

# Open Evening 2015

**SME Annual OPEN DAY**  
Saturday, July 5th 2015, 10am—1pm

The Foundation Building			The New Building		
10:00 am	General Information Meeting	Rm 022	GameDev Challenge & Encouragement Desk	Lobby	
			Display/Trail Video Games	Rm 033a	
			Presentations & Display Demonstrations	Rm 037a	
			Individual Consultation with SME Academics	Lobby	
11:00 am	General Information Meeting	Rm 022	11:00 am Goldsmiths	Rm 130	
			11:20 am Royal Holloway	Rm 131	
			11:40 am London School of Economics	Rm 034	
			12:00 pm Goldsmiths	Rm 136	
			12:20 pm Royal Holloway	Rm 131	
			12:40 pm London School of Economics	Rm 034	
			1:00 pm Goldsmiths	Rm 136	
1:00 pm	General Information Meeting	Rm 022	1:00 pm Royal Holloway	Rm 131	
			1:40 pm London School of Economics	Rm 034	
			2:00 pm Goldsmiths	Rm 136	
			2:20 pm Royal Holloway	Rm 131	
			2:40 pm London School of Economics	Rm 034	
			3:00 pm Goldsmiths	Rm 136	
			3:20 pm Royal Holloway	Rm 131	
			3:40 pm London School of Economics	Rm 034	



# Principal *Matters*

Preparing this short introduction to the Summer Aspire edition of 2015, reminds me how quickly time flies. Summer is when we are able to assess what has been achieved during the academic year, and carry out any fine tuning of our service to meet the needs of our students as best as possible.

I wish to take this opportunity to hail the sterling work of Saint Martin's Institute Students Council, which is just over its mid-term in office. I salute the members of the council for their achievements in these few months, as I thank Ms Sue Wallbank who voluntarily supported the council through their moments of crisis. The student council is taking a life of its own, and it is an important pillar for the Institute's well-being. The management of Saint Martin's will continue to support the bona fide efforts of the Council and hope that the student body appreciate the key role that students have in the development of education, channelled through the representative body. The council is what the students make it, yet its functions aren't solely entertainment and complaints. The students in a higher educational institution add to the vibrancy and intellectual spectrum of the organisation as well as work towards the general well being of all.

I conclude by wishing all Saint Martin's Institute students at the end of their programme and who will be graduating this year all the very best in their future careers. This will be a new chapter in their lives. At the same time, hope all students will attain excellent results and look forward to the opening of the 2015-2016 academic year in October.



“  
***The students in a higher educational institution add to the vibrancy and intellectual spectrum of the organisation***  
”



## *Editor's* **opinion**

As the 9th issue of Aspire is finalised I look around me and realise how much Saint Martin's Institute has progressed these last 3 years since the magazine's inception. In the last issue our Principal reminded us all that this institute has been in full vigour for 30 years. This seems and IS indeed a long time, yet we must calculate time through progress and as I look around me I realise the vast progress that is happening around me as I write. The academic staff, the administration and the student body have worked hard to develop a small institute into a huge household name. I wonder what the future will bring, yet

I am sure, dear readers, that this future reserves even greater prospects. I invite you, in this issue, to browse through the results of the hard work going on at St. Martin's, through the Abstract Showcase of our student dissertations. Take a peek at the hosting of none other than Goggle IO and experience firsthand our lecturers travelling overseas to teach at foreign institutes and universities. I believe at this point as I have always dared to believe that there are no limits when everyone works so hard in full heartfelt synch. Enjoy!





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Google



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## First ever Google Developer's Group Malta at St. Martin's Institute of Higher Education

Android television, home automation, connected cars, and smart watches; Google wants to be a part of your entire life. The theme of this year's Google I/O conference is, Android everywhere. Malta has just seen the first official Google Developer's Group approved by the international company Google.

### The People

Malta now has one of the 650 groups in 112 countries, which gathers together software developers and all those who are interested in some way in Google products and developments. The Maltese group initiated its activities with a series of workshops held at St. Martin's Institute.

**Jonathan Barbara**, is a senior lecturer in Creative Computing at Saint Martin's Institute of Higher Education. He has researched the measurement of player experience of games in transmedial narratives for his MA in Games Design and now taking it up to PhD.

**Aldrin Seychell** is a Senior Developer at Ixaris. Aldrin is a computer science graduate from the University of Malta and specialised in the synthesis of concurrent runtime monitors during his MSc. He is currently actively researching the emerging field of Reactive Programming.

**Professor Alexiei Dingli** is a Lecturer of Artificial Intelligence within the Faculty of ICT at the University of Malta. He pursued his Ph.D. on the Semantic Web at the University of Sheffield. He is an active researcher in ICT, publishing numerous papers in the past years. Alexiei is also a consultant within the ICT industry.

**Clayton J. Zammit** is a graduate in ICT and business and has been involved in Software Development and Digital Production for the past 10 years. He consulted on projects in Malta, UK and Holland. Clayton is the Managing Partner of The HIVE and is responsible for the management of various accounts of leading brands such as Corinthia, McDonalds and Izola Bank.

