User experiences of a herd management programme in a mobile device

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Abstract

In 2009, MobiAmmu, a mobile version of the Finnish herd management and milk recording programme was launched. This version is mainly used for reporting calvings and other animal events directly from the shed, as well as for looking at individual cows' event and milk recording data right next to the cow. Over the years, the mobile version has attracted some 300 users. We conducted a study on how the users view the programme and what kind of things they would like to do with a mobile device in the future.

Keywords: herd management programme, mobile device, users

Introduction

With the advent of smartphones, it became obvious that bigger herds would profit from herd management software fit for the technology. ProAgria Agricultural Data Processing Centre launched its first version of MobiAmmu in 2009. It was delivered to farmers together with an HTC Windows phone. Since then, it has been reprogrammed twice due to technological changes and the default version nowadays is for Nokia Lumia Windows phones.

In the development process, careful study was carried out as to what kind of functions are the most necessary in this new technology, taking into account that it is used in the cowshed, right next to the cow. It was developed for use in reporting calvings, heats, lost eartags, animal sales and owner AI. It also contains lists of animals and reports of the individual animals in a very condensed form. Now, there is further development ahead, and we wanted to ask the customers what they want to improve and what they are satisfied with.

Material and methods

An internet survey was sent to 277 mobile programme users as extracted from the milk recording database. We received 76 answers, and 58 out of them also contained freely written textual answers.

We asked the users to rate how easy it was to take the programme into use, how good the instructions are and how easy it is to use the programme. Then we asked them to rate their satisfaction with different programme features. In the last part, we asked them five open questions:
1) If you are not satisfied with something in the programme, could you please state what it is the primary cause?
2) Please tell us how you chose to start using MobiAmmu.
3) What is especially good or easy in using MobiAmmu?
4) What is especially negative or difficult in using MobiAmmu?
5) How would you like to develop MobiAmmu to make it a better programme?

Results

The amount of users fully or very satisfied with how easy the programme is to take into use was 55%. In order to purchase the programme, the user first has to have established a Microsoft Live account and opened his Marketplace on the phone. For most people, this is one of the first functions with a new phone and the difficulty of doing this seems to have affected the user experience. On the other hand, those not very or not at all satisfied were only 8%.

In the next two questions, 31% were fully or very satisfied with user instructions while 55% were so with how easy it is to use the programme. Typically for our day, many said that they had never looked at the instructions. A lot of effort has been put into making the functions easy to use without instructions. Those not very or not at all satisfied constituted 10% and 8%, respectively.

In table 1 below we have a summary on the user experience in different programme features. Many of the features are not used in every herd and thus the amount of those unable to rate the feature is in some cases quite high. There was a lot of comments on the task lists being difficult to read or containing a suboptimal list of cows, and this seems to be an area to work on. The overall grade for most features was closer to very satisfied (3) than satisfied (2).

Table 1. User satisfaction of different programme features.

Feature	Avg. satisfaction[1]	Fully or very satisfied, %	Not very or not at all satisfied, %	Unable to say, %
Animal lists	2.8	62	3	9
Birth registration	2.8	64	8	19
Sales registration	2.9	67	3	20
Purchase registration	2.5	50	9	55
Lost tags registration	2.9	68	6	29
Heat registration	2.3	35	10	31
Pregnancy diagnosis	2.7	55	2	31
Dry off	2.8	60	4	35
Owner AI	2.5	58	21	46
Group functions	2.4	45	15	55
Task lists	1.9	23	35	20
Reports	2.5	56	16	22
Animal search	2.9	67	4	28

[1] Scale: Not at all satisfied = 0, Fully satisfied = 4. Averages and satisfaction figures have been calculated only for those who answered the feature in question, while those unable to say are calculated from all answers.

In the open questions, many users told their purchase of the MobiAmmu programme was based on the wish to see the latest animal data while looking at the animals and to report events, especially lost ear tags and owner AI, right on the spot. They also praised the programme for the ease of all this, not

having to take piles of paper to the cowshed or trying to remember events after returning to the home computer.

The main things that caused negative comments were the absence of an Android version and the task lists. Also, at the moment of the survey, there was a problem with how heifers were shown in the calving list and that gave rise to negative comments. Some people complaining about the alleged absence of certain features that are actually there in the programme. The main development points according to the users seem to be adding a possibility to register milk weights and making the programme available to users of phones with other operating system than Windows.

Conclusions

There are four important conclusions to be taken from this survey.

Users need reminders of the programme features and how to use them. We have prepared a package with the lacks that we saw in the survey and sent it to the users.

Task lists will have to be evaluated and at least partly re-written to make sure we get the right cows to the top of the list. The cows we want there are the ones that the farmer will have to do something to today.

Being restricted by the phone's operating system is bad. It has already caused the need to reprogram much of the programme. The future decision we have taken is to move to a mobile-friendly internet page that will make us independent of the different phone models. Our business does not really need the present speed of technological development.

Adding a milk recording feature to the programme was discussed in the development process and again after this survey. However, in perspective we see it more important to develop programmes for semi-automatic extraction of milk recording data from farm computers. In the new internet-based programme there will be a possibility to record milk weights, too.