User research plan for the Cleaning Functionality of the HelpMeBake App

Date: 2020-03-29
Author: Dirk Kalmbach, Data Scientist & Baker, dirk.kalmbach@me.com

Study 1: Semi-Structured Interview

Background

I am a baker and tech guy who worked for several artisan bakeries in different countries in the last 20 years. During that time I learned the "pitfalls" in artisan baking and the need for technical support to overcome these. In my last job, my Boss asked me to digitize our business, mainly the production processes. Although this task has not been finished yet, I want to use part of that knowledge to create a business framework for an artisan bakery franchise concept (WeHaveBread.com) to help small artisan bakeries to operate their business efficiently. This framework aims to offer standardized but also highly individualizable solutions for workflows in artisan bakeries. It shall help establishing and running a small bakery with a minimum of capitalization.

This is a study of the possibility of designing a mobile app called *HelpMeBake* as a vital part of the WeHaveBread.com concept to support baker in their daily workflows. The future app will have different functionalities, like recipe administration, SOP development, production planning, etc. But with this study I focus on the (probably most annoying) tasks in every bakery: the cleaning and hygiene processes in the bakery kitchen.

Research Goal

I want to learn how bakery staff can be motivated to finish the daily, weekly, monthly, etc. cleaning chores. I would like to find ways to do this in a more collaborative way. I want to learn more why specific cleaning tasks are postponed, while others are finished in time. How the staff coordinates who is doing which task and how to help them to decrease the level of annoyance.

1. Learn as much as possible for designing a simple, intuitive and functional mobile app interface for storing what has been cleaned, when, how and by who.

2. Learn more about how the staff is doing the cleaning tasks, how motivated they are and in which circumstances the chores are not finished

3. Use the collected data for reports addressing stakeholders (e.g.: hygiene inspectors)

Research Questions

- [Needs] Organization, Input & Output *What are the guidelines, standards and outcome of the cleaning task?*
    - Is there a Checklist?
    - What are the cleaning intervals?
    - How can we ensure that cleaning will be collaborative, e.g.: everybody is committed to do his/her part (supervised or older baker should not simply delegate it to younger baker)?
    - How can big cleaning chores (like annually cleaning of the oven) be distributed over more than one shift by sharing the task?
    - What happens if something wasn't cleaned?
- [Behaviors] Process *How is the cleaning process organized?*
    - How do they decide what should be when cleaned?
    - When are they cleaning (during work, at the end of the shift?)
    - How do they document the results?
- [Behaviors] Acceptance *Will baker accept an app to document their cleaning chores?*
    - How must the app be designed to facilitate the documentation?
    - How can the app motivate them?

Method & Recruiting

I conduct 20-30 min semi-structured telephone interviews to collect in-depth qualitative data from at least 3 employees in a bakery:

- Master baker (supervised position)
- Baker
- Apprentice
- Kitchen aids

and at least 1 person who is in charge/controls/supervises the bakery:

- Store manager
- Owner
- General Manager

To recruit participants, I will send text messages to my former colleagues to ask for a telephone interview.

Interview Questions

Introduction

Hi, [name of interviewee]. How's it going? I am currently working on a project to support artisan bakeries. It's an app which should support the bakers during their work. I would love to learn more about your experience and needs for your needs and at work. This interview will take about 30 minutes. If you want to leave the session or take a break at any point, please let me know. Do you have any questions before we start?

Do you mind if I record this session for note-taking purposes? The recording won't be shared with anyone outside of our team.

Warm-up Questions

1. These are crazy times right now. How is the situation at your work during the Corona-Virus pandemic?

2. Did you change the workflows because of the pandemic? Did you change the hygiene checklists?

Bakers

1. Do you like cleaning the bakery?
2. When do you usually clean?
   1. Beginning of my shift
   2. End of my shift
   3. During my shift whenever I have time
   4. Depends - always different
3. Do you have a cleaning checklist?
   1. Yes
   2. No
   3. Just some kind of a rough framework/guideline
4. Can you give a rough estimate about how long your cleaning tasks take (e.g. 10 minutes, 30 minutes)?
   1. <5 min   ____ % of all tasks
   2. 5-10 min   ____ % of all tasks
   3. 10-30 min   ____ % of all tasks
   4. 30-60 min   ____ % of all tasks
5. How do you decide if your cleaning task is finished?
6. Are you satisfied with how your colleagues cleaning the bakery?

