



Australian Government
Information Management Office

MySource Matrix Project Review

Australian Government Information Management Office

Document control

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Reference Documents:

Document	Author
Guide to Minimum Web Standards	AGIMO
MySource Matrix Assessment	Acumen Alliance
MySource Matrix Functional Testing Report	Acumen Alliance
Costs and Benefits of Adopting an Open Source Content Management System	Squiz Pty Ltd

Terms and Definitions

Key terms and their associated definitions, as used in this document, are as follows:

Term	Definition
Accessibility	The extent to which the web site is easy to use and available to a wide range of users, including people with disabilities.
Content	Any resource that is created, stored and maintained in the content management system (CMS), eg. a content page, associated files or metadata.
Content Management System (CMS)	An information system used to automate the process of creating, publishing, and maintaining content.
Metadata	Descriptive information applied to a content page or associated file, such as classification and intellectual property rights.
Open source	Refers to a program in which the source code is available to the general public for use and/or modification from its original design. Open source code is typically created as a collaborative effort in which programmers improve upon the code and share the changes within the community.
Refresh	Migration of a website from one platform to another without substantial change to the original site design or content.
Site architecture	The structure of a website including navigation design and how the content is arranged.
Test content	Dummy content that is used by the development team to populate development and test systems.
Usability	The extent to which the web site is easy to use and available to a wide range of users, including people with disabilities.
User	Any individual that uses a website, content management system or any other information system.
Web application	A highly functional information system that exists within a website or is a complete application that runs on the internet and may or may not be browser-based. A website with significant functionality - may be called a web application.
White-branding	Formal release of new or modified open source code or products to the community.

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1 Introduction

This document provides a comprehensive project definition of the implementation of the white-branded version of MySource Matrix, an open source content management system (CMS), within AGIMO.

It provides a retrospective insight into actual project planning processes, outcomes and lessons learned.

1.1 About this document

The scope of this document covers the refresh of AGIMO's corporate Internet site, implementation of MySource Matrix and the white-branding of source code developed as a result of its implementation within AGIMO.

Included in this document is a summary of:

- business environment prior to commencement of the project
- original business and stakeholder requirements
- business case including options analysis
- development approach
- project governance and resource requirements
- scope and dependencies
- expected project deliverables and quality management
- milestones and associated timeframes
- issues and change management processes
- testing strategies
- key risks and mitigation strategies; and

The document follows a standard project plan format and could be re-used as a template by other agencies initiating similar projects.

1.2 Who should use this document

This document is intended for any government agency or not-for-profit organisation with an interest in the implementation of MySource Matrix as an open source content management solution.

1.3 Related documents

This document should be read in conjunction with:

- *Guide to Minimum Web Standards*, AGIMO, 2003
- *MySource Matrix Assessment*, Acumen Alliance, September 2004
- *MySource Matrix Functional Testing Report*, Acumen Alliance, October 2004
- *Costs and Benefits of Adopting an Open Source Content Management System*, Squiz Pty Ltd, July 2003

2 Business Requirements

2.1 Background

The AGIMO website was originally developed in-house in 2000 utilising a Microsoft Sharepoint Portal Server and Frontpage¹ platform. It quickly grew from its original size and structure to comprise over 14,000 individual elements, including web pages, images and forms, with little to no overall site management. Areas identified for improvement for the website environment included security and content control, functionality, usability and scalability.

AGIMO commenced a project in early 2003 to implement a content management system (CMS) and to refresh its corporate Internet site in the process. Following a thorough evaluation of both proprietary and open source products against the Step Two model for CMS evaluation, MySource was chosen as the preferred option. MySource is an open source solution developed by Squiz Pty Ltd, an Australian company with Endorsed Supplier status.

The first MySource implementation was undertaken as a proof of concept. In August 2003 the Publication Services Directory was re-launched on an earlier version of the MySource platform. Following this initial development, a small website for the Indigenous Communities Co-ordination Taskforce was launched on the same platform, leveraging the work that had been conducted for the earlier implementation.

In October 2003 another proof of concept site was launched using a later version of MySource called Matrix. Following an evaluation of both pilot projects, the later version of MySource was selected as the preferred platform for all future implementations due to its advanced standards compliance and content handling capability.

A new corporate website was developed and launched in April 2004 supported by the content management capabilities of MySource Matrix. Several other sites have been migrated to the new platform since then.

These open source implementations are believed to be the first of their kind within the Australian Government. AGIMO is in the process of making the product set available for re-use across other government and not-for-profit agencies through "White-branding", which has resulted from its successful implementation and proof of feasibility as a robust content management solution.

This process has the backing of members from the Government's Chief Information Officer Committee and Information Management Strategy Committee.

