

A White Paper

Task Orientated Application "TOA"

A Paradigm Shift in Software Development

"Paradigm Shift" - A change from one way of thinking to another. It's a revolution, a transformation, a sort of metamorphosis. It just does not happen, but rather agents of change drive it.

Kuhn, Thomas, S., "The Structure of Scientific Revolutions", The University of Chicago Press, Chicago,)

Introduction

This paper is written from business experience and with a business perspective, to give the background as to why the business software world may be facing its nemesis. The business world is no longer prepared to tolerate the poor services experienced over the past 30 years. This paper is written acknowledging that the current approach to software development for business cannot carry on as it is with poor value, many horror stories of failed projects, and cost and time overruns. This has been caused by the gulf between the business and IT that, despite being widely recognised, has not yet been bridged.

Procession's technology break-through addresses this fundamental issue with a radical, yet simple approach. It is based upon the recognition that business fundamentals have remained unchanged for centuries and need not be technology-led. In an increasingly "connected" world we recognise the relevance of isolating these businesses attributes from the technology-driven delivery mechanisms. The result is a Task Orientated Application, "TOA", that is both profound and surprising in its capability to bridge that gap between the business and IT. TOA has the capability to change the future structure of an industry long overdue for serious rationalisation. The Procession TOA has the capability to be a "disruptive" technology.

Background

Some 30 years ago, computerisation became endemic in all aspects of business life. During this period the IT specialist emerged, talking a different language to the business executives. The result is the businessperson lost control over what the IT system would provide. Businesses and their people had to conform more and more to the way the system worked. Pre-built or custom solutions became the only choices with both being prescriptive and inflexible. Some of the fundamentals of how the business best worked were lost, but perhaps the speed of processing data compensated for this. In this period, the early dream of the paperless office just never materialised; in fact, it probably became worse!

In the eighties and nineties, many of the business gurus started to push the message about the importance of improving business processes to maximise efficiency and remain competitive. This became the Business Process Reengineering (BPR) initiative and was all excellent advice, but the difficulty was that it was often seen to "battle" against the rigid computerisation using either "ERP" or custom builds in technical languages.

Some 5 years ago Business Process Management ("BPM") emerged and most gurus and industry commentators gave enthusiastic support to the concept of the "process focus". However it has not truly delivered on the hype and it has become a confused message.

More recently Service Orientated Architecture, "SOA", with web services has been put through the IT hype machine raising expectation levels but like "BPM" has now hit reality. This SOA as a means of solving business issues remains unproven. It is also largely technically-driven with associated complexity and is not readily understood by the business. Recent comment suggests SOA is already in the "trough of disillusionment".

The question is how does a business, scarred by early experiences with reengineering projects, constrained by hard-coded legacy systems, desperate to become 'agile' in order to survive, actually move forward? How can it become more efficient, more flexible, more reactive and, above all, more responsive to changing customer needs, the changing marketplace and increasing competition?

TOA a new perspective from Procession

Procession has created a unique and powerful, yet simple way to build applications. The result is best described as a "Task Orientated Application" - TOA - a new TLA (Three Letter Acronym) - from a UK company! TOAs recognise that business fundamentals have not changed so why in the 21st century are suppliers coding and recoding in technical language either custom or black box inflexible solutions? By using Java, a 20th century development language, and working with a relational database Procession has made programming languages largely redundant in the creation of business software solutions. Real technology-led developments are about "delivery" where Procession is open to choice.

"Technology" development for business solutions stays within Procession, which has been developed using clever, elegant and robust code. This allows the business to focus on business issues. Take task definitions as objects/services and liken the environment to a "contained" SOA, which enables software agility, then you are close to understanding.

Procession's TOA uses less than 13 task types ordered by links. These have been "codified" into a generic application using proven technologies. Thus software complexity is largely eliminated from delivery of applications that can be used in any part of the business. This is all contained in a data-centric environment that delivers on "agility" changing as required with no disruption. This is all built through an intuitive graphical designer. Entirely business-led, not technology-driven.