**Stefan Buttigieg** is a medical doctor, mobile developer, and entrepreneur. He graduated as a Doctor of Medicine and Surgery at the University of Malta, and he is currently reading for a Master's degree in Health Informatics at the University of Sheffield. He is the co-author of the "Arduino Android Blueprints" book, published by Packt in 2014

Continued on page 12 



*Dylan Seychell is the Head of Department of CIS at Saint Martin's Institute of Higher Education. He also lectures full time at St. Martin's and revels in tutoring students in their dissertations. His knowledge is based upon a series of papers that he has published over the years. He is currently researching for his PhD and has, in his academic travels of the mind, written a book together with Prof. Alexei Dingli. Aspire Magazine met Dylan and asked him about this literary experience ...*

### **1. In brief, what is this book about?**

Those born after the year 2000 have a different perspective about the world around them. These individuals take technology for granted - the internet, mobile devices and so on. These are the New Digital Natives. They are the wireless/cordless generation. They cut the chord of standard procedure and everything is now becoming disruptive; from technology to marketing. This book outlines the nature of the digital natives together with the paradigm shift that they brought about. It also assesses the technology that is rendering all this into a reality and which design approach should be employed to design for these individuals. The last chapters of the book deal with specific case studies such as smart homes to understand how this is all taking shape.

### **2. Describe the experience of writing this book?**

Long... (*Dylan gave us a melancholic smile here*) It was an interesting 3 year venture. The subject is indeed deep and many focus groups were created in order to properly synchronise the technological efforts with the way people live and behave today. There was also a national survey taking place and we needed time for data collection and evaluation of results. This is also a new field, so it was difficult to get literature together and focus it on today's reality.

### **3. How do you feel now that it is ready and printed?**

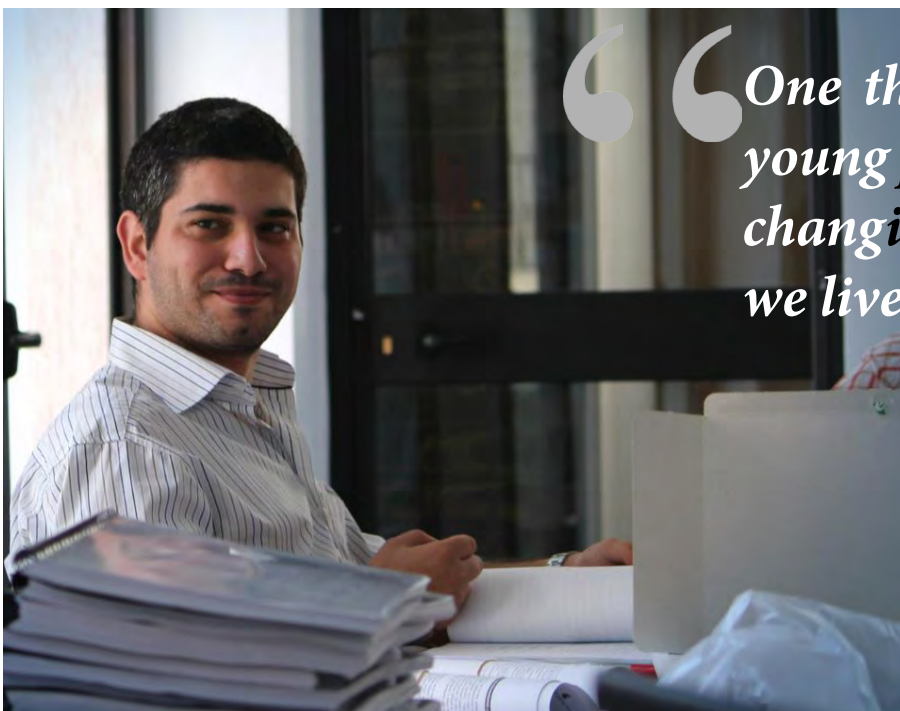
It's a nice feeling receiving the printed book. (*We could feel a tangible sigh of relief and achievement at this point!*) However, this is the start of another phase of the project. The book is intended to generate more discussion about the topic and we look forward to receiving more feedback. We are already planning more research projects ...will tell you more later.

### **4. Any tips for those who are heading towards the same or a similar venture?**

In order to publish an academic book, one needs to properly plan the entire process. It first takes time to identify the topic and carefully research existing literature around it. You then need to find ways of backing your arguments through different tools and methods. It is after this step that you actually focus on the actual writing. It is a long process and it is the love for the subject and topic that keeps you going. Those seeking other rewards should not even start such a venture in the first place.

### **5. Any publishing plans for the future that you can confide with us?**

We are exploring certain arguments presented in the book in more detail. This book was the initial piece of work that will be followed up by other research about specific sectors and situations. One thing is for sure ... young people are rapidly changing the world we live in, so we are really enjoying exploring all these different topics that were traditionally stable and are now being disrupted, giving us an endless list of topics to digest.



“ *One thing is for sure ...  
young people are rapidly  
changing the world  
we live in ...* ”

# A NEW DAWN

## A Showcase of Dissertation Abstracts from SMI

IT Outsourcing Analysis in Business Organizations.

Diane Camilleri

*Abstract*

It is inevitably that Information Technology is an essential part within every company operating any kind of business, being for profit and non-for profit organization. One has to decide whether to employ or train people internally or to outsource or partially outsource the entire Information systems. Through this research, it is indicated that in order to make the best decision, implies making the right evaluations and analyse the critical success factors of outsourcing prior making certain conclusions. Undertaking outsourcing effectively means, experiencing benefits and providing also a competitive edge to compete with the ever increasing technology innovation and competition with other companies. This research project outlines those areas which a company needs to consider when choosing to outsource part of its internal IT/IS processes. Outsourcing arrangements and management procedures are outlined in order for a company to be proactive to certain situations and also to appreciate the benefits earned and risk that may be encountered along the process. The findings of this project show the main concerns and key factors of IT outsourcing. The respondents believe that prior signing any agreement, the outsourcing vendor capabilities and working attributes needs to be examined. Also it is proven that the confidentiality and security of data could be jeopardized if total outsourcing takes place. However an IS Specialist could be hired in order to overcome this risk and to monitor the whole process. Also research shows that one of the benefits achieved is that the company can focus more on its core competence when parts of its internal process are outsourced from third party vendors. Apart from the tangible benefits, there are also those intangible which are critical to undertake and examine. These include the trust, communication and the relationship between partners. It is proven that all these contribute towards achieving a smooth and successful outsourcing process.