¹ Sharepoint Portal Server was used for management and delivery of web content to the corporate website; Frontpage was used for authoring, editing and formatting of web content

2.2 Stakeholders

The following stakeholders were identified as have a significant interest in the project:

Stakeholder	Interest	Beneficiary	
		Direct	Indirect
General public	<ul style="list-style-type: none"> Usability, accessibility and performance of corporate website, ie. the needs of this group needed to be taken into consideration to ensure that they weren't disadvantaged by the site architecture or associated technology 	✓	
AGIMO personnel	<ul style="list-style-type: none"> Usability, accessibility and performance of Internet site Improvement of business processes relating to content contribution and management 	✓	
Content authors and approvers	<ul style="list-style-type: none"> Usability, accessibility and performance of CMS, ie. content management tools needed to be intuitive and easy to learn. 	✓	
Web administrators	<ul style="list-style-type: none"> Ease of maintenance and management of website architecture and content 	✓	
Other government agencies and not-for-profit organisations	<ul style="list-style-type: none"> Ability to capitalise on the outcomes of the project, ie. an open source CMS and other associated deliverables, such as documentation and lessons learned 		✓
Project governance bodies	<ul style="list-style-type: none"> Providers of strategic direction and operational support Ultimate responsibility for the achievement of stated business goals, such as re-use of intellectual property across the whole of government 		✓
External suppliers	<ul style="list-style-type: none"> Provision of solution and customisation of CMS components to meet business requirements 		✓

2.3 Objectives

The key objectives of the project were to:

- implement an open source CMS to improve the management of the AGIMO Internet site, incorporating the whole of the original website content
- design and implement a flexible, robust and secure technical solution that was capable of supporting rapid website expansion or change without continued reliance on vendor support
- de-couple information from navigation and visual design, allowing the establishment of a flexible information architecture
- establish quality assurance processes that provided a better guarantee of consistency, efficiency, performance and compliance with Australian Government web standards

These outcomes were to be achieved with particular attention to the *Guide to Minimum Web Standards*²; incorporating accessibility, metadata, security, privacy and record-keeping compliance obligations. The end-solution was to meet or surpass all requirements as stated in the Guide.

² www.agimo.gov.au

2.4 Related Projects

Project	Relationship
Refresh of the Publication Services Directory (PSD)	First proof of concept using an earlier version of MySource to test functionality and suitability of the product within the AGIMO environment
Development of the Australian Government Branding Website (www.branding.gov.au)	Proof of concept using MySource Matrix to test the accessibility of the product and its compliance with the <i>Guide to Minimum Web Standards</i>
Development of the Indigenous Communities Collaboration Taskforce Website (www.icct.gov.au)	Proof of concept using MySource Matrix to test the functionality of the product and portability of open source code and infrastructure without vendor support
Intranet Redevelopment Project	Leveraging common MySource Matrix infrastructure and ability to support multiple websites
Development of open source Contracts Management System	Proof of concept using MySource Matrix code previously developed for AGIMO's CMS
CMS Extensibility Project	Feasibility study into the potential capability of MySource Matrix to be integrated with an open source Electronic Document Management System (EDMS)

3 Business Case

The original AGIMO website comprised over 14,000 individual pages and associated objects with very little to no overall site management. It was deployed on a Microsoft Sharepoint Portal Server platform and supported by approximately 40 web authors using MS Frontpage as the standard content creation and editing tool.

Although AGIMO carried primary responsibility for developing online service delivery standards, their own websites did not meet many of the mandatory specifications of the *Guide to Minimum Web Standards*. This was not through a lack of effort on behalf of content authors, rather the editing tools being used at the time required an unreasonable level of skill and work to ensure that sites complied with the relevant standards.

An open source content management solution was selected following an independent and thorough evaluation of many propriety and open source systems. MySource Matrix provided:

- A fully featured open source content management solution, produced and supported by an Australian company with Endorsed Supplier status
- A successful history of being deployed by several other Australian Government organisations with good results
- Lower implementation costs as there were no licensing fees
- Non proprietary solution

Additional cost and process improvements associated with the implementation of a content management system were expected in the following areas:

- Improved customer access, both external and internal, to AGIMO products and services by ensuring that supported websites met whole of government accessibility and other standards specified in the *Guide to Minimum Web Standards*
- Improved archiving and retrieval of online content inline with the *Archives Act 1983*
- Reduced content management and authoring overheads by establishing corporate content management and devolved authoring processes
- Improved content quality, consistency and reliability by embedding quality processes into the content management model
- Improved content discoverability by providing an effective information architecture and search mechanisms
- Reduced ongoing development costs through the re-use of common components and data
- Improved system scalability and interoperability by adopting the principles of open standards

3.1 Options Analysis

Following the evaluation process and shortlisting of MySource as the preferred content management solution by an independent organisation, AGIMO embarked upon a further analysis of all available options.

A summary of the options investigated together with their associated benefits and risks is provided below.

