



Chapter 1 – Introduction (0:08)

The customer we are featuring in this success story is a specialty egg company based in the Midwest. Their network of over 100 farms comes from several Amish communities and is spread across the country. They produce organic, free-range eggs for multiple companies which then sell to the public under various brand labels, such as Egglord's Best. Currently they are in the Top 10 nationwide for the organic, free-range egg category.

Our presentation will begin with a summary of the business problem facing our client, followed by a general overview of the custom solution we created to solve the problem. This will feature a brief demo to showcase the integration of data through the various elements of their system. In addition, we will address some of the challenges faced during the development and deployment of the custom app. The session will conclude with the key results impacting our clients productivity and profitability. As a reminder, we will post a link for further information at the end of the session.

Chapter 2 – Business Problem (2:38)

Welcome to chapter two and our overview of the business problem for the project. During the initial phone conversation regarding the project, there was a comment about creating a simple iPad app to “collect 7 to 10 fields of data each day”. During the follow-up meeting with the client it became apparent the scope of the project was more complex than described in the initial phone conversation.

At the conclusion of an extensive discovery process, which included an on-site visit to a production facility, we determined the initial phase of the project would be focused on Data Acquisition. The main component of their current workflow relied on handwritten, paper forms to gather the daily production data from the majority of the farms. This manual, paper process was extremely prone to farmer documentation errors. Because the forms were submitted on a bi-weekly basis, some of the data was almost two weeks old before the office staff was able to review it for potential issues. Although the forms were submitted via e-fax, and a very small number were submitted in custom excel spreadsheets, essentially all of the data required duplicate manual entry into the office admin system. Again, this process was extremely susceptible to manual data entry errors.

Once the data had been acquired, it became apparent the next phase of the project would need to focus on data analysis. For the company to truly leverage the ability to make “data-driven” decisions, they needed the ability to quickly and easily visualize the data. While the data analysis for a single flock was important, the ability to aggregate that data company-wide, was critical to facilitate efficient and effective business decisions. Some farmers had developed “home-grown” excel spreadsheets, but the lack of standardization prevented widespread analysis of the data across the company. While breed standards for production are available to everyone in the industry, they are general in nature and may not reflect the specific factors impacting farms across the country. It became apparent the development of internal, proprietary, company-based breed standards would be extremely valuable and would represent a competitive advantage.

Once we clarified the key business problems as Data Acquisition and Data Analysis, we were ready to proceed to the next step of the NaviCu™ p2s Platform to develop solutions to these business problems.

Chapter 3 – Problem-to-Solution (p2s) (5:28)

The solution to the data acquisition problem was the creation of a custom iPad app developed using Clarix FileMaker and leveraging the NaviCu™ p2s Platform. The Farmer App initially allowed the farmer to enter their daily production totals in a simple, easy-to-use workflow. The next version of the Farmer App, added the ability to also track various factors which directly, and dramatically, impact the performance of the flock. The latest version of the Farmer App allows the farmer to quickly see the data aggregated over various periods for the entire history of the flock, which can extend to 80 weeks or more. The custom app also allows them to easily compare their flock performance data, and metrics, to industry established breed standards.

(Farmer App Demo)

The custom Farmer App is designed to run locally on the users iPad for maximum performance on a large dataset. The login credentials for the farmer can be stored in the keychain, and the Farmer App is then opened by clicking the app icon on the iPad.

In the custom app, I then click the next date button to automatically start entering data for the correct date. For the demo we use fictional data to highlight the custom app features. In the Farmer App, certain fields are pre-populated and key calculations are shown to speed data entry and reduce errors. This real-time insight into the data provides immediate feedback of potential issues. Required fields are colored until entered, and they must be completed to submit the data. The farmer has the option of entering partial data during the day, or all at once at the conclusion of the day.

Once the data has been Saved, we will perform a sync. This will transfer the data from the farmer's iPad to the admin system hosted on an AWS server. A message will indicate when the sync has completed and will show the data which has been transferred. In this case the sync took less than 6 seconds to complete.

By changing the Sort for the data, the farmer can aggregate the information based on the desired period. Built into the Farmer App is the ability to generate summary and detailed reports based on the desired time period. These reports can be printed from the iPad or distributed to other staff.

With the wealth of valuable data stored within the custom app, the farmer has the ability to directly analyze that data for each of the key metrics and compare them to breed standards. This provides real-time insights into their data, which drives increased productivity, efficiency and profitability.

Once the Farmer App had been deployed a steady stream of real-time data was being uploaded from the custom apps to the central server hosted on AWS. The Admin Office System was developed to allow the staff to view and validate the submitted data and add additional production data when necessary. Many of the previous manual reports, were automated as part of nightly maintenance routines, or generated on-demand by the office staff. After two years of gathering data from hundreds of flocks, it became apparent there was tremendous value in the accumulated digital data. A data warehouse workflow was developed to create proprietary, company-wide breed standards to serve as an additional KPI metric.



(Admin Office System demo)

When we open the Admin Office System, we can see the fictional data Paul Sample entered on the Farmer App for 9/25. The office staff has the ability to verify and edit the data if necessary. They also have the option of entering the Next day of data for the flock. The office staff Saves the data when finished and any changes will be synced with the Farmer App.