# Abstract

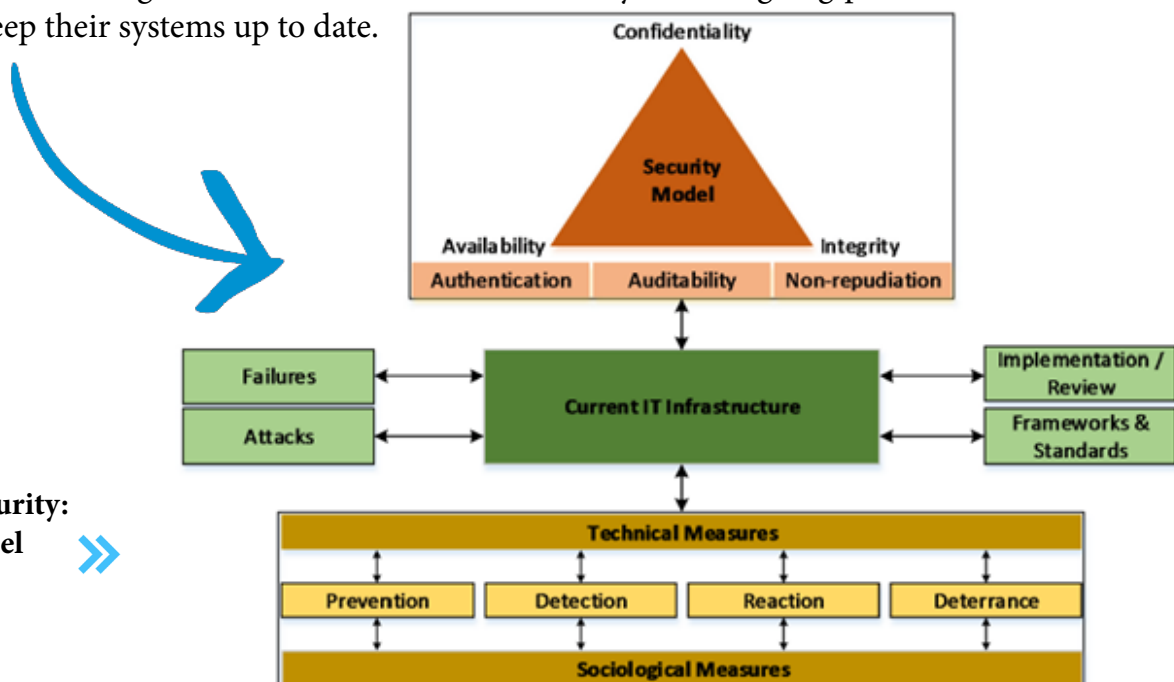
The alarmingly increasing security threats in the cyber world are of great business concern to shareholders, investors and top management. As a result, organizations are doing their up-most to safeguard their intellectual property an valuable data.

The purpose of this dissertation is to analyse the awareness and risks involved when using online systems, more important when these attacks are now targeted to users and organisations. On the other hand, this dissertation analyses the difficulties organizations encounter prior to implement an Information Security system or when carrying out maintenance on their current system. Pursuing a broad literature review, eleven hypothesis were listed as possible issues which might affect the pre-requisites of implementing or maintaining an Information Security system. Afterwards, a questionnaire was sent out to do the field work to collect data and test these hypothesis statements.

The collection of data shows that organizations are aware of the circumstances in case of a breach or infection. As a matter of fact, controls and countermeasures, for example backup systems, anti-malware applications and access controllers, are implemented at the place of work. The findings also show that top management support is visible throughout the hierarchy of the organization. Management support is crucial for such implementations since these systems come at a price. Findings also show that although an organisation can have the most complicated, multi-layered and/or expensive Information Security system in place, they would still be at risk. As a matter of fact, findings show that in the last twelve months, each and every respondent experienced either loss of data, system downtime, server failure, or attacks on their system.

Findings also show that in spite of what is being said and commented on, there is always room for improvement. Considering the fact that Information Security is an ongoing process, it is crucial that organizations keep their systems up to date.

Information Security:  
Conceptual Model





## The Nature of IS Outsourcing Relationships: a case study of small businesses in Malta

Steve Portera

### *Abstract*

The primary aim of this project is to investigate and analyse whether it is more beneficial for small business organisations to outsource their IT function rather than internally implementing it themselves. Literature explains the importance of both Information Technology and Information Systems for small business organisations' which influences decision making on whether outsourcing this function is necessary.

Both primary and secondary data was collated and analysed to prove the hypotheses in the methodology. Primary data was collected through a number of small business organisations in Malta, Europe and Secondary data was collected through the critical analysis of literature relating to Outsourcing of both Information Technology & Information Systems.