1. Continue to use existing proprietary technology (SharePoint/Frontpage) and retain out-sourcing contract for web infrastructure management services

Benefits

- No additional in-house skills required
- Shared infrastructure management risk

Risks

- Static website - tightly coupled content and design
- Lack of standards compliance
- Lack of content management or workflow
- Lack of user security
- High site maintenance costs - global changes had to be applied on every page
- Slow technical support response times

2. Continue to use existing proprietary technology (SharePoint/Frontpage) and in-source web infrastructure management

Benefits

- Faster technical support response times

Risks

- Static website - tightly coupled content and design
- Lack of standards compliance
- Lack of content management or workflow
- Lack of user security
- High site maintenance costs - global changes had to be applied on every page
- High upfront hardware costs
- New in-house skills required to manage web infrastructure

3. Invest in open source technology (MySource) and retain out-sourcing contract for web infrastructure management services

Benefits

- Separation of content from design
- Compliance with minimum web standards
- Automated content management and workflow
- In-built user security
- No licensing costs
- Lower site maintenance costs
- Shared infrastructure management risk
- Corporate recognition of Internet as core business tool
- Better support for emerging business requirements

Risks

- High upfront development, hardware and implementation costs
- Higher site maintenance costs
- Slow technical support response times

4. Invest in open source technology (MySource) and in-source web infrastructure management

Benefits

- Separation of content from design
- Compliance with minimum web standards
- Automated content management and workflow
- In-built user security
- No licensing costs
- Lower site maintenance costs
- Lower implementation costs
- Faster technical support response times
- Corporate recognition of Internet as core business tool
- Better support for emerging business requirements
- Long-term cost-effectiveness

Risks

- High upfront development and hardware costs
- New in-house skills required to manage web infrastructure

3.2 Recommended Option

As a result of this analysis, Option 4 (investing in open source technology and in-sourcing infrastructure management) emerged as the most likely platform to offer long term viability and value for money.

3.3 Business Benefits

The chosen option provided the following business benefits:

▪ **Separation of content from design**

The ability to separate content from design provided a consistent user interface and efficient, easy updating of content without impacting on site structure or navigation. It also enabled sharing of source content across multiple sites (create once, use many times concept), enabling a complete reduction in the rate of duplicate and inconsistent content.

▪ **Compliance with minimum web standards**

Compliance with its own standards improved AGIMO's reputation as a leader in the adoption of usability and accessibility better practices. Ensuring that the website met these requirements meant that it was available as a source of information to all customer segments equally.

▪ **Automated content management and workflow**

Streamlining the content creation, publishing and management processes provided major productivity improvements. Staff were no longer required to know HTML or the intricacies of assembling web content.

Business rules were designed to route the content automatically through the appropriate approval mechanisms, which provided a better guarantee of content accuracy, currency and completeness.

▪ **In-built user security**

In-built user security enabled access to the content database at many different levels, according to roles specified for individual authors and access privileges associated with specific content items.

The security model was implemented as a reflection of the organisational structure, which meant that access to content could be restricted to the user's business group. Hence, content ownership and responsibilities relating to the maintenance of content became very clear and visible.

- **No licensing costs**

Source code was provided to AGIMO at no cost and there are no on-going licensing fees. AGIMO owns their copy of the source code and is free to modify it accordingly.

- **Lower site maintenance costs**

Separation of content from design, automating content approval processes and in-built security all contributed to reduced site maintenance costs. Being an open source solution, upgrades for the content management system are provided at no cost to AGIMO.

In-sourcing web infrastructure management services provided cost savings through the simplification of change management processes.

- **Lower implementation costs**

Implementation costs were also reduced by in-sourcing web infrastructure management.

- **Faster technical support response times**

Cycle times for rectifying system-related issues and for applying enhancements has been reduced following the in-sourcing of web infrastructure management and simplification of change management.

- **Corporate recognition of Internet as a core business tool**

Investing in new technology and web infrastructure clearly demonstrated that the organisation recognises the web as a primary vehicle for communication with external stakeholders and as a critical business tool.

- **Better support for emerging business requirements**

Core content management functions were able to be expanded by applying additional software modules. In addition, the modular nature of the system enabled non-technical staff to configure functions, change and expand site architectures without an over-reliance on vendor support.

- **Long-term cost-effectiveness**

Adoption of open source software and in-sourcing of web infrastructure management was seen to provide a sustainable, long-term and cost-effective option.

3.4 Cost Considerations

MySource Matrix is an open source solution and as such the base product set is available to government and not-for-profit organisations free of charge. However, costs would still need to be considered relating to implementation, content migration and operation, depending on the size and complexity of websites and skills available within the organisation.

Key cost drivers for the implementation of MySource at AGIMO were content migration and development of additional functionality that was originally considered outside the project scope. In particular, the costs associated with moving content from one platform to another should be carefully considered by other agencies, making sure not to underestimate the considerable effort that is required.

