## Analysis Documentation

Since 2009 CITE has provided services to students and education institutes in Perth, Western Australia. Standing for Centre of Information Technology Excellence, CITE is not just a name, it is a promise for superior service to our clients.

A summary of our successful approach to managing software development is presented in the following sections. A more comprehensive discussion of our approach can be found on our web site www.citems.com.au.

### CITE Business Rules for Software Development

Over many years of operation CITE have developed an innovative and robust approach to software development. Our approach was developed to ensure we exceed our customers’ expectations for both quality and cost. CITE operate a program of continuous improvement, staying ahead of the pack by introducing leading industry practices to meet our customers current and future needs.

The key benefits delivered to our customers by our approach include:

#### Strong Project and Process Management

Our project managers act as a focal point for all your project-related needs. Project managers are involved in the entire project lifecycle to plan, organize, control and deploy key milestones, deliverables according to your goals. Plus all CITE Managed Services projects are supervised by our CTO, who is responsible for processes audit and enforcement, as well as for measurement of existing processes against established metrics and process improvements analysis and implementation.

#### In-Depth Requirements Analysis

Here at CITE Managed Services we pay special attention to the discovery phase to ensure that the final product fully meets your expectations. CITE Managed Services Business Analysts define easier ways to attain what you need, while Project Managers identify the most suitable development methodology and cooperation model, as well as assemble the most effective project team, and the tech experts work on technical feasibility and select the most efficient technologies.

#### Thorough Quality

We have an independent QA department responsible for providing quality assurance throughout the entire Software Development Lifecycle of every project. Depending on the size of the latter, we allocate a testing team and define a QA timeframe, which allows us to optimize involvement and project costs. Though independent by virtue of their duties, our QA experts work in close cooperation with our development team.

#### Knowledge to Build On

Since our inception in 1999, we have been building up a knowledge base by working on hundreds of development projects. We have absorbed the best approaches to achieve maximum performance and the highest quality when delivering projects, avoiding redundant complexity that affects both budget and timing.

#### DevOps and Continuous Delivery

We are embracing DevOps to ensure the synergy between development and operations by paying close attention to key pain-points in your DevOps needs and automating end-to-end delivery processes while ensuring scalability and security of your infrastructure.

#### Transparent Communication

Transparency enables both you and us to see at a glance, whether we are on track to meet the goals or are blocked on one or more directions, and eliminate these blockers. That is why right at the project launch we agree with you on a communication plan tailored to your needs to work on different levels – from core team to management stakeholders

### CITE Coding Standards

Coding standards are collections of coding rules, guidelines, and best practices. A coding standards document tells developers how they must write their code. Instead of each developer coding in their own preferred style, they will write all code to the standards outlined in the document. This makes sure that a large project is coded in a consistent style.

The coding standards will reflect the context of the Language and the Clients requirements. In the absence of these criteria CITE developers will default to the industry standard (C# – Microsoft, Java – Oracle)

All systems and projects will be covered by the following ISO Standard(s)

ISO/IEC/IEEE 12207:2017 Systems and software engineering — Software life cycle processes

### CITE Quality Assurance

CITE have implemented comprehensive quality management systems (QMS) across all their operations. Our focus is on delivering the highest quality product across the entire lifetime of the project.

CITE take QMS seriously with processes addressing:

#### Quality Planning

CITE Managed Services puts together quality plans that govern the applicable set of standards, regulations, procedures, guidelines, and tools during the development lifecycle in each project.

#### Quality Assurance

We have established processes that evaluate project performance and aim to assure that quality standards are being followed and that the deliverables comply with customer requirements.

#### Quality Control

We measure performance trends to identify defective pieces of code, verify that deliverables are of high quality and that they are complete and correct.

#### CITE boasts an independent QA department

CITE Managed Services QA department is an independent structural subdivision. Our QA team consists of skilled QA engineers who get involved in projects on a dedicated or an on-demand basis. The allocation of QA engineers depends on project size and complexity: they can be easily reallocated from one project to another upon necessity. Such flexibility allows us to optimize efforts and, thus, the overall project budget.

CITE Managed Services performs quality assurance throughout the entire software development lifecycle with QA team members being involved at all stages. A Lead QA specialist is assigned at the commencement of each project and is involved into initial business analysis and requirements specification. Such a simultaneous interaction of our development and QA teams provides for a better understanding of the project scope and the client’s business objectives.

### ACME Entertainment Pty Ltd Requirements

ACME Entertainment (ACME) require the development of a movie database application.

ACME have informed CITE that a prototype of the required product exists, and that the final application should be developed from this.

The prototype application is web based, offering the ability to search the database for matching records. The application also offers a chart detailing the 10 most frequently searched movies.

The prototype application allows the user to search using one of more of the criteria detailed in the following table, if multiple criteria are specified, they must all be met by the results:

|  |  |
| --- | --- |
| Criteria | Search Type |
| Title | The application should allow users to search by movie title. All movie titles that include the user search term should be returned. |
| Year | The user should be able to search by year or by a range of years. |
| Genre | The user should be able to search by one or more genre codes |
| Rating | The user should be able to search for movies matching the selected rating code or codes. |

Table : ACME search requirements

ACME have commissioned CITE update the application so that it can be used across all major digital platforms. They have become aware that may potential users access the internet only via mobile devices and require that their application support this type of access.

ACME have commissioned CITE to review contemporary approaches to multi-platform web design and recommend the best approach to adopt for their application.

Once an approach has been adopted the application should be reworked to create the multi-platform version.