The Flock Deviation process can be run to analyze the performance of the flock when compared to industry breed standards. This process can be run for single, or groups of flocks. We select a period for analysis and run the process. Results are compiled by individual day, week or for the entire period. Once complete the results can be printed if necessary.

The Farmer Flock reports are automatically generated each night by the system and are distributed to the individual farmer. These reports feature the most important KPI values and factors which directly impact production. This data allows the farmer to compare their flock to breed and proprietary company standards, which are newly available from the data warehouse compiled by the system.

The Weekly Summary report provides a quick, company-wide snapshot of flock performance across the United States, summarized by community. The Admin Office System allows the staff to efficiently leverage the large quantity of data, generated by the Farmer Apps across the country, to increase flock production and profitability.

The direct integration with Tableau, a leading business intelligence tool, provided the final piece of the solution to the original business problems of data acquisition and data analysis. The weekly summary dashboard in Tableau provides an interactive, easy-to-use, view of the KPI values for the flock. The ability to “drill-down” on the data and view the detail worksheets provides much greater insights for analysis, as compared to the previous excel spreadsheets. Tableau also provides the flexibility to generate additional analytic reports based on specific needs. For example, custom reports for the company’s flock nutritionist or national trade associations.

(Tableau Integration Demo)

The Weekly Dashboard in Tableau shows the critical KPI’s for Paul Sample’s fictional flock. Tooltips allow the staff to easily analyze the data which leads to the graph trendlines. We can filter for the desired flock. The ability to apply a week filter across all data allows staff to quickly analyze KPI values for a specific timeframe. In this case we are looking at weeks 50 to 60 to examine a drop in bird weight.

Drilling down on a specific value takes the staff to the detail worksheet for that factor, providing greater insight into the specific data points and related values.

We can return to the weekly dashboard and restore the week filter to the entire life of the flock. Tableau provides a variety of formats for downloading and sharing the dashboard information. In this case we will choose to generate an image file of the current Weekly Summary dashboard for the Sample flock. This can then easily be shared with the farmer, or other staff.

The Eggs per Hen Housed by Breed worksheet provides an excellent example of how Tableau can be used to quickly analyze aggregate data over the entire company based on flock status, community and breed. This facilitates timely and accurate decision making, driven by data and not speculation.

Chapter 4 – Challenges Faced (13:31)

In chapter four, we will outline some of the challenges we dealt with during the project. As with any development project, we quickly identified several challenges which we needed to address to ensure a successful deployment and to maximize farmer adoption of the custom app.

Many of the Amish communities have varying levels of access to technology. The ability to deploy the Farmer App using a mobile device management framework allowed the iPads to be “restricted” to only the approved custom app, if necessary. Because some data continued to be submitted manually, outside of the Farmer App, the Admin Office System required an efficient workflow for the office staff to input this data.

Based on many of the rural farm locations it was assumed we would be dealing with poor internet connectivity. The system was designed to utilize MirrorSync from 360 Works, for data transfer between the Farmer App and the Admin server. Our past experience with MirrorSync, in other custom apps, gave us confidence in its ability to handle situations with poor connectivity. The added benefit of having the data locally on the iPad, was the increased performance when dealing with a large volume of data.

Once the Farmer App had been deployed, one of the first requests from the farmers, was the ability to add their financial data into the custom app and integrate it with the production data already present. This required the implementation of “Admin mode”. This allows a “hired-hand” to enter production data but would restrict their access to the financial data without the admin credentials.

While some of these challenges were readily identified during the discovery process, and addressed in the system design, one of the most powerful strengths of the Claris FileMaker platform is the capacity to rapidly incorporate additional feature requests during the lifecycle of the custom app.

Chapter 5 – Results (15:41)

In chapter five, will list a few of the key outcomes resulting from the project. The most important opinions in evaluating the results of a project, are those of the client. In this case, the General Manager who initiated the project and who has now assumed a greater role within the organization, clearly places great value on a system designed specific to their needs.

By removing the delay between the production date and the subsequent data analysis, potential issues can be identified earlier. This allows the farmer to take action and thereby potentially save thousands of dollars. Having the ability to precisely link the various factors which impact production to all flocks, has increased productivity for both individual farms and across the entire company. The historical data warehouse provides the framework for the accumulation of the extensive volume of data acquired and generated by the system. The dynamic, proprietary internal breed standards have created a tangible, valuable asset for the organization. Over time, these internal standards will continue to expand and be refined to improve their accuracy and value to the company. By automating many of the reporting and analysis functions of the system, the admin and office staff have increased time to focus on business growth and improved efficiency of the organization.

In light of the business problems discovered, we need to evaluate the impact the solutions have had on the financial bottom line for the company. In this case we can see the client clearly feels the system has allowed them to “improve their business far beyond their expectations”. While this is a great outcome for the client, it is also what motivates us at NaviCu, as the goal for every client partnership.



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Chapter 6 – Additional Information (17:45)

Please visit our website at NaviCuNow.com/engage2020 for additional information and resources on the session. For questions on the session, or to learn more about NaviCu, or our p2s Platform, please feel free to connect via LinkedIn or via email or by phone.

Thank you for taking time to join us for this customer success story. Hopefully you have enjoyed the presentation and the insight into our process has inspired you with ideas to implement for your clients, or in your companies.

We hope to see you in San Diego for Claris Engage 2021!