

Blaise 5 at Statistics Norway

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1. Abstract

Statistics Norway has used Blaise 5 since late 2014. We decided early on to gradually replace Blaise 4 for web survey since we felt it to be increasingly outdated, especially the handling of layout and support for different devices (although we have had success with CMoto from CentERdata). Our view was then that Blaise 5 was superior for web surveys, despite of several crucial features that were still missing.

An important feature which was not finished in 2014 was Manipula. We overcame this by using the supplied data conversion utilities which allowed us to process data with external tools i.e. Blaise 4 Manipula or SAS. Another sorely missed feature was support for other database engines, which made access to Blaise data rather troublesome.

For the last couple of years new features has been added to Blaise at an impressive pace, which is good, because we now have many of the tools we have missed. But this has also presented us with challenges, the most important one that it's not advisable to upgrade a production server with active surveys without doing extensive (and expensive) testing first. Our solution to this challenge has been to set up two parallel production environments.

Even though the setup survey layout has greatly improved in Blaise 5, it can still be a challenge. Especially if there is a need (which there often is) to make changes to the resource database. The resource database is large and be confusing, perhaps much because of the extensive dependability between elements in the database. One of the great horrors of Blaise 4 can still present problems: namely tables. In addition extensive testing with different browsers and devices is still very important.

Blaise 5 now has many features we have waited for: Manipula, support for MySQL (for survey and audit trail data). The next step is integration with our Case management system (just around the corner), and thereafter exploration the CATI-functionality in Blaise 5.

2. Introduction

Statistics Norway has used CAWI as a collection method for social surveys for many years (since at least 2008), using the Blaise 4 software. While Blaise 4 has worked very well for us, and is continuing to do so, it is mainly for web surveys that the software has shown its age. The layout tools are not very user friendly, and the resulting web forms are increasingly looking outdated, especially for respondents using mobile devices.

We have followed the development of Blaise NG, now Blaise 5, with interest for several years. After attending a Blaise 5 layout training course in September 2014, we decided to phase out Blaise 4.8 in favor of Blaise 5 for web surveys, despite several shortcomings in the version of Blaise 5 available at that time.

3. Timeline

Below I will track the development of our Blaise 5 infrastructure and Blaise features in relation the deployed web surveys

3.1 2014

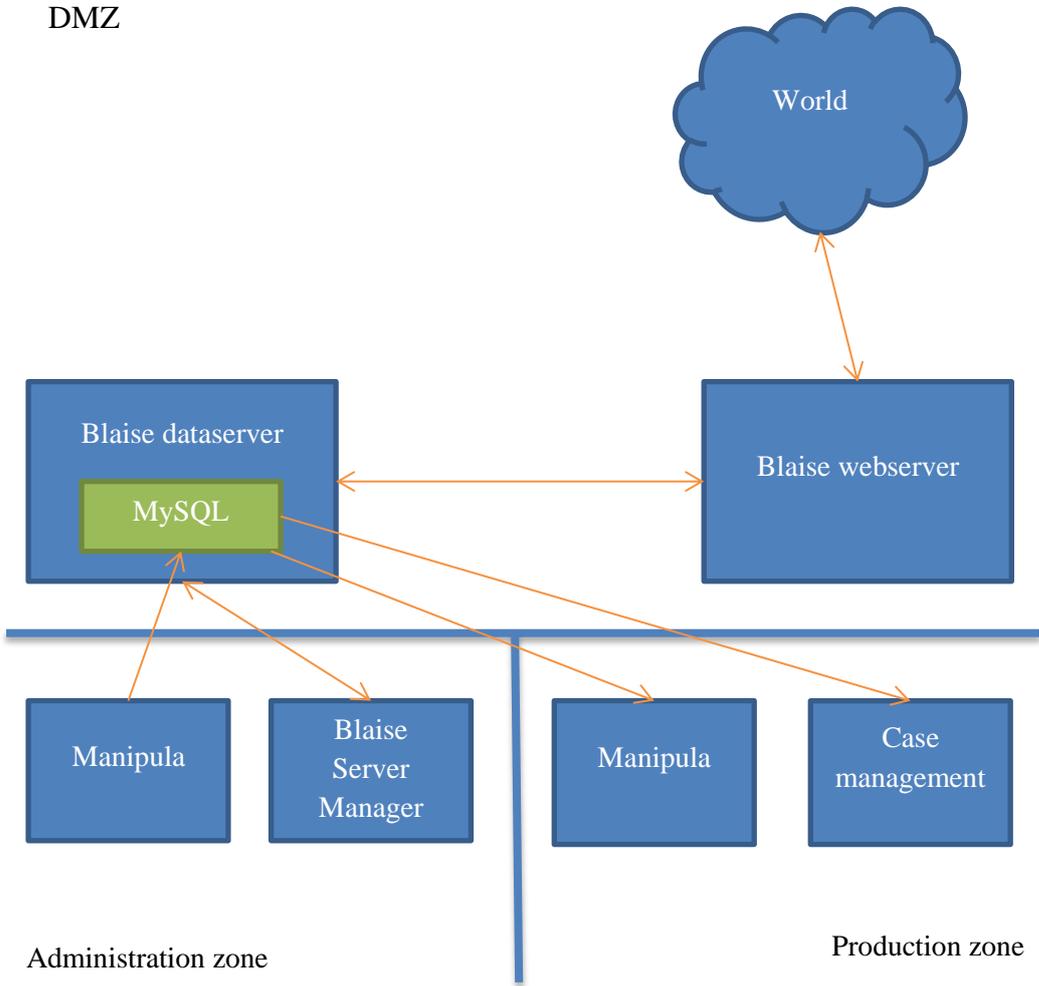
Our first Blaise 5 web survey, which was created when we came home from the Blaise 5 layout training course, was a small web survey aimed at international research institutions. At that time we had just a single server set up for Blaise, and it ran Blaise 4.8 and Blaise 5 in parallel. There were no

