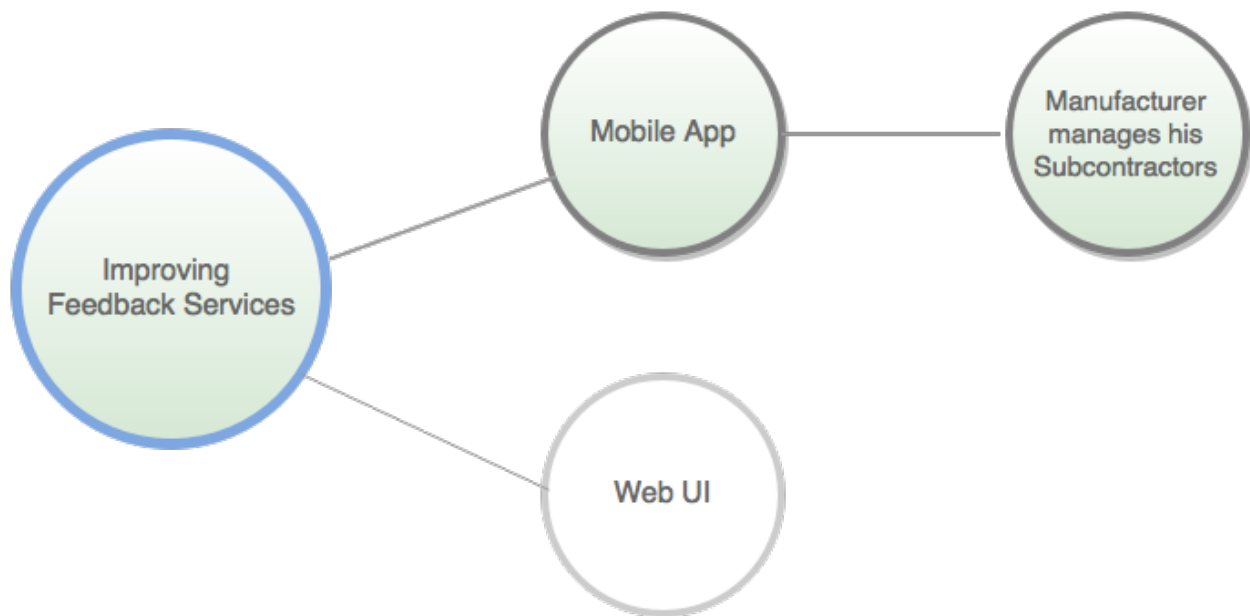

Figure1. Brainstorming to recognize the desired task

4. Solution

Based on the requirements, we decided to develop a mobile application which could be a
manager for the manufacturers that is able to create different subcontractors configurations for
different assignments and getting charts of a set of quality markers in a beautiful way and at the
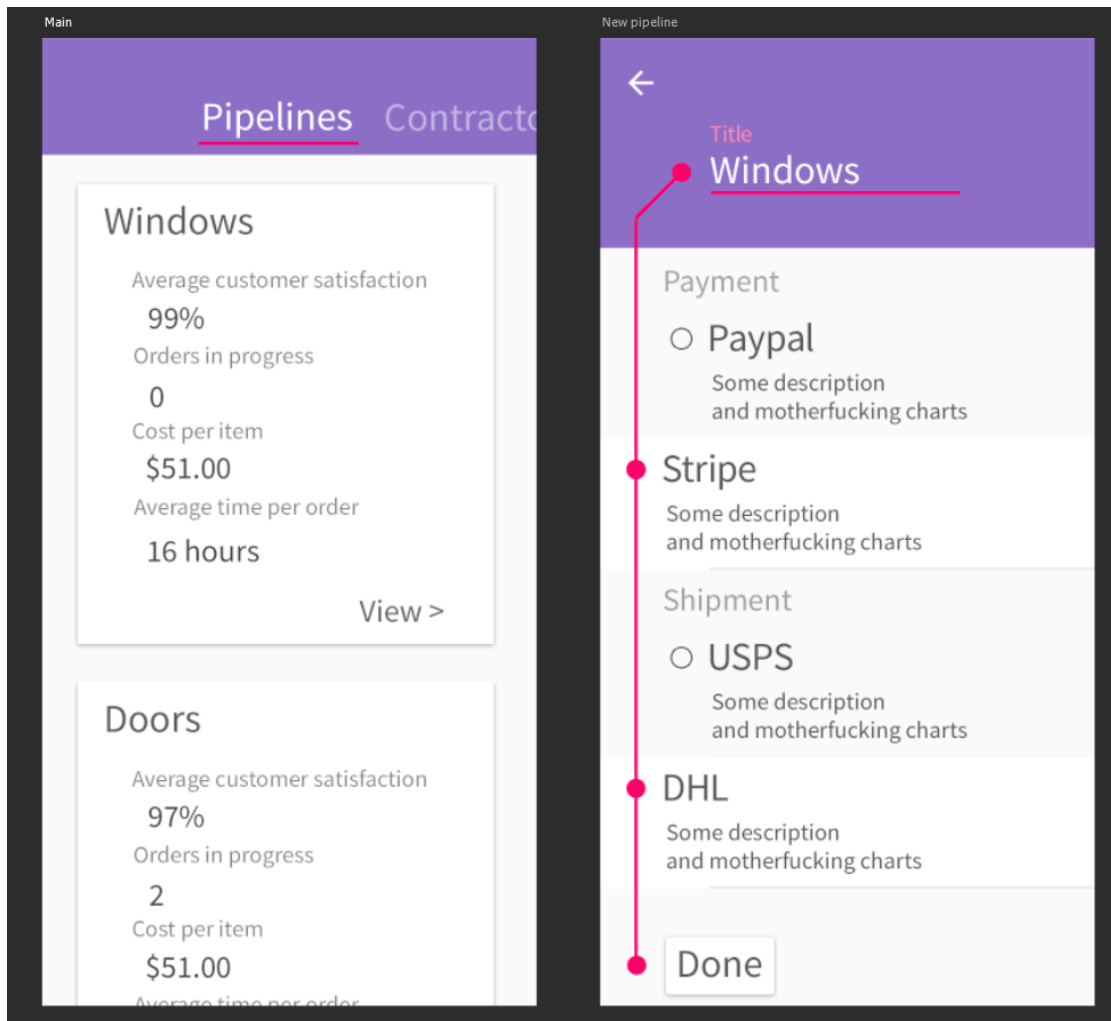same time check the latest final customer feedback with more specific data.

Figure2. The main Skeleton

Figure 2 demonstrates the first prototype of the idea we made. Starting to develop, we changed
some features. On the other hand, some other features and the main skeleton were kept and
used to start coding.

5. Technologies

All of the team members wanted to learn and experiment with technologies never used by each, so we embraced the proposed by the organization with some changes.

For deploying and wrapping the application PhoneGap is used because it gives flexibility for deploying in all the platforms with the same code. Moreover, for making the screens structure and hooking the events of a mobile platform JQuery Mobile framework is used.

Although being interested in web technologies, we also think that a mobile application should look in concordance with the rest of the design language of the host operating system and the styles provided by default from JQuery Mobile did not fit with this approach. Therefore, we started to find alternatives until we come up with Native Droid 2. Native Droid 2 is a theme for JQuery Mobile that reproduces the Material Design style of Android devices.

At this point the front-end technologies are selected, and it is the time to think if we could make a back-end for creating more real network architecture to the app, but the result was that it would be out of the scope and the time consumption in the development was not enough.

Finally, it is ended with a set of fake data, stored in JSON format as source of data read dynamically by the application.

Figure3. Icons of Adopted Technologies

6. Features & Working Strategy

6.1 Features

From the manufacturer perspective the list of features that are desired to achieve are the following:

- o   Assignment creation with different subcontractor configurations
- o   Subcontractor catalog for browsing in a friendly way and get information in detail
- o   Charts of subcontractors performance for each assignment
- o   Browsing recent customer feedbacks
- o   Native-like user interface

6.2 Working Strategy

Because all of the group members had difficulties for attending physically every day of the code camp to the university, we decided working remotely and stay in touch using Slack and coding using a shared repository on GitHub (https://github.com/kronosnhz/Erlangen).

All the code contributions along the week were done using GIT version controlling system and we meet the last day morning at the university with the goal of the code finished and starting to prepare the presentation.

7. Workflow

In following screenshots, one can find different stages of completing the project.