The following list provides a summary of activities and deliverables that incurred costs during the project:

- Design
 - Development and application of W3C compliant website design
 - Development of a Style Guide to be used by content authors to ensure a consistent visual style
- Development
 - Search engine improvements to allow integrated searching and real time searching of content
 - Development of a facility for the mapping of old URLs to new pages
 - Modification of site map to provide an A-Z style listing
 - Workflow modifications to meet agency-specific requirements
 - Development of a low bandwidth (text mainly) version of the site
 - Development of Wizards to export log files for audit trails
- Server Setup
 - Installation of web and database servers
 - Physical staging server installation to enable editing to be done on a physically separate staging server before being periodically pushed to the production web server (optional)
- Content Migration
 - Dedicated, trained content managers were required to move content from the old website to the new content management system
 - A skilled person was required to manage the internal change process and to participate in content approval processes during the internal content preparation phase
- Project Management and Testing
 - Project management and testing was required to ensure that the system met all stated and agreed business requirements and that the website complied with the applicable standards (W3C and WCAG) on target browsers
- Change Management
 - Change management and communication activities were required to ensure that all stakeholders were fully engaged in the process of designing and migrating to new business processes
- Training
 - "Train the Trainer" style training or end user training for content editors
- On-going Support
 - Technical and user support
 - Upgrades and maintenance
- Documentation
 - Development of user documentation for any tailored functions or custom modules
 - Technical documentation detailing any system architecture changes and instructions for third party developers
- Hosting Costs
 - Ongoing system administration and management

3.5 Critical Success Factors

Benefit realisation has been demonstrated by achieving the following:

- Compliance with minimum web standards
 - Web Content Accessibility Guidelines
 - World Wide Web Access: Disability Discrimination Act Advisory Notes
 - Privacy Guidelines for Federal and ACT Government World Wide Websites
 - Privacy Act (1988)
 - Australian Communications Electronic Security Instructions 33 (ACSI-33)
 - Australian Government Locator Service (AGLS) metadata standard
 - Guidelines for Commonwealth Information Published in Electronic Formats
 - Electronic Record Keeping and Archiving
- Stakeholder and user commitment
 - High usage coupled with a high degree of user and stakeholder satisfaction
 - Stakeholders and users regard the system as an example of better practice
- Ongoing operations and maintenance
 - High degree of satisfaction among content authors and system administrators
 - Reduced number of system performance and security issues
 - Increased information architecture and system scalability

Additional success will also be demonstrated by achieving the following:

- Whole of government relevance
 - High number of enquiries from other government agencies looking at open source content management solutions
 - Successful implementation of the white-branded version of MySource Matrix at another government agency

3.6 Risks

3.6.1 Risk Classification

Probability is the likelihood of risks occurring where:

- High - will happen
- Medium - may happen
- Low - probably will not happen

Impact is the amount of disruption or number of potential system beneficiaries affected by the risk occurring:

- High - all users affected or project will be significantly impacted
- Medium - some users affected or has some impact on the project
- Low - one or a few users affected and minimal project impact

3.6.2 Risks of Proceeding

The following risks and treatment measures were identified prior to commencement of the project:

Risk	Probability • High (H) • Medium (M) • Low (L)	Impact • High (H) • Medium (M) • Low (L)	Treatment measure
Developing on a beta platform (evolving product)	H	H	Change control and release management
Expectations management and scope creep due to the open source nature of the product, ie. there were no cost barriers to adopting the latest functionality	H	M	Pressure to include additional functionality was managed by validating requests against the original business case. Non-core functionality was captured and prioritised for future releases.
Original proof of concept projects prove to be unsuccessful	M	H	The scope of the project was reduced to a simple refresh of the existing AGIMO Internet site, including information architecture and content, rather than a complete redevelopment of the site.
Source code liability	M	H	Comprehensive functional testing was conducted
Loss of critical project resources	M	H	Project and product documentation
External political factors impacting the project	M	H	Project governance and reporting
Contractual issues with the vendor resulting in irreconcilable differences	M	H	Legal advice was sought and government procurement and contracting processes were followed
Underestimation of effort for migration	M	M	The scope of the migration effort was reduced and additional resources were provided
Project management inappropriate for desired outcome	M	M	Project governance was centralised and regular project reports were provided to the Web Content Management Committee
Resistance to adopt changed business processes by site administrators and content owners	M	M	Author, Administrator, Editor and Designs training was provided to key internal users. In addition, dedicated in-house resources were established to provide on-going user support and a maintenance agreement with the vendor was put in place for technical support.
Product fails to be suitable for whole of government use	M	L	Comprehensive functional testing and evaluation against industry/government standards
Lack of technical support should the vendor cease trading or supporting the product	M	L	<p>A strong user community was established by AGIMO and the vendor, providing alternative support structures.</p> <p>Being an open source product, AGIMO also had access to the source code which would provide continued viability even in the absence of a vendor.</p>
Failure of software to function or perform as required	L	H	<p>The choice of a solution where cost was associated with delivery and not licensing fees provided the option of ceasing the project and returning to existing content management practices if the project were to fail.</p> <p>The system had been successfully implemented in other agencies, hence the probability of this risk occurring was low.</p>