support for storage in external database systems, and no working Manipula. With the server located in DMZ, and only accessible through Remote Desktop, access to data was a real hassle. The instrument worked well, however

3.2 2015

This year we reached several important milestones. Firstly we set up two separate server environments, one for test and another one for production. Previously we use normal desktops machines for testing of new versions of Blaise, but this is not a satisfactory solution in the long run. Secondly, we split up the servers in a web-server and a data-server part for increased security. Blaise got support for storage in external database systems, so we set up MySQL on the data-server for storage of Blaise-data. Data on the servers were now accessible through a single port. A working Manipula also helped a lot. We also started testing of the Blaise app for Android

Figure 1. Simplified overview over the Blaise 5 environment at Statistics Norway



3.3 2016

Developments this year has been the introduction of a second production environment, which we introduced to handle upgrades of Blaise without disrupting running surveys. Because of this we avoid time consuming testing which would have been necessary to ensure that running surveys performed as expected on newer versions of Blaise 5. Additional improvements include storage of session- and audit trail data on MySQL-databases.

We had planned to utilize Blaise server events as an input to our case management system (SIV), but because of limitations in the implementation of server events in the then current version of Blaise 5, we decided instead use the audit trail database as a source for updating SIV. It works by monitoring the audit trail database for session start and session end events, and has been tested in a pilot of the Household budget survey.

4. Overview of Surveys

Table 1. Overview of Surveys

Survey	When	Multilanguage	Sample	Notes
<i>Research in Svalbard</i>	2014	No	250 (research organizations)	
<i>Price collection</i>	Yearly from 2014	No	Store managers	
<i>Rental survey</i>	Monthly from November 2015	Yes (2)	2500	
<i>Tourist survey</i>	Triannual from 2015	Yes (14)	3000	Mostly paper, but some with Blaise app
<i>Voters survey</i>	2015	Yes (6), including right to left	18000	
<i>Survey on ICT Usage</i>	2015	No		
<i>Members of council survey</i>	2015	No	428	
<i>Rental survey (for landlords)</i>	Approx. 4 times per year from 2016		Approx. 1500	
<i>Eurostudent</i>	2016	Yes (2)	24000	
<i>Statistics Norway's customers survey</i>	Quarterly	No	150	Customer experience survey
<i>CVTS</i>	2016 (to be conducted)	No		
<i>NorLag3</i>	2016/2017 (to be conducted)	No	7400	Mixed-mode (CATI Blaise 4.8, CAWI and paper)
<i>Housing and rent survey</i>	2016 (to be conducted)	Yes (2)	37000	
<i>Adult Education Survey</i>	2016 (to be conducted)	No	5000	Mixed-mode
<i>Household budget survey</i>	2016/2017 (to be conducted)	No	7500 households	Web survey part in Blaise 5