## Prerequisites of a Successful IT Outsourcing Arrangement in Business Organisations

Glenn Debattista

### *Abstract*

Over the past years we have seen an increase in the number of organizations relying on third parties to take care of their non-core functions, particularly of their information technology department, as they were promised decreased costs, more efficient services and excellent quality. However, firms have learnt the hard way that this is not always the case and that great care needs to be taken if the path of outsourcing is undertaken.

This project takes a look at what makes an outsourcing arrangement between an organization and a third party successful and therefore, what are the benefits and pitfalls of such an agreement. Outsourcing might in fact not be for everyone, but when used properly can offer firms big advantages over their competitors.

Using the literature review as my theory background and applying this knowledge to first create a conceptual model and then prepare a questionnaire, I have obtained findings that both accepted and rejected the hypothesis statements which I tried to prove during this project.

In fact, statements about outsourcing, derived from my research, which have been accepted include that they are 'important for an organisation to reach its business targets'; 'to improve its information systems capabilities and help the client'; and 'vendors share both risks and rewards'. On the other hand, other statements implying that 'it is just a fashionable idea to imitate'; that 'vendors act opportunistically when in control of information technology functions'; and that 'staff offer resistance to change when it is implemented', were rejected.

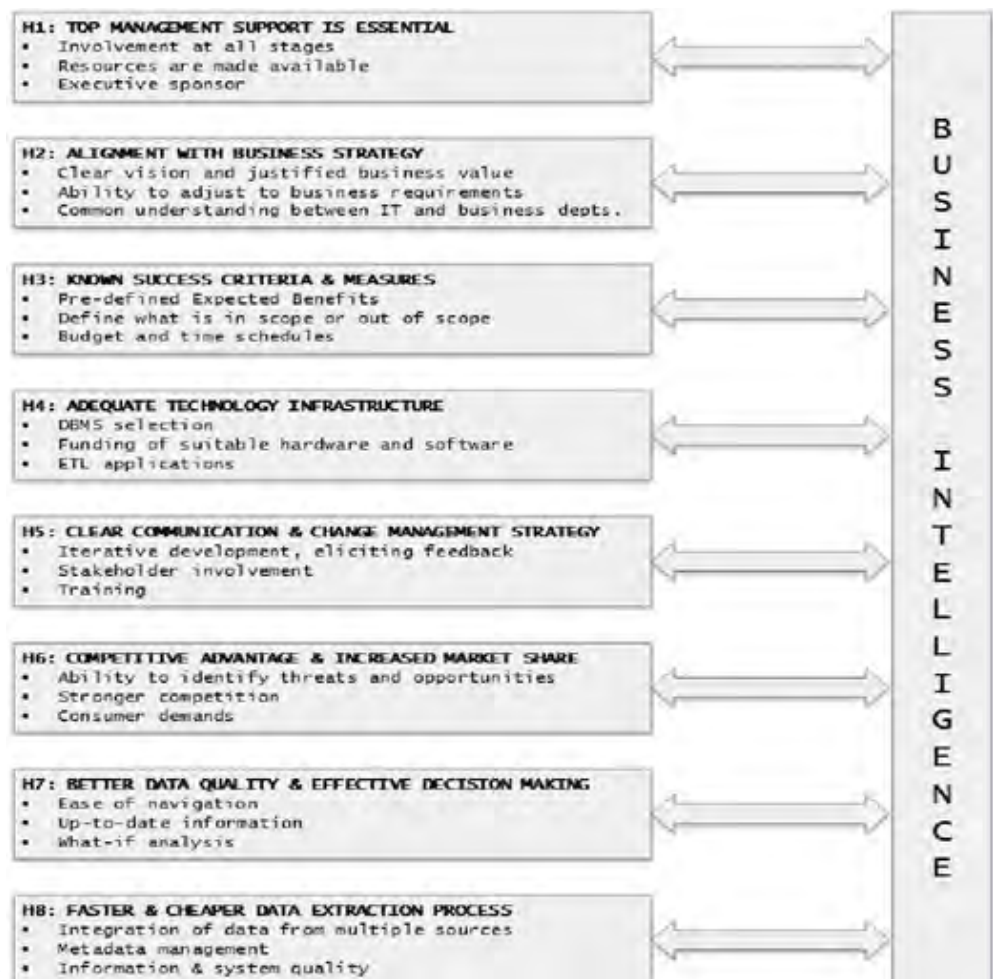
# Critical Success Factors of a Business Intelligence Implementation

Andrew Farrugia

## *Abstract*

With the ever increasing pressures of globalisation and complex business climate, transaction processing systems are not enough for today's business requirements. More and more organisations are turning to Business Intelligence (BI) in order to gain analytical insight, create knowledge and enable businesses to make intelligent decisions in their operations. In the midst of the overwhelming amounts of data and information overload, BI is a concept for delivering specific and accurate information in the correct format to the right people as required.

Research identifies that implementing BI is not an easy assignment and failure rate is high. BI projects tend to go over budget, over schedule and drain firms of its human resource; three critical elements in every organisation's survival. The Critical Success Factors of a Business Intelligence Implementation is thus an imperative subject area to study. Identifying which elements can contribute to the success of this implementation enables organisations to improve their business performance. Here the objective was to present a conceptual model encapsulating the critical factors underlying the success of a BI system, which in return rewards its pledged benefits. A number of CSFs were illustrated in a conceptual diagram as a result of an extensive literature review. Following a quantitative research, various perspectives were collected and each element of the model was tested. Findings show that in BI, business and organisational factors such as top management support, business-IT alignment, open channels of communication and change management strategy are of top priority, however one should not disregard its equally important technical aspect, setting the grounds of any BI implementation. Effective decision making and an efficient data extraction process were identified to be primary benefits gained from BI systems.