Risk	Probability • High (H) • Medium (M) • Low (L)	Impact • High (H) • Medium (M) • Low (L)	Treatment measure
Architecture inconsistent with target audience	L	H	Testing was conducted against W3C compliance and all relevant standards and guidelines
Conflicting internal priorities and resource diversion	L	H	A greater focus was placed on project governance and reporting

3.6.3 Risks of Not Proceeding

The following is a summary of key risks that were associated with not proceeding:

Risk	Probability • High (H) • Medium (M) • Low (L)	Impact • High (H) • Medium (M) • Low (L)	Treatment measure
A significant risk to AGIMO's reputation existed as a result of its websites not complying with the organisation's own <i>Guide to Minimum Web Standards</i>	H	H	It would have been possible to mitigate this risk by editing pages within the original website individually to ensure that they complied, however, this would have been an extremely time consuming and expensive exercise with very few long-term gains.
Very few security measures had been put in place to provide content integrity and to prevent business areas from inadvertently removing or damaging each others content	H	M	Being a static website it was not possible to implement the required disciplines, hence the only option was to accept this risk and closely monitor the website for any issues.
Expensive, complex and error-prone content authoring and publishing process	H	M	As above.
Inability to implement version control or to archive old content in a manner that allowed efficient retrieval at a later date	H	M	As above.

3.7 Business Case Conclusion

The existing web site suffered from:

- Non-compliance with whole of government website standards
- Lack of security and user management
- Expensive, complex and error-prone content management processes
- Lack of version control and archiving

An independent evaluation and AGIMO's own analysis of feasible options indicated that the use of open source software would provide a cost effective and flexible content management solution.

MySource Matrix showed higher potential overall in relation to:

- User friendliness and low development complexity
- Advanced functionality
- Flexibility and scalability
- Availability of local support
- Technical compatibility
- Cost effectiveness

The specific features of MySource that ranked it higher than other products included:

- Ability to easily create content
- Advanced version control and roll-back facility
- In-built security and user management
- Ability to support multiple formats
- Use of stylesheets and page templates
- Ease of site management including navigation, accessibility, cross-browser support, metadata and user friendly URL's

Original cost estimates indicated that AGIMO could obtain a customised open source content management system fully implemented for \$140,000 including:

- all required software
- recommended hardware
- standards-compliant designs
- data structures
- workflow implementation
- database conversion
- content conversion
- training and documentation

This represented a significant saving over comparable commercial-off-the-shelf (COTS) solutions.

4 Project Authority and Governance

An effective project governance structure was critical to the successful completion of the project. Governance was shared between two key business areas, each providing a dedicated Project Director. The key focus for one was strategic sourcing and emerging technologies; the other was responsible for the physical implementation of the system and associated business processes.

4.1 Roles and Responsibilities

An overview of key project management responsibilities is set out below:

Role	Responsibility
SES Business Group	<ul style="list-style-type: none"> ▪ Provided sponsorship and oversight ▪ Received regular progress reports
Information Management Committee	<ul style="list-style-type: none"> ▪ Represented the interests of the business ▪ Ensured the goals of the project were met ▪ Received project reports on a monthly basis
Business Sponsor	<ul style="list-style-type: none"> ▪ Authorised business requirements and accepts solution delivery ▪ Provided project representation and support at senior executive levels ▪ Ensured the project supports corporate goals and objectives ▪ Had corporate responsibility for delivery of business benefits ▪ Provided sign-off at appropriate milestones
Web Content Management Committee	<ul style="list-style-type: none"> ▪ Ensured that the system design was a true reflection of user requirements
Project Director – strategic sourcing and emerging technologies	<ul style="list-style-type: none"> ▪ Developed the white-branding strategy to enable the system to be used across the whole of government ▪ Ensured value for money from the perspective of the government ▪ Set function and requirement priorities for the project ▪ Provided sign-off at appropriate milestones
Project Director – physical implementation	<ul style="list-style-type: none"> ▪ Provided guidance and direction to the implementation team ▪ Ensured value for money from the perspective of the business ▪ Set function and requirement priorities for the project ▪ Provided sign-off at appropriate milestones
Project Manager	<ul style="list-style-type: none"> ▪ Overall responsibility for the delivery of the technical solution ▪ Monitored scope, timeframe, costs, quality, risks, communication, task allocation and 3rd party involvement ▪ Provided regular progress reports ▪ Responsible for the overall design of the solution ▪ Designed page layout and process models ▪ Determined logical design requirements ▪ Ensured technical solution met business requirements
Web content authors	<ul style="list-style-type: none"> ▪ Served as the source of requirements information ▪ Undertook user training