1. if not: explain why not / give me examples

7. Do you use your smartphone during work?
   1. Yes
   2. No

8. What type of smartphone do you have?
   1. iOS
   2. Android
   3. Other _____

9. How often do you use your smartphone during an average shift?

10. Can you describe how you use your smartphone? Do you use it with one hand - and if: which hand (left/right) or do you use it with two hands?

11. Are you right- or left-hander?
    1. right
    2. left

12. Let's imagine you have an app on your iPhone which assists you with your cleaning tasks. For example, it let you document the results or suggests what needs to be cleaned next, can give you tips for cleaning, etc. It also helps to collaborate between the bakers when it comes to cleaning: one baker can start a cleaning task, another baker can finish it. And every baker can see how much every baker was involved into cleaning.
    What do you think about such an app?
    1. _____

Management

1. Are you satisfied with how your kitchen staff is doing the cleaning?
   1. yes
   2. No, because _____

2. Would you say that your kitchen staff collaborates when it comes to cleaning, e.g. they work together, discuss the cleaning schedule? Or would you say, its more a hierarchy where one baker advises the others?

3. Do you have a checklist for cleaning?
   1. yes
   2. no, why not?

4. Do you remember the last hygiene inspection?
   1. no
   2. yes --> can you tell me more about it?

5. How do you define a positive outcome of finished cleaning tasks?

6. How do you store/document finished cleaning tasks?

    1. *if not stored digitally* --> Have you ever thought about storing this information digitally?

7. same as Question 12 for bakers

Wrap-up

Thank you so much for sharing your experience and insights. Your answers will help me to build an app to support you during your valuable work. If you have any additional thoughts and comments, I would love to hear about them at any time. I can be reached at dirk.kalmbach@me.com. Hope you have a wonderful day.

Timeline

- Design proposal: End of March, 2020

- Recruiting: End of March, 2020

- Sessions: April 2-4, 2020

Methodologies

Literature research/laws, regulations, company guidelines: This would happen in any case, so I am putting this here by default. I am revisiting bakery and kitchen handbooks, company standards or guidelines (if any) and make myself familiar with the law, food regulations about hygiene in the food industry.

User Interviews: Both specific, as well as open-ended questions, will be asked to understand the baking personnels work flow: who they are, and how they decide when, how, and what to clean. Ask them to describe how satisfied they are with the hygiene standards, how they fulfill their cleaning chores, how they collaborate, and what happens if a colleague does not complete his/her chores?

Study 2: Survey

Cleaning Process and app acceptance

Background

In the previous study I found out that all bakers use their smartphone during work. I got some indications that bakers use their mobile phone most of the time with one hand and usually with their non-dominant hand.

Cleaning work are mostly less collaborative, less-liked and neglected tasks. The manage-

ment would appreciate a digital solution to store the cleaning outcome.

Research Goal

see Research Goals in Study 1

Research Questions

see Research Questions in Study 1

Survey Questions

Cleaning Work

1. Do you like cleaning the bakery?
    1. yes
    2. no
    3. depends
2. When do you usually clean?
    1. Beginning of my shift
    2. End of my shift
    3. During my shift whenever I have time
    4. Depends - always different
3. Do you have a cleaning checklist?
    1. Yes
    2. No
    3. Just some kind of a rough framework/guideline
4. Did it happen that you had to interrupt the cleaning process and continue later?
    1. no, never
    2. yes --> in how many cases does this happen on average: ____%
5. Did it ever happen that one of your colleagues did not finish his/her cleaning task and your had to finish it?
    1. no, never
    2. yes --> how many times in the last 30 days : ____