CSFs of a BI Implementation:  
Base Model

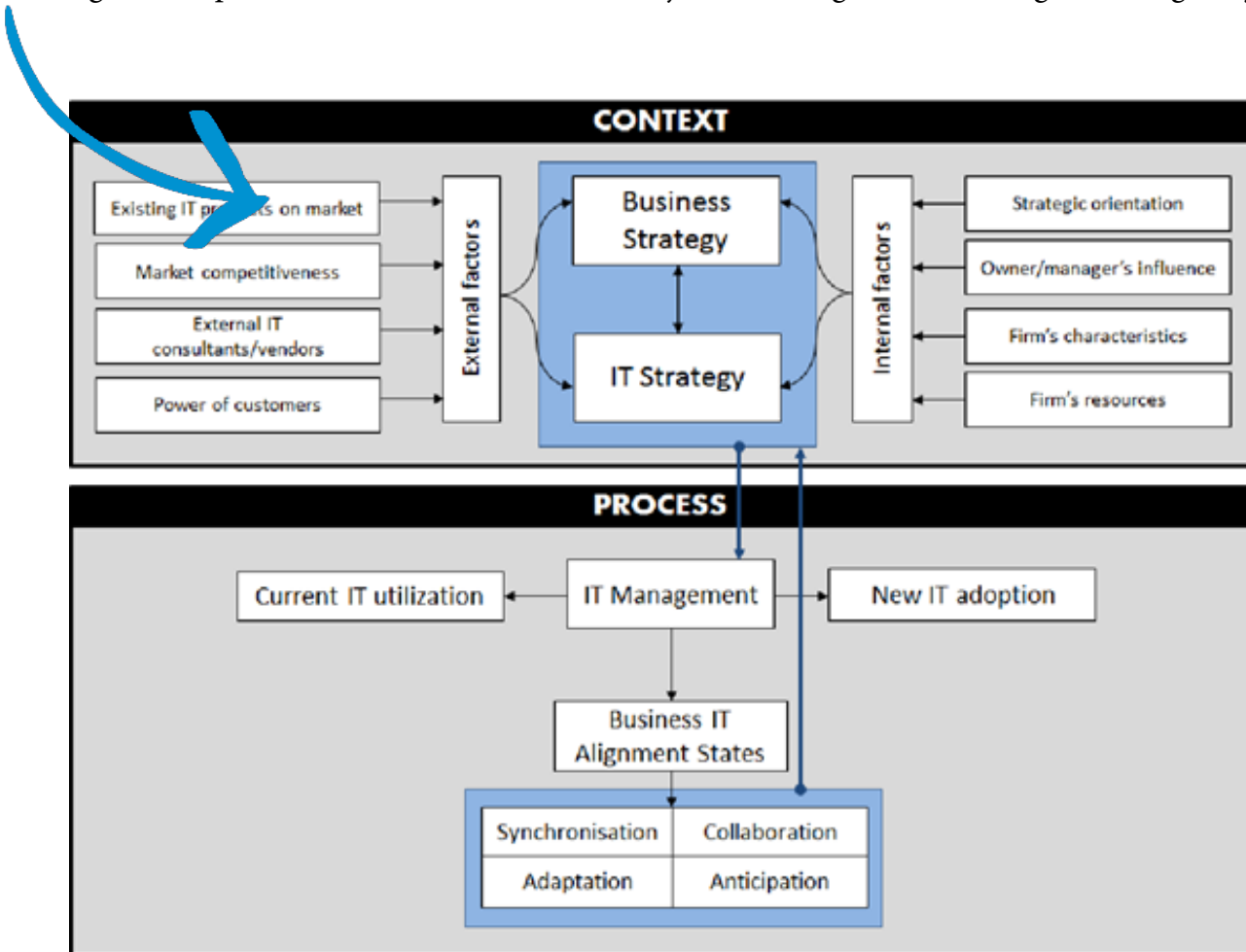


Information Technology changes the way companies organize their business processes, communicate and deliver their products. Consequently, the growing dependence of a firm's business strategy on information technology and its ability to use it strategically is one of the key issues in IT management.

The aim of this study is to critically assess the strategic use of IT in micro and small Maltese firms. Using the Miles and Snow topology, firms are classified according to their strategic orientation. The aim is to assess whether the strategic use of IT is influenced by the strategic orientation.

Following a comprehensive literature review, a conceptual model is proposed. A set of nine hypotheses which will be researched in this study are mapped to the conceptual model. An exploratory qualitative research was carried out to serve as ground work to the formulation of the questionnaire for the ensuing quantitative research.

The research findings show that whether IT is seen as a support function or a strategic tool depends on the strategic orientation of the firm which in turn is influenced by the type of market in which the firm operates. Although firms tend to see IT more as a cost than an asset, this does not directly affect the strategic use of IT. Firms do acknowledge the importance of IT but lack access to the required IT knowledge and expertise which is identified as a major inhibiting factor to using IT strategically.