Role	Responsibility
Implementation Team	
Migration Manager	<ul style="list-style-type: none">▪ Worked with stakeholders to develop production quality content
Graphic Designer	<ul style="list-style-type: none">▪ Used information architecture to develop visual designs▪ Developed style guides and design standards
MySource Matrix Vendor	<ul style="list-style-type: none">▪ Supplied source code creation and implementation expertise▪ Determined physical design requirements▪ Undertook unit and integration testing of system components
Maintenance Team	<ul style="list-style-type: none">▪ Participated in project activities, when required▪ Undertook user and administrator training▪ Provided support to ensure successful implementation and maintenance of the system

5 Project Outline

5.1 Scope

The broad scope of the project was the implementation of the MySource content management system, the refresh of AGIMO's corporate Internet site and the migration of production quality content to the newly established structure.

Detailed consideration was given to:

Products

What were the key deliverables / how would they look and function?

- MySource Matrix content management system
- Several small proof of concept websites
- AGIMO corporate Internet site refresh
- Integration with email and related systems

People

Who would be impacted by the products?

- Stakeholder requirements
- Operations and maintenance resource requirements
- Change management issues

Processes

How would the products be managed?

- Content authoring, approving and publishing
- Data management
- Version control
- Conversion of existing content
- Security and user management
- Back up, audit and recovery procedures
- Content development policies and standards

Information

What were the inputs and outputs of the products?

- Inputs:
 - Asset maps
 - Content
 - Metadata
- Outputs:
 - Information architecture
 - Content database
 - Statistics and reports

Technology

What was required technically to support the products?

- Technical architecture
- Security model
- Hardware requirements
- Software requirements

Compliance

What government and industry standards should the products have to comply with?

- Accessibility standards
- AGLS metadata standards
- Privacy legislation
- Security regulations
- Recordkeeping standards
- Auditing requirements

Training

What training would users of the products require?

- User training
- Administrator training
- On-going support

The scope of the project **did not** cover analysis, design or implementation of any other website or internal business system.

5.2 Prerequisites

The project's prerequisites included:

- Establishment of a relationship with an Endorsed Supplier
- Resolution of legal and contractual issues:
 - Ensuring Financial and Management Accountability Act compliance
 - GIRC contractual provisions
 - Liability and warranty

5.3 Assumptions

Assumptions needed to be clearly understood and acknowledged by all project stakeholders to ensure that misunderstandings were avoided and to share a common understanding of goals and objectives.

The following key assumptions were applied to the project:

- The scope of the project was limited to the implementation of MySource, the development of several small proof of concept sites and to refreshing the corporate Internet site
- The exact scope of the project was to be confirmed at the completion of the proof of concept stage, allowing enhancements to be made to the software and lessons learned to be applied to the white-branded version of the content management system
- The decision to release a white-branded version to other government agencies and not-for-profit organisations would be dependent on the successful implementation of the software at AGIMO

5.4 Project Deliverables

The project delivered the following key business products:

Product	Inputs	Outputs
New Internet site and content management system	<ul style="list-style-type: none"> ▪ User and functional requirements ▪ Options analysis ▪ Develop, test and production environments 	<ul style="list-style-type: none"> ▪ Fully functioning and supported Internet site and content management system
Development, test and production environments	<ul style="list-style-type: none"> ▪ User and functional requirements 	<ul style="list-style-type: none"> ▪ Installed software, hardware and source code to support the development effort and on-going maintenance throughout the system life cycle
User documentation	<ul style="list-style-type: none"> ▪ Production systems ▪ User requirements 	<ul style="list-style-type: none"> ▪ Detailed instructions for creating, approving and managing content
White-branded source code	<ul style="list-style-type: none"> ▪ Source code developed for AGIMO, but with whole of government requirements in mind 	<ul style="list-style-type: none"> ▪ Fully functioning and tested content management system made available free of charge to other agencies
MySource Matrix Assessment	<ul style="list-style-type: none"> ▪ White-branded source code ▪ User documentation ▪ Interviews with AGIMO and vendor 	<ul style="list-style-type: none"> ▪ Comprehensive paper assessment of MySource Matrix against the Whole of Victorian Government Content Management Requirements Definition Tool

Product	Inputs	Outputs
MySource Matrix Functional Testing Report	<ul style="list-style-type: none"> ▪ MySource Matrix Assessment ▪ User documentation ▪ Physical testing of the white-branded source code 	<ul style="list-style-type: none"> ▪ Comprehensive functional testing of the source code against the paper assessment to ensure that the product functions as stated by the vendor

The following project management products were also delivered:

Product	Inputs	Outputs
Project initiation	<ul style="list-style-type: none"> ▪ Costs and benefits analysis ▪ Minutes to Executive Management Group 	<ul style="list-style-type: none"> ▪ Formal approval to commit funds and commence project
Cost tracking	<ul style="list-style-type: none"> ▪ Project cost reports based on capital expenses, eg. hardware, software and human resources 	<ul style="list-style-type: none"> ▪ Definitive list of all project expenses incurred
Project filing system	<ul style="list-style-type: none"> ▪ Approved project documents ▪ Other related paper documents ▪ Electronic project documents 	<ul style="list-style-type: none"> ▪ Physical project documents stored in a logical sequence and storage medium ▪ Electronic files stored in a logical structure with adequate controls
Checkpoint reports	<ul style="list-style-type: none"> ▪ Project team feedback ▪ Project progress ▪ Achievements, overdue products, planned products, issues requiring attention, change/risk/financial management 	<ul style="list-style-type: none"> ▪ Accurate reflection of project status ▪ Potential problem areas highlighted
Issues papers	<ul style="list-style-type: none"> ▪ Issues requiring attention ▪ Issue status and associated risks 	<ul style="list-style-type: none"> ▪ Issues analysis and recommended options for mitigating risk ▪ Issue responsibilities assigned and agreed
Project case study	<ul style="list-style-type: none"> ▪ Original schedule, business case and actual project performance 	<ul style="list-style-type: none"> ▪ Chronology of project activities and deliverables ▪ Project achievements ▪ Issues encountered ▪ Lessons learned