6. Can you give a rough estimate about how long your cleaning tasks take (e.g. 10 minutes, 30 minutes)?

   1. <5 min   ____ % of all tasks

   2. 5-10 min   ____ % of all tasks

   3. 10-30 min   ____ % of all tasks

   4. 30-60 min   ____ % of all tasks

Smartphone Use

1. Do you use your smartphone during work?

   a. Yes

   b. No

2. For what do you use your smartphone during work?

   a. calculating

   b. researching recipes

   c. other: _____

3. What type of smartphone do you have?

   a. iOS

   b. Android

   c. Other _____

4. How often do you use your smartphone during an average shift?

5. Do you use your smartphone with one hand?

   a. with one hand --> Which hand? ____

   b. with two hands

   c. depends --> Can you give a rough estimate how often you use it with one hand? E.g.: "In 30% of all cases when I use my phone during work, I use it with only one hand." ___%

6. Are you right- or left-hander?

   a. right

   b. left

App Acceptance

Let's imagine you have an app on your iPhone which assists you with your cleaning tasks.

For example, it let you document the results or suggests what needs to be cleaned next,

can give you tips for cleaning, etc. It also helps to collaborate between the bakers when it comes to cleaning: one baker can start a cleaning task, another baker can finish it. And every baker can see how much every baker was involved into cleaning.

1. What is your general feeling about using such an app? (Check all that applies.)

    a. "this sound like an useful app"

    b. "I don't like to be monitored in this way"

    c. "such an app would lead to more fairness when it comes to cleaning"

    d. "it's unfair: baker who are more experienced and are quicker with their baking will have more time for cleaning"

    e. "the result will be: my boss will use that information to increase our workload"

    f. I'm not confident that such an app will work properly

    g. Stupid! An app for cleaning is totally useless.

2. In the following table are some possible functionalities of such an app. Please evaluate every feature.

	Not necessary	Nice to have	Must have	I don't know
Picture-taking of cleaned item				
List of tasks with subtasks and checkbox when finished				
Automatic evaluation of cleaning results				
Menu with cleaning tasks and due times				
cleaning task can be sorted by different criteria (e.g.: how urgent, cleaning time, ongoing, etc.)				
Personal statistic of cleaning results (only visible for user)				
Personal statistic of cleaning results (visible for all user)				
adding new cleaning items/tasks				

3. The app will let you document your result by taking a picture of what you cleaned. How useful do you think this idea is?

    a. useful

    b. not useful --> why not? _____

4. One possible functionality of this app would be to evaluate the picture of your cleaning with a "perfect-cleaning-result" and gives the user an evaluation (like 90% perfectly cleaned). How do like this idea?

    a. "I strongly dislike it" - "I dislike it" - "I don't care" - " I like it" - "I very like it"

    b. If you disliked or strongly disliked it, can you tell my why? _____

5. For larger cleaning tasks (like monthly oven cleaning) the app lets you spread the task into sub tasks which can be checked separately (and documented with picture). Cleaning tasks can then be spread over more than one work shift (one baker starts the cleaning, the other baker finishes it). How do like this idea?

    a. "I strongly dislike it" - "I dislike it" - "I don't care" - " I like it" - "I very like it"

    b. If you disliked or strongly disliked it, can you tell my why? _____

Demographics

1. How many years have you been working as a baker?

    a. ____ years

2. What is your profession? (Check what applies)

    a. Master Baker

    b. Baker

    c. Cook

    d. Kitchen Aid

    e. no formal profession

3. What is your age? [Assumption: People in different age groups might have different smartphone usage pattern.]

    a. Under 18

    b. 18−25

    c. 26−35

    d. 36−65

    e. Above 65

4. In how many different bakeries/kitchen have you been worked so far?

    a. _____

5. Gender *(Int: don't ask fill out yourself)*

a. male

b. female

Method & Recruiting

- Screening:

  - kitchen staff (master bakers, bakers, kitchen aid, etc.) working in a bakery with less than 10 employees in the kitchen

  - cleaning must be done (at least partially) by the bakery staff

- Collect data from at least 30 bakers according to this quota plan (

  - left-handed: 1-2-3-4-5

  - female: 1-2-3-4-5-6-7-8

  - older than 50: 1-2-3-4-5

- Test survey questions with 5 volunteers recruited among my former colleagues