From the outset Procession has recognised the latent power in data and the relational database. By combining the storage of the task definitions as data and building a process engine in the database it was possible to build the application in a single architecture. This is without recourse to the complexity of middleware, custom coding and/or interpretive BPM language. The result is that all the required "engines" - process, rules and state - are inherent in the architecture giving both unique "agility" and "scalability" in Procession-powered solutions. Procession's Living Process™ leads with agility at runtime in the process execution.

Procession's unique, user-friendly technology "removes the disconnect between requirement and implementation" – a Butler Group quote about Procession - it enables the build of strategic processes as working applications at 20/30% of the cost of traditional methods, which will reduce further in the future as experience is gained. These systems can be added to or modified easily giving unrivalled "agility" - providing management information in real-time to support dynamic Performance Management with guaranteed compliance as required. In practice, "Procession has cracked the code for the closed loop linking Business and IT" - a still sought after goal by some of the world's largest software technology companies.

The business focus

The issues today in any organisation revolve around 3 core requirements –

1. **Compliance** – This is driven by ever increasing regulation where the bottom line is ensuring people behave within the parameters allowed in carrying out their jobs. This requires a rules-driven environment with real time reporting at operational level
2. **Agility** – This is becoming a must have requirement where by the organisation needs to respond quickly to change as circumstances dictate. Therefore any new software investment must have such capability – to be effectively “future proof”.
3. **Performance Management** – This requires an understanding of how the business runs and the areas that can make a difference in a competitive environment. Recognising that good processes are assets, but to remain so need to be under constant review and capable of change otherwise they may become a liability.

A TOA addresses all these business issues:

- The organisation can ensure that any regulatory or compliance requirements are built in through the right processes adhering to the predefined Business Rules.
- Users can test the system for acceptability, usability and suitability, so the modelling and simulation are provided as part of the acceptance testing in a real working environment.
- Since users will normally have been involved in the definition phases, user acceptance issues are minimised.
- Documentation is produced automatically, and, by definition, exactly matches that specified at design stage.
- As soon as the system goes ‘live’, the organisation knows that all employees are following the correct process.
- The whole production and time cycles to delivery of complete working applications are greatly reduced compared with classical developments, normally to less than 30% and, over time as a library of process objects are built up, frequently as low as 20%.
- Because the Procession TOA does not require custom coding, application developments stay within the control of business, either through business analysts or the people that know the business best.
- Real-time operational reports can be produced to allow businesses to become predictive and react to changing circumstances quickly.

Thus the theory and the practice are the same covering all three core issues and so the gap between businessman and the IT department is at last bridged.

The CIO issues

CIOs are facing increasing pressure to both contain even reduce the IT budget yet their business colleagues look to them for improving efficiency and ensuring compliance. “More for Less” has become a “requirement” as business face tough trading in an ever more competitive and litigious world. In a recent survey of CIOs they all said “they are under more pressure than

ever to not only deliver value for money but demonstrate it too". Many CIOs have recognised they have to be active in looking for "innovation" to help with their objectives. Indeed it is now quite likely that a person within IT has the specific remit to look for such developments.

A TOA has the ability to deliver on these objectives and assist to set up a new paradigm in any organisation to enable closer relationships between IT and the core operations of the business. Whilst responsibility for application development now rightly lies with the business delivery is technology-driven and remains with IT. Their primary role requires focus on security, good internal and external communications yet supporting the business. Technical support can aid application development e.g. sophisticated calculations and complex web forms.

A TOA becomes a tool that can be deployed in any part of the business. Adoption can take different routes. They are not mutually exclusive, but provide different emphases dependent upon the circumstances.

A Strategic Decision to adopt TOA – this is a discussion required at board/senior management level. It will initially be an educational exercise and could be as basic as understanding the task/process approach. This is not new and there are many experienced people able to provide such advice, which may include a selection of 'best of breed' as well as identifying those critical processes with direct impact on business agility.

Tactical implementation of TOA – some external consultancy in the early days may be helpful to bring best practice to solutions. The "working process" changes can be as simple or as radical as required. With the passage of time, more of these dynamic changes will be implemented by the business units themselves.

