



Introducing Cmfive - a fully responsive ERP infrastructure framework

Cmfive has grown out of a large ERP development for a renewable energy retailer in regional NSW. This system enabled the business to fulfil its tight operational deadlines and save cost in a market with narrow profit margins.

Cmfive is the basic core of the original ERP system and is available as open source on github. It is written in PHP 7 and currently relies on the globally popular open source relational database MySQL (or, commonly, the high reliability AWS RDS equivalent) for storing data, and runs in both Windows Server and Linux Operating System environments . Since its release in 2013, 2pi Software has invested considerable resources in the further development of the

framework and its deployment in commercial solutions. Cmfive is widely promoted to the developer community and to date 2pi Software has delivered many successful commercial projects built on Cmfive as the core architectural component. More information about Cmfive can be found on its website at <http://cmfive.com>.

The Cmfive user interface is inherently responsive and based on the universally acclaimed Foundation classes - user screens automatically adjust to either phone, tablet or desktop.

Cmfive already includes many of the components which are necessary for an integrated business application, including, but not limited to:

- User and group management
- Role based permission management
- Re-usable templates for email, notifications, etc.
- Task and workflow management
- Modular architecture for easy extensibility and separation of concerns
- Flexible site-based printing
- Global search
- Convenient Report creation - easily modifiable 'by the business', including remotely accessible databases
- Per-module context sensitive help
- User convenience features - comments and files directly attachable to key business data elements, forum-style comment trails
- Integration with other systems (commercial add-ons):
 - Xero and Quickbooks Cloud accounting systems
 - Active Directory integration and Windows SSO
 - Amazon S3 for storing attachments in the cloud
 - Civica Authority Council ERP
 - Micronet MRS
 - Other systems upon request ...

Because cmfive (the framework) is released to the public as open source, it comes with **no warranty but also without cost**. The distribution license (GPL) allows free use in any capacity but it is not allowed to include it directly in a commercial product or to change its source code without making those changes public and open source as well.

Any modules written which utilise the Cmfive framework however can be distributed under commercial licenses. The Probuild solution consists of one or more such modules.

Apart from the bespoke systems above, 2pi Software has also developed a commercial ERP system called Cosine CRM which is being used by 2pi Software internally and also by various other companies as a SaaS solution for resource and project management.

2pi Software has used the cmfive framework and Cosine CRM add-on successfully in systems development for the following customers:

- **Bega Valley Shire Council**, Bega, NSW
 - Financial Services - Timesheets, Business Reporting
 - Water and Sewerage Services - Mobile data recording and reporting
- **Steeline**, Pambula and Batemans Bay, NSW
 - Workflow automation and reporting
 - Freight ticketing with mobile app for delivery trucks
- **CRT Construction**, ACT
 - Workflow automation and reporting
- **De Bortoli Wines**, Griffith, NSW
 - ISO9001 quality management, incident reporting
- **Bega Cheese**, Melbourne, VIC & Bega, NSW
 - Retail automation
- **Teen Clinic**
 - Secure anonymised permission-based patient data collection

- **Bournda Environmental Education Centre**, Bournda National Park, NSW
 - Event management and scheduling
- **Twofold Aboriginal Corporation**, Eden, NSW
 - Timesheets and Payroll integration
 - Project management
 - Meals on Wheels delivery scheduling
- **INTelephony**, Albury, NSW
 - Support Desk, Task time tracking

System Requirements

An application based on cmfive is a web application written in PHP. So for hosting it the following applications are required as a minimum:

- A webserver, eg. Apache, Nginx or Microsoft IIS
- PHP 7.0 (work is underway to make cmfive work with 7.2)
- MySQL relational database

For high availability hosting we recommend a load balanced solution hosted in AWS in front of an autoscaling group.

2pi Software AWS Expertise

2pi Software is an AWS solutions partner and have designed and maintain hosting solutions for various businesses, with the most prominent ones:

- **Begacheese**, VIC & NSW

- High availability hosting for Vegemite.com.au, Begacheese.com.au, and 12 other high profile websites for their diverse brand portfolio
- **Australian Local Government Association, ACT**
 - Hosting of their website with which they communicate with 537 local councils across Australia

Apart from hosting websites and web applications, 2pi Software has also developed AWS solutions for processing large amounts of data as in a recent project with the Emergency State Agency (ESA) of the ACT. The system developed by 2pi Software enabled the creation of various tiers of zoom level for mapping of the ESA cartographic footprint from high resolution source images for the use of emergency response planning. The system utilised AWS batch processing for spawning hundreds of parallel processing nodes to finalise the workload in under 24 hours where before it would take up to 3 weeks to achieve the same result.

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