# Enhancing the precision of an emotional-based texture retrieval system using Kansei Engineering.

Matthew Von Brockdorff

## *Abstract*

For over three decades, Kansei Engineering has expanded significantly and has become an important research discipline, especially in the Asian culture. The fundamental goal of Kansei Engineering is to recognise and translate human sensibility, sensuality and emotion into design details, in relation to what is known as the user's Kansei. This is done in order to achieve a more human-centred word. This study explores whether Kansei Engineering can improve the precision of an emotion-based texture retrieval system. People frequently make use of adjective words to express different emotions. Thus, the proposed system allows the user to query the collection of textures by making use of emotional words, rather than visual properties of the textures. Various visual features extracted from the textures are used as the Kansei features. The user is then allowed to build a Kansei User Model which influences the retrieval process by capturing how the individual associates specific emotions with the various Kansei features extracted from the images. This way the system can potentially retrieve textures that can stimulate the desired emotion. The comparison between the proposed system and an online search engine (Google Images) results was achieved by making use of a questionnaire survey. The overall outcome of this study shows that there is still room for improvement. Nonetheless, the analysis performed led to three interesting key outcomes that offer encouraging opportunities for future work. The first key outcome suggests that it is likely that the proposed system has a higher precision rate than Google's results for non-Western users. Secondly, the creation of the Kansei User Model captures the Kansei need of individuals that are exposed to art better than of those who are not. This means that such a retrieval system would be a great tool for any kind of designer. Finally, the results also indicate that unlike Google Images, the proposed system has the potential of achieving precise results independent of the complexity of the emotion.

**KEYWORDS:** Kansei, Kansei Engineering, textures, image retrieval, emotions.

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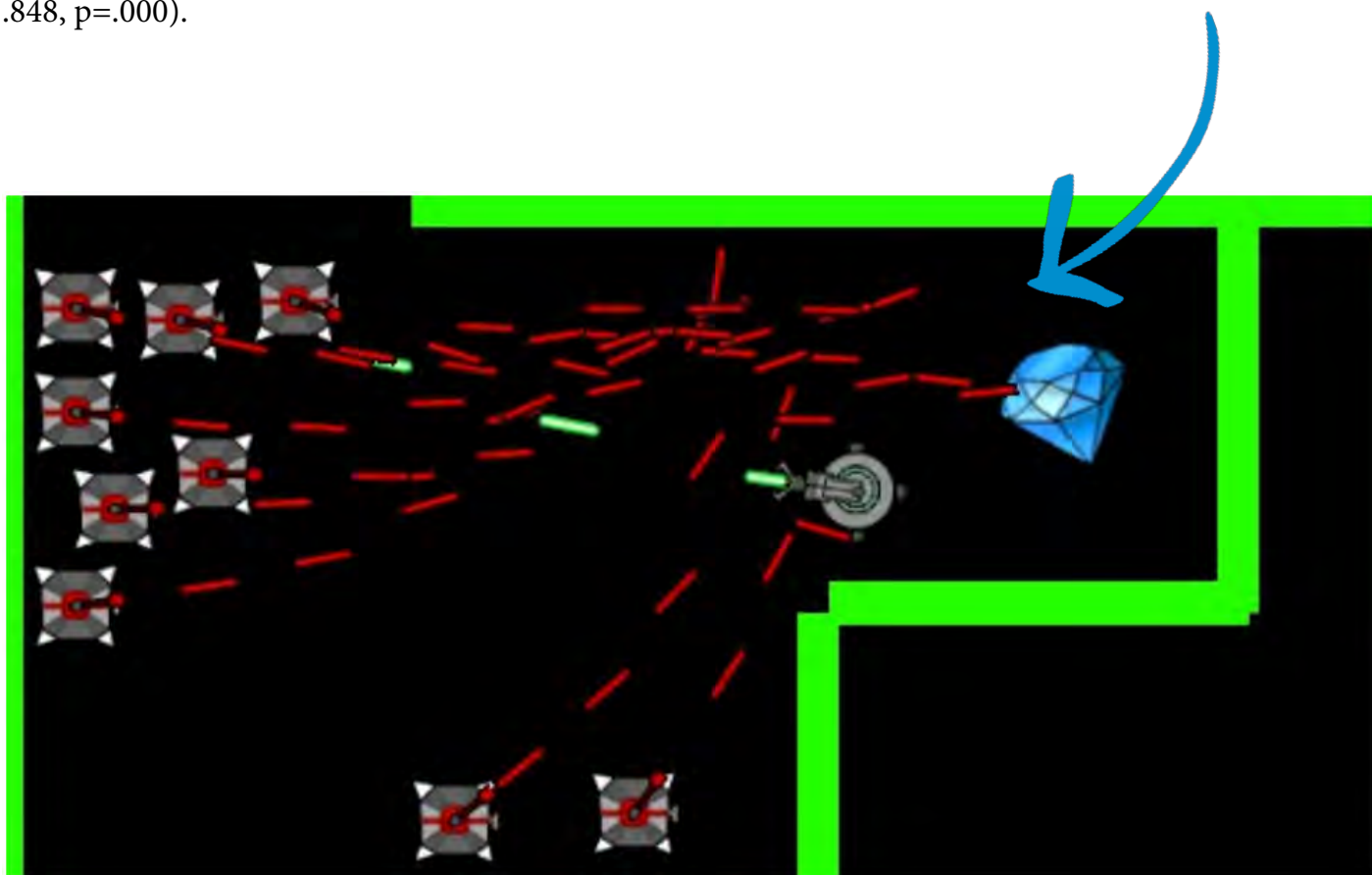
# Investigating the effect of procedural content generation on the replay value of digital games


Kenneth Camilleri

## *Abstract*

This project investigated the motives behind replay value of digital games and the effects of procedural content generation (PCG) on replay value. Replay value, also known as replayability, is the intrinsic ability of a game to give players a reason to explore its content after first exposure. PCG is the creation of content using a variety of algorithms, and this is a method often used in digital games for various reasons.