4.1 Examples

4.1.1 Voters survey

Following the 2015 municipal and county council elections Statistics Norway conducted the Voters survey. Previous voter surveys have usually been CATI-survey, but it was decided to primarily conduct the survey on the web, with paper as an option to selected groups. A specific concern was to examine voting behavior among immigrants and foreign citizens, and it was therefore important to present the survey in several different languages: Norwegian, English, Polish, Lithuanian and Somali. Translated texts were copied from a spreadsheet, and this worked quite well, including Urdu. We had some concerns that Urdu might present a problem, especially when setting up layout, but it worked well out of the box. As is usual for most of our survey, the Voters survey had a small and a large layout aimed at smartphones and PCs/tablets respectively (Lillegård & Torsteinsen 2016)

Figure 2. Voters survey (large layout, Urdu)

Statistisk sentralbyrå
Statistics Norway

Velgerundersøkelsen 2015

اب ہم آپ سے اس بارے میں کچھ سوال پوچھیں گے کہ کیا آپ نے اس سال انتخابات سے پہلے سیاسی مباحثوں یا بات چیت میں حصہ لیا ہے۔
آپ اپنے گھر والوں، دوستوں، واقفوں یا ساتھی کارکنوں سے کتنا اکثر انتخابات کے بارے میں باتیں کرتے رہے؟

- روزانہ
- ہفتے میں چند دفعہ
- مہینے میں چند دفعہ
- اس سے کم
- کبھی نہیں

بچھڑے اگے

Figure 3. Voters survey (small layout, Urdu)

Velgerundersøkelsen 2015

آپ کو بالعموم سیاست میں کتنی دلچسپی ہے؟ کیا آپ کو ...

- بہت دلچسپی ہے
- کافی دلچسپی ہے
- کم دلچسپی ہے
- بالکل دلچسپی نہیں

Figure 4. Voters survey (small layout, English)



4.1.2 Tourist survey

The Tourist survey is mainly a conducted on paper, but is also implemented as a Blaise Android app. Data is collected at hotels and camping sites, and the questionnaire is translated to 14 languages (Haslund 2015).

Figure 5. Tourist survey Blaise Android app



4.1.3 Screenshots from other surveys

Figure 6. Housing and rent survey (small layout with help text)

Bolig og husleie 2016

<
>

? Kor mange andre opphaldsrom med vindaug har bustaden?

Ta ikkje med kjøkken, bad og WC.

Andre opphaldsrom Med andre opphaldsrom meiner vi hovudsakleg stuer og arbeidsrom.

Figure 7. NorLag3 (large layout with table)

Statistisk sentralbyrå
Statistics Norway

Livsløp, aldring og generasjon

Nedenfor ser du en liste over egenskaper folk kan ha. Hvor godt stemmer dette for deg?

	Kun ett svar per linje				
	Stemmer ikke i det hele tatt	Stemmer nok så dårlig	Stemmer delvis	Stemmer nok så godt	Stemmer helt
Pågående	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forståelsesfull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Har lederegenskaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hengiven	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trøster gjerne andre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forsvarer mine meninger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viser medfølelse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Villig til å ta sjanser	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Øm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selvhevdende	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Følsom for andres behov	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viljesterk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Forrige
Neste

5. Successes (and some obstacles)

Overall, the introduction of Blaise 5 at Statistics Norway has been a success and we have used Blaise 5 for many surveys since the modest beginnings in 2014. I will try to outline some of the advances which have been of use to us. Firstly, the most obvious change is the Blaise 5 Control Centre which is a considerable improvement. It took some time perhaps to get used to organizing everything into solutions and projects, but this a great help in keeping track of all the files belonging to a specific survey or project.

The editor is much better than before. Personally I have used external editors such as TextPad and Notepad++ for years, instead of the rather primitive Blaise 4 editor. The built in editor now has most of the features one has come to expect. Proper UTF support, for example, makes it quite a bit easier to deal with multi language surveys, including right to left languages such as Urdu.

