

final report

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Development of simplified MaiaGrazing module for mainstream graziers

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Abstract

The key to grazing profitability lies with good grazing management and pasture utilisation rather than high rainfall, better soils or other external factors.

Maia Technology initially set out to codify best practice in high intensity rotational cell grazing. The result is a sophisticated decision support tool for the grazing community called MaiaGrazing.

While we are seeing strong adoption amongst the cell grazing community there are significant barriers to adoption of MaiaGrazing outside this community.

The purpose of this project is to apply a human centred design approach to develop a simplified, mainstream version of Maia Grazing that can be easily adopted and used by any grazier.

The project used the existing MaiaGrazing software platform and enhanced it to provide a simplified method of operation.

The objective of this project has been achieved with the successful launch of MaiaGrazing LITE, MaiaGrazing PRO and the mobile app at Beef Week 7 May to 11 May, 2018.

As a result, mainstream graziers will see the following benefits:

- Low barrier to adoption of improved grazing practices
- Simple steps towards data driven decision making
- Enable a move towards the planning and budgeting of pasture
- Able to dynamically manage stocking rates based on current conditions
- Able to make data driven decisions instead of subjective or emotional decisions
- Able to plan for paddock rest to achieve sustainable paddock performance.

Executive summary

There is strong evidence that the top graziers are significantly more profitable than all the others, and that correlation to profitability is not tied to high rainfall, better soils or other obvious environmental or external factors. Rather, one of the major keys to profitability lies with good grazing management and pasture utilisation.

Maia Technology initially set out to codify best practice in high intensity rotational/cell grazing, as these were seen as the most profitable and advanced graziers, and this was the most difficult problem for which no commercial solution existed.

To address this need, Maia Technology created a sophisticated decision support tool for the grazing community called MaiaGrazing. Maia believe it is currently the most sophisticated and advanced tool of its kind in the world.

We are seeing strong adoption amongst the cell grazing community, but there are significant barriers to adoption of MaiaGrazing outside this community, preventing the realisation of major production benefits for the mainstream. Barriers to mainstream adoption across the industry include:

- some of the terminology, concepts and principles are “foreign” to mainstream graziers
- enthusiastic innovators tend to have a “religious fervour” that puts off outsiders
- it comes across that a grazier needs to make big changes to their operation to take advantage of the tool, even though this is not necessarily the case
- because the tool is aimed at highly sophisticated operations, it is relatively complex to use and requires significant effort keeping data up to date
- the decision support presentation is unfamiliar (eg grazing charts, SDH/100 graphs)
- there’s no easy way to get started in a simple manner without fully adopting all the principles and features

The purpose of this project is to apply a human centred design approach to develop a simplified, mainstream version of Maia Grazing that can be easily adopted and used by any grazier, overcoming the barriers to adoption above.

The project will leverage the existing MaiaGrazing software platform, and the underlying models and algorithms, but create a simplified method of operation, concepts and principles as defined with user groups during customer discovery activity while still embracing the core elements of best practice grazing.

The main outcome of this project has been achieved with the successful launch of MaiaGrazing LITE, MaiaGrazing PRO and the mobile app at Beef Week 7 May to 11 May, 2018.

As a result, mainstream graziers will see the following benefits:

- Low barrier to adoption of improved grazing practices
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1 Background

1.1 Introduction

There is strong evidence that the top graziers are significantly more profitable than all the others*, and that correlation to profitability is not tied to high rainfall, better soils or other obvious environmental or external factors. Rather, one of the major keys to profitability lies with good grazing management and pasture utilisation.

Maia Technology initially set out to codify best practice in high intensity rotational/cell grazing, as these were seen as the most profitable and advanced graziers, and this was the most difficult problem for which no commercial solution existed.

To address this need, Maia Technology created a sophisticated decision support tool for the grazing industry called MaiaGrazing. Maia believe it is currently the most sophisticated and advanced tool of its kind in the world.

However, the ability to easily use data to make better grazing decisions is much more broadly applicable than just to the most innovative graziers. Key elements of best practice, supported by the tool, that could be applied to any pasture system involve:

- Planning and budgeting pasture
- Dynamically managing stocking rate based on current conditions
- Using data to make grazing decisions (even with paper, spreadsheets etc)
- Having a regime for resting paddocks as well as grazing them

We are seeing strong adoption amongst the cell grazing community, but there are significant barriers to adoption of MaiaGrazing outside this community, preventing the realisation of major production benefits for the mainstream.

Barriers to mainstream adoption across the industry include:

- some of the terminology, concepts and principles are “foreign” to mainstream graziers
- enthusiastic innovators tend to have a “religious fervour” that puts off outsiders
- it comes across that a grazier needs to make big changes to their operation to take advantage of the tool, even though this is not necessarily the case
- because the tool is aimed at highly sophisticated operations, it is relatively complex to use and requires significant effort keeping data up to date
- the decision support presentation is unfamiliar (eg grazing charts, SDH/100 graphs)
- there’s no easy way to get started in a simple manner without fully adopting all the principles and features

* See for example “AgInsights Volume 17”, Holmes Sacket 2016. Normal text

1.2 Purpose

The purpose of this project is to apply a human centred design approach to develop a simplified, mainstream version of Maia Grazing that can be easily adopted and used by any grazier, overcoming the barriers to adoption above. Human centred design is a design and management framework that develops solutions to problems by involving the human perspective in all steps of the problem-solving process and will specifically focus on the system user group feedback in order to determine the success of the solution.