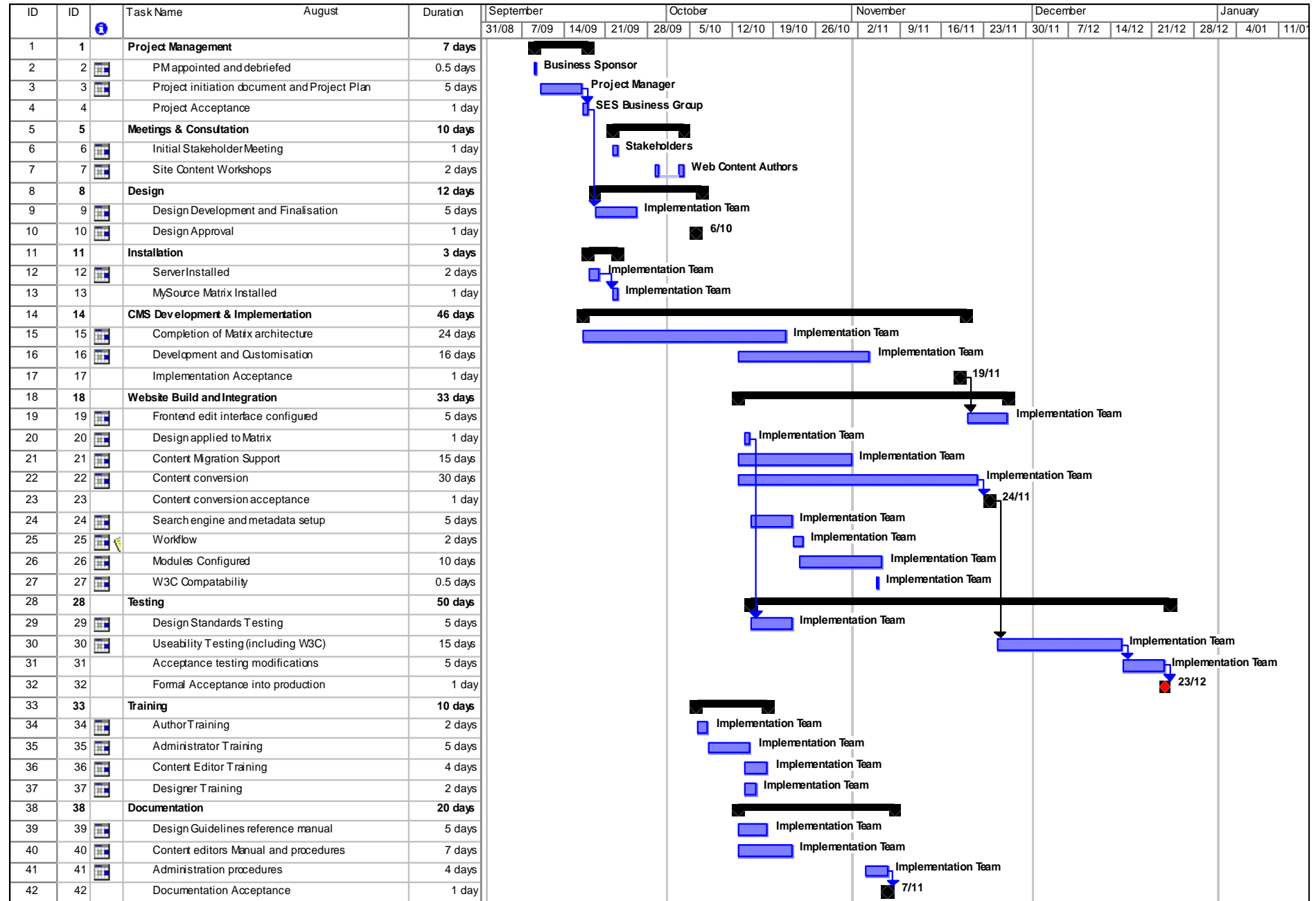
5.5 Schedule

The project commenced in September 2003 and was completed in April 2004. Excluding external factors affecting the project (eg. a name change occurred mid-site, proof-of-concept activities) the actual effort time associated with the project could be contracted into twelve weeks. The schedule below was subsequently developed as a reflection of the AGIMO project to illustrate typical activities and milestones associated with a MySource Matrix implementation as an **indicative** schedule to provide guidance to project managers embarking on this exercise. The following factors need to be considered when developing a project plan for a CMS implementation.

- The AGIMO sites were mostly static HTML pages, developed using Active Server Pages (ASP), VBScript. Database interfaces were not incorporated into this project schedule and the migration covered a single site only.
- Some development and customisation time was required for the CMS to meet the AGIMO requirements. This has subsequently been released as the "White-branded" version.
- The AGIMO (formerly) NOIE site immediately before migration comprised over 10,000 HTML files, 5,000 images and over 1,000 lines of ASP code.
- Website managers and authors were concentrated into a small group.
- The schedule does not factor in procurement processes, extended approval processes, stakeholder engagement and liaison, political considerations and machinery of Government changes etc.

Project managers, in determining timeframes for completing a project of this nature need to consider the following:

- Internal approval processes
- Site complexity and number of sites
- Number of website managers and authors
- Number of project resources available
- Level of specialist skills available (in-house and externally)



5.6 Issues Management

Issues were recorded and brought to the attention of the Executive Management Group for resolution.

A significant issue that was encountered during the course of the project was scope creep. This was mainly due to the nature of the project in that it started out as a proof of concept exercise to test whether open source software was a viable option for managing government website content.

The fact that the software was free of charge proved somewhat problematic – there was no perceived cost barrier to adopting newly developed functionality. When the issue became apparent, a Minute was drafted outlining a revised schedule for Executive Management approval. The project continued according to the new schedule and all requests for non-core functionality were subsequently recorded for inclusion in future releases.

5.7 Change management

Changes to the development and implementation of project deliverables were documented as subsequent product versions. An issues paper was developed for significant product changes or changes to the strategic direction of the project for consideration by the Executive Management Group.

Project Directors and the Project Manager were responsible for ensuring appropriate change control measures were being adhered to.

5.7.1 Change Control

Change control was applied to each deliverable once accepted. At acceptance each deliverable was allocated a version number and any request for changes were subject to a process of update and approval.

5.7.2 Change Acceptance

Each deliverable was subject to an acceptance procedure that included review of the product to determine whether it was complete and fairly represented the needs of its customers.

5.8 Quality Management

Overall responsibility for the quality of the system under development rested with the Project Manager to ensure that:

- appropriate quality processes were scheduled and undertaken
- persistent quality problems were identified and remedial action was taken

5.8.1 Quality Expectations

The key quality expectation was that the system must be fully compliant with the *Guide to Minimum Web Standards* and particularly W3C accessibility recommendations. The system is subsequently able to support all Priority 1, 2 and many Priority 3 recommendations.

AGIMO is now confident that its websites also comply with the remaining obligations as stated in the Guide.

5.9 Testing

The white-branded version of the system was successfully tested against the *Whole of Victorian Government Content Management Requirements Definition Tool*³. Testing of the system covered the following areas:

- Content creation
- Workflow processes
 - Workflow approval
 - Workflow management
 - Notification
- Content publishing and quality control
- Content presentation
 - Templates
 - Accessibility
 - Customisation and personalisation
 - Multilingual support
- Content discovery
 - Metadata generation
 - Searching
 - Navigation structure
- Compliance with industry standards
- Product
 - Reliability and performance
 - Audit trail
 - Version control
 - Electronic records management
 - Content aggregation and syndication
 - Content migration
- Security
- Content repository
- Reporting and monitoring
- Usability and user documentation

Several inconsistencies were found between vendor claims and actual system performance during the testing exercise, however, these were subsequently addressed and fixes implemented in the latest release of the white-branded version.

5.10 User Support

User documentation was developed specifically for content authors and system administrators using the white-branded version of MySource Matrix. Technical documentation was also developed outlining the system architecture and instructions for third party developers on how to use the system.

“Train the Trainer” style training was provided to system administrators through formal (face-to-face) and informal (email and telephone support). System administrators were then responsible for providing training to the remaining user community.

Additional post-implementation technical support was purchased from the vendor for ad-hoc system upgrades and maintenance tasks.

³ Version 1.0, <http://www.egov.vic.gov.au/pdfs/WorksheetinWoVGWebCMRDReportv1.pdf>