While the Blaise language is more of less the same as before, there are new useful features here too, such as text roles, and groups. Both features we have used extensively, although it has to be said that groups must be used with care, as it can lead to code which is hard to read and follow.

The biggest change is of course one of the most obvious improvements, and also the main reason we began making the switch to Blaise 5 in the first place. Setting up satisfactory layout in Blaise 4 is not trivial, and the support for small screen sizes is poor. These factors were important when we made our decision to switch to Blaise 5. There are still some issues which can be troublesome, and I will come back to that later, but it is overall fair to say the layout handling in Blaise 5 is in a higher league altogether. I will not go into much detail here, but such a thing layout set, makes it quite easy to support small and large screen sizes. An increasing proportion of our respondents use smart phones, so it is quite essential that our surveys work well on small screens. We have found that it is always worthwhile to first create layout for small screen sizes, and then move on to a layout for larger screens. The reason for this is that generally, a survey which works well on a small screen, will also work well on a large screen, but not necessarily the other way around.

The server environment has on the whole been very stable. Storage of both survey and audit trail data in external databases is easy to set up, and also improved access to data. The ability to store audit trail in a common database opens up for numerous potential uses. Some performance issues have occurred, but these have largely been self-inflicted. We learned for example the hard way that simultaneously sending 24 000 SMS invitations *can* be a bad idea.

We have also encountered some obstacle during the last two years. Some problems has been due to missing features in Blaise 5, mainly related to storage and missing Manipula, but these has been known issues where there have been alternatives. The issues that have caused most headaches are related to differences in behavior and incompatibility between versions of Blaise 5, and some layout related issues.

We have found that it is not advisable to upgrade a server with a running server without doing very extensive testing beforehand. The problems were usually unpredictable changes on how layout is rendered. The fast development of Blaise 5, where every release contains important new features, has made it necessary to upgrade to new versions quite often, but this issue is especially critical if a serious bug has been found, forcing an upgrade within a very tight timeframe. Fortunately CBS has been able to backport fixes, when we have encountered such compatibility issues, although we hope that unpredictable incompatibilities between releases will be resolved or at least improved in the future.

The resource database which contains all layout elements, standard text, etc is also a source of some concern. Adapting the database to our needs, that is applying styles, logos, font sizes and translation of languages, can be quite time consuming. When switching to a newer version of Blaise, it is possible to export the resource database to XML and copy and paste the modified portions into the resource database of the newer version of Blaise 5. This process is not always successful, and it can be difficult

to figure out why it fails. Also, importing modified design elements and templates based on an older version of the resource database may not be desirable, because the original design elements and templates has been improved by CBS. Our approach now is to make as few changes to the resource database as possible, having in mind that any changes should be easy to implement in future releases of Blaise 5.

In our experience, layout is normally easy to set up in Blaise 5, and there have been made considerable improvements in the resource database during the past two years. One area which still is challenging however is tables. It still takes quite a bit of work to create satisfactory tables, but we are confident that this also will be solved in future releases.

When it comes to support from the Blaise support team regarding the issues we have encountered, the response have always been prompt, friendly and very helpful. This support has of course been essential for us.

6. Future

Currently, we are only using Blaise 5 for web surveys (although we have also used the Blaise Android app). In the short term will finalize status synchronization from Blaise 5 to our case management system, SIV. This will remove the need to do many time consuming manual operations, and will hopefully free resources to expand the use of Blaise 5

Looking a bit further into the future:

- Testing and implementation of Blaise 5 for CATI. We plan to do this gradually, and will probably run both Blaise 4 and 5 for some time still.
- Working towards a common portal with more secure authentication for all surveys running on Blaise 5.
- Possible replacement of CAPI-PCs with tablets and the Blaiseapp.

7. Conclusion

Replacement of Blaise 4 with Blaise 5 for web surveys at Statistics Norway has on the whole been a success, and has seen numerous improvements both of the software itself and the our internal infrastructure supporting in. We are impressed with the progress made during these last years, and are looking forward to expand the use of Blaise 5.

8. References

Haslund, Jan. Tourist survey from Blaise 4.8 to Blaise 5 in Norway. The 16th International Blaise Users Conference, 2015.

Lillegård, Magnar and Torsteinsen, Arnhild. Velgerundersøkelsen 2015, Dokumentsasjonsrapport. 2016.