The study ran a questionnaire ( $n=82$ ,  $\alpha=.963$ ) and identified nineteen motives that drive players to replay games, and with it has proposed a methodology for gauging player responses to the replay value of a new game. Following that, the effects of PCG on the replay value of a digital game of the bullet-hell maze shooter genre were investigated by a randomized controlled trial ( $n=72$ ,  $\alpha=.978$  &  $.946$ ). It was found that PCG makes no statistical difference to the mean replay value, but makes a difference in five replay motives ( $p<.034$ ). The means of three of these five motives were found to significantly differ with age and gender. Finally, two components of Player Experience measured by the Game Experience Questionnaire were found to correlate significantly with the mean replay value via linear regression ( $R=.848$ ,  $p=.000$ ).



DroneBlast: A bullet-hell maze game prototype 

An evaluation of the map-reduce algorithm on private, public and hybrid clouds: An image processing case study.

Andrea Schembri

## *Abstract*

As the computing generation evolves, the world is faced everyday with new problems that engineers and other IT related professionals have to find solutions for. A major concern currently being faced is the ability to process huge amounts of data being generated on a daily basis. This phenomenon is known as 'Big Data'.

Even though new super computers are being built and continuous improvement of hardware is one of the key factors to solve the problem of processing huge amounts of data, it is surely not the only solution. Another option to overcome this issue is to find ways and means of how one can make use of current resources in computing to connect them together and create one huge super computer made out of hundreds or even thousands of instances. This is where 'Cloud Computing' takes its shape. Cloud computing is becoming very popular and companies like Amazon Web Services are generating huge income by providing such services.

However, cloud computing on its own cannot do much unless the software is programmed to handle huge amounts of data, distribute same over the entire network of computers, process and finally collects the data. One such software instance is Hadoop. Hadoop is a framework based on the Map-Reduce algorithm designed by Google Inc., which takes huge amounts of data, distributes them over the whole network of computers that make up the cloud, performs some kind of processing on the data itself and ultimately collects all the data into one single file.

This project will provide a walkthrough of the whole setup of such a system over a private, public and hybrid cloud. This will give the possibility to evaluate the Map-Reduce algorithm and underline the weaknesses and advantages of such an algorithm when contrasted against a single computer processing. In order to perform such experiments an image processing use case will be setup. This will identify the time gain achieved in respect of processing time of distributed processing systems is, when compared to single computer processing.

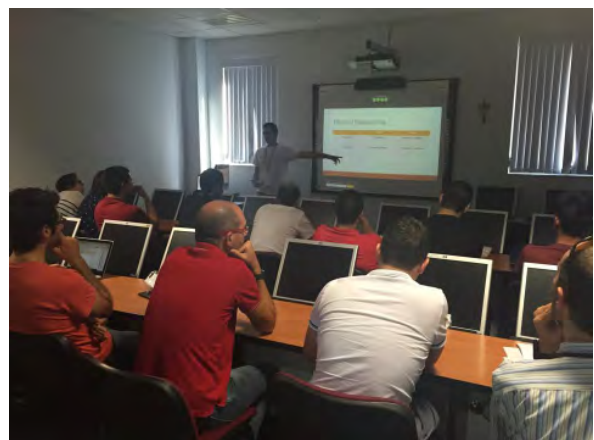




1. **Reactive Programming for Android** - Many devices we use today have multiple cores. Do we really make use of them all? Reactive programming is an emerging discipline which combines concurrency and event-based and asynchronous systems. This workshop, delivered by Aldrin Seychell, Senior Developer at Ixaris will introduce this paradigm within the Android context.
2. **Google Translate: Way forward for Artificial Intelligence** - Significant improvements were made to the new update of Google Translate application. These significant changes are the fruits of AI and there is more to come! Deep learning is gaining pace and will reshape our future. AI Professor Alexiei Dingli will lead this workshop.
3. **Ingress: A transmedial game in your pockets right now** - The world around you is not what it seems. Every monument, historical building and public place could be a portal spewing Exotic Matter into this world and two factions are battling over its control. Who are these agents and what is their aim? Will you join the worldwide battle and seek to dominate the world of Ingress - all through your mobile? Jonathan Barbara, a creative computing lecturer with his specialization in transmedia and games narratives will be leading this workshop.
4. **Measuring your Business Performance with Google tools** - Today, you can practically manage the key functions of your business from your mobile device. These functions vary from marketing, to actual measurement of performance. This workshop will be lead by Clayton J. Zammit who is a consultant on this field on a local and international level.
5. **Creating Android Applications for Healthcare** - Google Fit, a healthcare API from Google can be nicely used within Android applications in this current leap in mobile technology. We are carrying in our pockets, and even wearing, devices with a wide range of sensors that can be used to improve our way of life. MD and developer Stefan Buttigieg will lead this workshop.

# The

# WORKSHOPS



# Taking MARBOA

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abroad

St. Martin's has always been since its inception, an educational institute of many firsts. After ensuring a strong foothold in academic prowess and regular publishing in academic journals worldwide, it has gone another step into the future. St. Martin's has launched its first exchange lecturer project. We have seen in other *Aspire* issues the effect of MARBOA lecturers in Malta - this being incalculably positive. This month, SMI lecturers have started travelling to England to deliver their knowledge across the seas.

*Aspire Magazine* invites you, through an exclusive interview, to meet a lecturer who is currently still in Birmingham teaching British students.