Assignment Manager

ASSIGNMENTS   SUBCONTRACTORS

Windows
PayPal - DHL - Jamawkinaw Inc - ACME

Average customer satisfaction
45%
Orders in progress
4
Cost per item
$23.00
Average time per order
8 hours

VIEW

Doors
Stripe - RoyalMail - Jamawkinaw Inc - Bask

Average customer satisfaction

+ ADD

New assignment

Name:
My new assignment

Payment
PAYPAL ⌄

Shipment
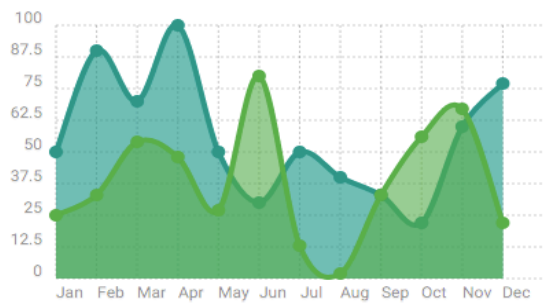DHL ⌄

Deployment
JAMAWKINAWINC ⌄

Support
ACME ⌄

CREATE

CANCEL

← Windows

Payment

Paypal

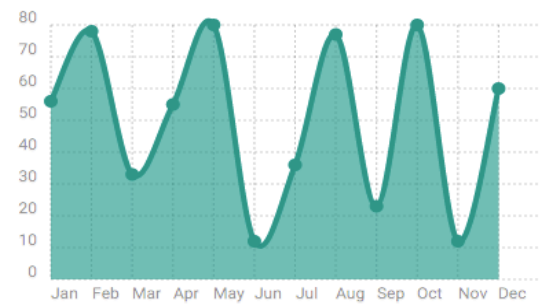Successful payment rate | Transaction cost

Shipment

DHL

Lost ratio | Damaged ratio

← Windows

Support

ACME

Incidences

RECENT FEEDBACK

← Recent User Feedback

☺ John Doe

Payment

Payment Method: Paypal

Payment Processing Time (hours): Immediate

Transaction Cost (%): 1

Shipment

Delivery Time (days): 2

Lost: false

Damaged: false

Deployment

Time Between Shipment and Deployment (days): 24

Installation Time (hours): 2

Incidences: false

Support

Assignment Manager

ASSIGNMENTS   **SUBCONTRACTORS**

Payment

PayPal

PayPal Holdings, Inc. is an American company operating a worldwide online payments system. Online money transfers serve as electronic alternatives to traditional paper methods like checks and money orders. PayPal is one of the world's largest internet payment companies. The

+ ADD

8. Concept Description

Each assignment contains an overview of how good it performs, with a chart for each metric, indicating change from previous time.

In the "New Assignment" view, there should be a switch in the footer (fixed to bottom of the screen) that allows selecting which subcontractors are going to being involved in it.

Each stage has 3 stats generated from reports by subcontractor and one filled by the owner of the company (subject to change):
1. Time per order, hours
2. Cost per order, USD
3. Issue percentage, %
4. Notes (can be used to describe complex cost formula or some context), Text field

Each report contains:
1. Date & time order was received.
2. Date & time stage was completed
3. Cost, USD
4. Success / Failed flag, Boolean
5. Comments, Text field

Feedback from the order consists of 3 fields per stage + overall experience mark and a notes section:
1. Did you have issues on this stage? Boolean
2. How fast was this part of your experience? Integer (1-5)
3. How can we improve your experience on this stage? Text field

If customer had any problems with the order, feedback is turned into a ticket for support stage. On it, subcontractor contacts the stage where problems occur (and marks them as Failed) and makes sure issues are resolved. After support closes a ticket customer receives a bloody feedback form and circle of life continues.
If the order spends more than average time on a stage, it is marked as sketchy or something.

Payment	Shipment	Deployment	Support
• Average payment time • Success Payment Rate • Cost /Transactions	• Average Time • Lost Ratio • Damaged	• Time passed From Arrived • Installation Time • Incidences	• Solved • Number of Tickets • Incidences

Table1. 4stages of Business

9. Conclusion

This code camp has been a good way for learning how to use technologies widely used at the industry like PhoneGap and a good approach to the business problematic that Manufacturers Company faces every day.

The tools that are used for problem solving are polyvalent and powerful and give the opportunity for using them later in new projects.