The project structure incorporates best practice human centred design approaches (design thinking) and lean entrepreneurship frameworks ensuring the desirability, viability and feasibility of the innovation, is continually validated through on-going market validation activity throughout the project, increasing the chance of commercialisation success. Maia Technology will consult with industry service providers and stakeholders as captured within the milestone structure to ensure applicability of the final product. Lean startup principles will be used by developing a MVP with a view to obtaining feedback from users (customer validation) before completing the final version.

The project will leverage the existing MaiaGrazing software platform, and the underlying models and algorithms, but create a simplified method of operation, concepts and principles as defined with user groups during customer discovery activity while still embracing the core elements of best practice grazing.

Existing software solutions in the market are primarily record-keeping systems that entrench existing practices on the farm rather than enabling and encouraging data-driven decision making. Our objective is to use the system to facilitate wide-spread adoption of improved grazing management decision making across the red meat sector, to provide improved outcomes for producers in terms of production and land quality.

1.3 Description

This project will deliver an interactive, open grazing management system that enables rapid and evidence-based decision-making for livestock/grazing decisions. The system will be delivered as a new commercial module as part of the Maia Technology ecosystem, to be available on a paid subscription basis. It is intended that the new module will become a self-sustaining business where subscription revenue will commercially support the ongoing development, enhancement and support of the module.

The system will comprise a cloud-based application accessible online via a web browser, plus a mobile device app for use in the field. The mobile device app will operate whether or not network connectivity is available, and automatically synchronise to the server when a network is detected.

The system will make heavy use of existing IP in the MaiaGrazing product and platform, but simplified and recast to be accessible to the broader grazing community, making it easier to use data to make better decisions in the context of the existing grazing operation, rather than requiring significant and immediate change in grazing practices. Once adopted, the tool will provide the evidence base for gradual evolution and optimisation of those practices.

We also propose to create a reduced-functionality free version. The free version will provide for basic record-keeping functions to ease the transition to proper data capture and reporting, but without the more advanced decision support elements. The free tool will also provide the basis for widespread benchmarking and self-assessment of the potential for improved production outcomes, leading to adoption of the full, paid capability.

We will leverage our existing platform development team for software development, and form a stakeholder reference group to validate desirability, viability and feasibility of the design.

2 Project objectives

The main outcome of this project is the commercial delivery, and widespread availability, of a new tool, able to be easily used by all graziers to improve grazing production. The result will be a commercially sustainable product able to continue to deliver benefits to users for the long term.

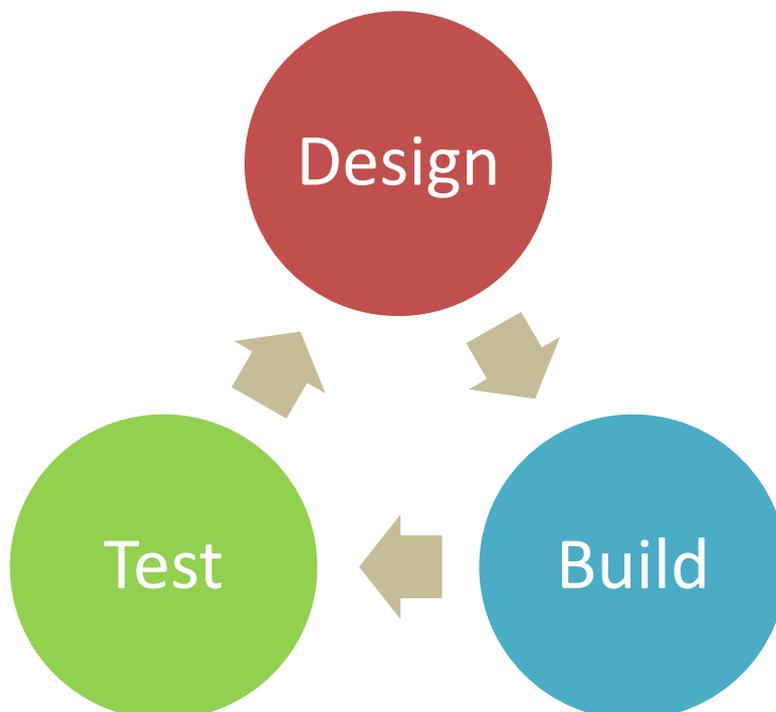
FMS Solutions achieved the outcome by delivering on the following objectives:

1. Apply a human centred design approach to develop a simplified, mainstream version of Maia Grazing that can be easily adopted and used by any grazier
2. Develop a new cloud-based tool that will enable all graziers to realise the production benefits of improved grazing, using data to make better grazing decisions, fashioned in such a manner as to facilitate widespread adoption (enhanced usability as determined through the design process)
3. Develop a mobile app, able to operate off-line and synchronise with the cloud-based tool, supporting in-field data capture and decision support.
4. Develop a free app to be used to increase awareness and create an entry level pathway to adoption of the commercial tool.