Existing project/problem – here a 'quick win' solution is needed. Experience has shown that, while initially appearing a very novel and unorthodox approach, the mapping out of a high-level process solution usually demonstrates the relevance of a task-driven solution. Then the building of a TOA application provides a very rapid and inexpensive solution to the problem.

TOA is "Disruptive"?

The arrival of TOA brings a different dimension to both IT in the business and management decision-making to drive the organisation forward using this 21st century technology. Many have called it "disruptive" i.e. has the capability to change a market place.

Procession's fundamentally new core design philosophy, recognises the generic nature of all business tasks and isolates them from technically lead delivery. It has the capability to shift the power base to customers and their trusted direct software suppliers. This removes reliance upon the industry giants that build prescribed solutions that are expensive to install and run.

Some key differentiators that will impact current supply chain in the software industry

- **Speed of Development in Application IPR** – Procession's TOA has the capability to deliver in less than 20% of time from conception to deployment. It is effectively a third choice from either pre-built functional applications e.g.ERP or a custom hard-coded build solving a specific problem. TOA reduces the barriers to build of IPR in applications and even more so if reselling "knowledge" combined with in-depth understanding of the customer and his business.
- **Annual Running Costs** – Annual maintenance support will relate only to the core TOA technology not necessarily the deployed application. External support for the deployed application is about continuous improvement as a "business partner" and should therefore be value based.

- **Emphasis on Business Knowledge not Technology** – A TOA requires, as the primary driver, the knowledge of what the business is trying to achieve with its people. Articulating this knowledge, in itself, may present a challenge, but, when analysed into step-by-step tasks, even the seemingly complex becomes simple.

All of the above will result in more emphasis being put on solving business issues when building solutions, which suggests Independent Software Vendors (“ISVs”) and Consultants who have existing relationships with customers as likely winners. ISVs will be able to extend their relationships to new solutions at a significantly lower cost with higher margins. Consultants will be able to take their consulting advice through to implementation in a seamless manner with more responsibility bringing greater added value for all.

The trend where software can be delivered as a service by an Application Service Provider (“ASP”) where web applications require only browser access at client we could see other winners being those that have the “control” and technology over the delivery mechanisms. This latter category could see Telcos and large BPO providers in a strong position. However, already accusations of poor support and customisation for this ASP model run contrary to the need for control that customers demand. The agility offered by TOA with contracts that give users security that they can “own” their custom processes and data could help accelerate this movement. One thing is for sure; TOA levels the playing field between large and small whether suppliers or users - putting the customer first delivering exactly what the customer needs not what the suppliers want to sell.

Traditional suppliers of solutions, that are “isolated” from customers and relying on “reselling”, may be the losers. The decision-making (and thus power) will lie with customers and their trusted business advisors.

Conclusion

Procession may be the first to create a working deployable TOA but will not be the last. The logic and relative simplicity make it all very attractive to users. The TOA movement will bring the business influence back into prominence along with the agility required to be compliant, remain competitive and not be left behind as faster and more reliable communications bring suppliers and customers closer together. TOA truly is a paradigm shift for business software.

The question has to be asked as to why has it taken so long for software to become business-focussed and there to be such a development as a TOA? The harsh reality is that business software up until now has been technically-driven and, until recently, the industry has resisted change and had little interest or incentive to simplify their offerings. The industry has been responsible for businesses being subjugated to the computer system, but that model is no longer sustainable. New models are emerging for software as a service that a TOA supports but also allowing custom and agile solutions to ensure all processes remain assets to the business

The clear winner in all this is the customer. The losers will come from an industry that is currently going through the biggest shake up ever seen. The implementation of TOA technologies will both accelerate this and bring even more pain across the IT industry. However this is just part of the evolutionary step to maturity just as hardware and telecommunications have experienced where the result is a commodity environment from which users are now seeing the benefit.

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www.procession.com Aerial House, Asheridge Road, Chesham Bucks HP5 2QB England
Telephone +44(0)1494 781444