**Mark Bugeja** -  
Currently lecturing overseas.



**Q** What are you teaching currently at SMI?

I am currently teaching object oriented programming, web development, networking, test driven development and game development.

**Q** What is the correlation between SMI and Birmingham?

I was not involved from the beginning.

**Q** What is your current role at Birmingham?

I am a visiting lecturer and I am teaching theory behind 3D modelling and building 3D environments. I am also helping out in different creative areas where needed.

**Q** How do you describe this experience in one sentence?

It is great to be teaching in a different environment from what I am used to. As an educator I got to learn a lot from this experience.

**Q** What are your feelings now that this experience is nearly over?

I enjoyed my time here a lot and I am looking forward to applying what I have learned here, back at SMI.



# Boardgames +

by Jonathan Barbara

## MEASURING USER EXPERIENCE IN BOARD GAMES

Saint Martin's Institute of Higher Education, Malta

Volume 6, Issue 1. Copyright © 2014. 16 pages.

### ABSTRACT

Measuring user experience in board games is broadly unexplored with research mainly focused on digital games. This paper assesses the suitability of using a questionnaire, developed for digital games, for use on board games - thus providing a common measure of user experience between board and digital games. The study involved play testing a themed board game with undergraduate computing students and alumni, measuring user experience via the Games Experience Questionnaire whilst testing for reliability and validity. Findings obtained high scores in both criteria, suggesting that the GEQ is a suitable tool to measure user experience in board games and thus a valid candidate for comparing game design across varied game media such as digital and board games.

**Keywords :** *Transmedia, user experience, board games, narrative interviews, game design*

Article URL: <http://www.igi-global.com/article/measuring-user-experience-in-board-games/115579>

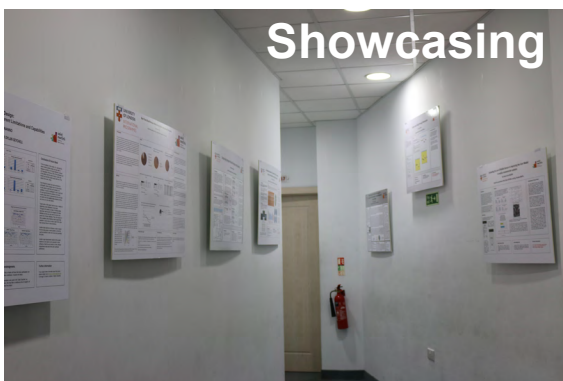
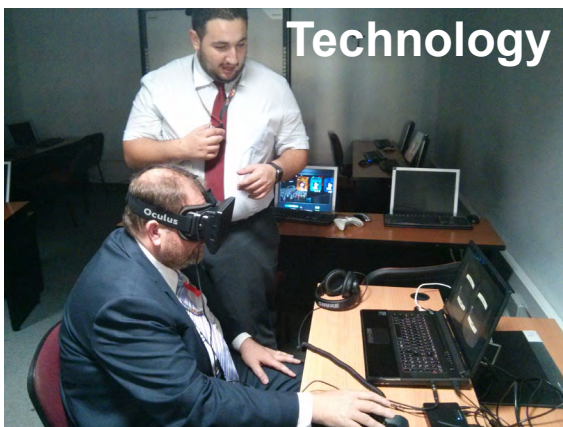


# Open Evening

## Join Us!

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**Academic English**  
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**Diploma Creative Computing**  
**Diploma Economics**  
**Diploma Entrepreneurship**  
**Diploma Social Sciences**

**BSc (Honours) Accounting and Finance**  
**BSc (Honours) Banking and Finance**  
**BSc (Honours) Business Management**  
**BSc (Honours) Business Administration**  
**BSc (Honours) Business Administration in Marketing**  
**BSc (Honours) Business Administration in Human Resource Management**  
**BSc (Honours) Business Administration in International Business**  
**BSc (Honours) Computing and Information Systems**  
**BSc (Honours) Creative Computing**  
**BSc (Honours) Economics & Management**  
**BSc (Honours) Mathematics & Economics**

**Diploma for Graduates in Accounting**  
**Diploma for Graduates in Banking**  
**Diploma for Graduates in Finance**  
**Diploma for Graduates in Management**

**MSc Information Security**  
**LLM**



Discussions with Lecturers

University of London Representatives



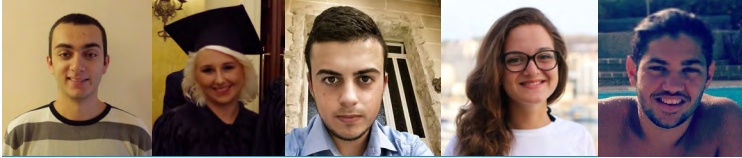
Variety of available courses



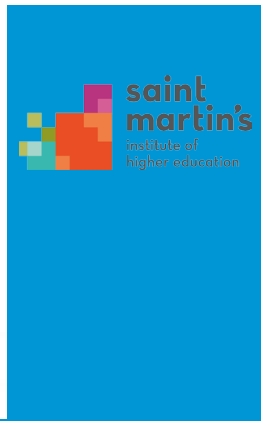
Proof of Excellence



# Council says



st. martin's institute  
student council



St. Martin's Student Council would like to thank all who attended the Summer Barbeque. It was another massive success and a beautiful way how to end a fruitful academic year.

St. Martin's Student Council wish all readers a restful Summer period. See you all next academic year!

st' martin's institute student council