3 Methodology

3.1 Approach

The project's approach to building the solution was to use a Design / Build / Test approach. The specific milestones are detailed below.



3.1.1 Free version MVP scope, user centred design and stakeholder feature list

We identified and formed a human centred design reference group (industry partners and graziers), and characterised the reference group with one or more user personas.

Although the user interface evolved through the development process, we created conceptual wireframe definitions and prototypes for the initial version, based on previous ideation work.

Workshops were conducted with the reference group to determine MVP design attributes and service model offerings. MDC design thinker in residence contributed to the human centred design framework.

Based on the workshops, we defined the backlog, detailed scope of the first sprint and an overall sprint roadmap.

3.1.2 Free version build – web and mobile

We developed the initial free version web app and mobile app module and delivered into staging environment for evaluation by the reference group.

3.1.3 Streamlined signup

We implemented an automated registration and enrolment process for signup/subscription, based on online identity.

3.1.4 Mainstream version MVP scope, user centred design and stakeholder feature list

We created initial wireframe definitions and prototypes for the initial version, based on previous ideation work.

Workshops were conducted with the human centred design reference group to determine MVP design attributes and service model offering. MDC design thinker in residence contributed to the human centred design framework.

Based on the workshops, we defined the backlog, detailed scope of the first sprint and an overall sprint roadmap.

3.1.5 Define Triggers

Through validation activities with the user reference group and analysis of usage patterns based on how users actually use the free and existing MaiaGrazing apps, we defined the key metrics for providing guidance towards more productive, sustainable farming, to be used as triggers for outbound notification to improve engagement.

3.1.6 Mainstream version core web app build

We developed the initial web app module and delivered into staging environment for evaluation by the user reference group.

Following lean startup principles, the scope was the highest priority features defined in the product backlog created in milestone 4 that could be delivered within the timeframe.

3.1.7 Mainstream core mobile build

We developed the initial mobile app and delivered into staging environment for evaluation by the user reference group.

Following lean startup principles, the scope was the highest priority features defined in the product backlog created in milestone 4 that could be delivered within the timeframe.

3.1.8 Mainstream final web app build

We developed the final web app, and delivered into staging environment for evaluation by the reference group

Scope was the highest priority features remaining in the product backlog created in milestone 4 that could be delivered within the timeframe.

3.1.9 Mainstream final mobile build

We developed the final mobile app and delivered into staging environment for evaluation by the reference group.

Scope was the highest priority features remaining in the product backlog created in milestone 4 that could be delivered within the timeframe.

3.1.10 Implement triggering of automated guidance

We implemented a set of outbound user notifications based on the triggers identified earlier in the project, providing users with reminders and alerts to increase engagement and uptake.

4 Results

The main outcome of this project has been achieved with the successful launch of MaiaGrazing LITE, MaiaGrazing PRO and the mobile app at Beef Week 7 May to 11 May, 2018.

FMS Solutions achieved the outcome by delivering on the following objectives.

At the beginning of the project FMS Solutions formed a design reference group of industry partners and graziers. The reference group was used to develop different personas or types of users that would potentially use the software. Workshops were also conducted to deliver on the following objective:

- Apply a human centred design approach to develop a simplified, mainstream version of Maia Grazing that can be easily adopted and used by any grazier.

The launch of MaiaGrazing LITE and MaiaGrazing PRO addresses the following objective:

- Develop a new cloud-based tool that will enable all graziers to realise the production benefits of improved grazing, using data to make better grazing decisions, fashioned in such a manner as to facilitate widespread adoption (enhanced usability as determined through the design process).

The launch of MaiaGrazing LITE as a free version addresses the following objective:

- Develop a free app to be used to increase awareness and create an entry level pathway to adoption of the commercial tool.

The launch of the mobile app addresses the following objective:

- Develop a mobile app, able to operate off-line and synchronise with the cloud-based tool, supporting in-field data capture and decision support.

The uptake has been steady since launch and feedback to date has been very positive. The following quote was recently received:

“In our work overseeing and guiding farm management we have sought a technology solution that could streamline record-keeping and grazing planning for farms striving to operate at the nexus of profitability and ecological sustainability. While we have explored many mobile apps and software programs in recent years, few match MaiaGrazingLITE and MaiaGrazingPRO in terms of their ability to address the full suite of needs we and our clients have - from herd and feed inventory and tracking, to grazing planning, to forecasting and basic financial analysis. We are new users of MaiaGrazing but excited about it's potential to bring added organisation and efficiency to farm businesses at large.”

5 Conclusions

The main outcome of this project has been achieved with the successful launch of MaiaGrazing LITE, MaiaGrazing PRO and the mobile app at Beef Week 7 May to 11 May, 2018.

As a result, mainstream graziers will see the following benefits:

- Low barrier to adoption of improved grazing practices
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