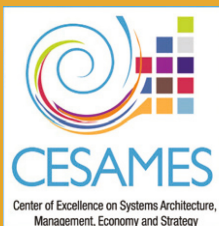


Pierre-Jean Benghozi
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Digital Enterprise Design and Management 2013

Proceedings of the First International Conference
on Digital Enterprise Design and Management
DED&M 2013



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Proceedings of the First International
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and Management DED&M 2013

 Springer

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ISSN 2194-5357
ISBN 978-3-642-37316-9
DOI 10.1007/978-3-642-37317-6
Springer Heidelberg New York Dordrecht London

ISSN 2194-5365 (electronic)
ISBN 978-3-642-37317-6 (eBook)

Library of Congress Control Number: 2013934119

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Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Introduction

This volume contains the proceedings of the first International Conference on « Digital Enterprise Design & Management » (DED&M 2013 ; see the conference website for more details: <http://www.dedm2013.dedm.fr/>).

The DED&M 2013 conference was jointly organized by the Dassault Aviation – DCNS – DGA – Thales – Ecole Polytechnique – ENSTA ParisTech – Télécom ParisTech “Engineering of Complex Systems” chair, the Orange – Ecole Polytechnique – Télécom ParisTech “Innovation & Regulation” chair and by the non profit organization C.E.S.A.M.E.S (Center of Excellence on Systems Architecture, Management, Economy and Strategy) from February 12 to 13, 2013 at the Jardins de l’Innovation of Orange in Paris (France).

The conference benefited of the permanent support of many academic organizations such as Ecole Centrale de Paris, Ecole Polytechnique, Ecole Supérieure d’Electricité (Supélec) and Télécom ParisTech which were deeply involved in its organization. A special thanks is also due to Agirc-Arrco, BizzDesign, BNP Paribas, Bouygues Telecom, MEGA International and Orange companies which were the main professional sponsors of the conference. All these institutions helped us to make the DED&M 2013 a great success.

Why a DED&M Conference?

The Digital Enterprise begins to emerge, but real changes that will bring digital business models and digital processes at the heart of organizations are still to come. There is a real stake, on the one hand for the professional organizations that must understand this evolution and appropriate it as a genuine enterprise model and on the other hand, for the academic world to form the actual skills upstream and develop research activities focused on key digital challenges. This is why mastering digital systems requires an integrated understanding of professional practices as well as sophisticated theoretical techniques and tools.

To do so, we believe that it is crucial to create an annual *go-between* forum at international level, opened to all academic researchers and professional practitioners who are interested in the design and the governance of digital systems from an Enterprise Architecture perspective. The “Digital Enterprise Design & Management (DED&M)” conference meets exactly this objective. It aims to become the key place for international debates, meetings and exchanges on the Enterprise

Architecture dimension of the digital business. Our event namely intends to put digital issues at the heart of its program, but also to bring together all business and technological stakeholders of the Digital Enterprise.

The DED&M conference scope integrates consequently both the digital customer & business dimensions (new digital customers behaviors, digital strategies, proposal and distribution of digital value, digital marketing, digital resources management and governance, digital corporate partnerships, etc.) and the underlying technological dimension (information & communication technology, information systems architecture, database & software engineering, systems and networks engineering, etc.).

The DED&M Academic-Professional Integrated Dimension

To make the DED&M conference this convergence point between the academic and professional digital enterprise communities, we based our organization on a principle of parity between the academic and the professional spheres (see the conference organization sections in the next pages). This principle was implemented as follows:

- all Conference Committees (Organizing, Program and Strategic) consisted equally of academic and professional members,
- Invited Speakers are also coming equally from academic and professional environments.

The set of activities of the conference followed the same principles: it is indeed a mix of research seminars and experience sharing and academic articles & professional presentations. The conference topics covers in the same way the most recent trends in the digital enterprise field from a professional and an academic perspective, including the main professional domains and scientific and technical topics.

The DED&M 2013 Edition

The DED&M 2013 first edition received 25 submitted papers out of which the Program Committee selected 12 regular papers to be published. Only the best papers were selected by the Program Committee in order to guarantee the high quality of the presentations. 2 complementary invited papers written by the conference invited speakers were also published in these DED&M 2013 proceedings.

Each submission was assigned to at least two Program Committee members who carefully reviewed the papers (in many cases with the help of external referees). These reviews were discussed by the Program Committee during a physical meeting held in C.E.S.A.M.E.S. in October 2012 and via the Easy Chair Conference management system.

We also choose 12 outstanding speakers with various professional and scientific expertises who gave a series of invited talks. The first day was dedicated to the presentation of **new digital business models**. It consisted of 6 high-profile invited seminars in order to give to the participants a clear, synthetic and large vision of the domain. An open discussion with the invited speakers as well as series of contributed presentations were completing this first day that ends into the conference diner in La Cité de la Céramique de Sèvres. The second and last day of the conference was devoted to new **digital practices and technologies**. Six invited speakers as well as contributed presentations were illustrating this theme. "Best papers awards" were announced at the end of the day by the Scientific Committee chairmen and by the president of C.E.S.A.M.E.S. A farewell cocktail finally ended the conference.

Acknowledgements

We would like finally to thank all the members of the Strategic, Organizing and Program committees for their time, effort and contributions to make DED&M 2013 a top quality conference. A special thank is addressed to C.E.S.A.M.E.S. non profit organization team as well as to SW & Vous which managed permanently with an huge efficiency all the administration, logistics and communication of the DED&M 2013 conference (see <http://www.cesames.net>).

The organizers of the conference are also greatly grateful to the following sponsors and partners without whom the DED&M 2013 would not exist:

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Paris, February 13, 2013

Pierre-Jean Benghozi – Ecole Polytechnique
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Frantz Rowe – Université de Nantes

Conference Organization

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- Program Committee Chairs
 - Frantz Rowe, professor, Université de Nantes, France
 - Marc Fiammante, distinguished engineer, IBM Software Group, France

Program Committee

The Program Committee consists of 8 members (academic and professional): all are personalities of high international visibility. Their expertise spectrum covers all the conference topics. Its members are in charge of rating the submissions and selecting the best of them for the conference.

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- Dinesh Ujoodah, Société Générale, France

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 - Jacques Printz, CNAM, France
 - Pierre-Frédéric Rouberties, CEISAR, France
 - Michalis Vazirgiannis, Athens University, Greece

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The Strategic Committee helps to define the strategic orientations of the conference. All its members are coming from top executive management of worldwide leading organizations.

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 - Jean-Max Arbez, Boost, Switzerland
 - François Bourdoncle, EXALEAD, France
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 - Hervé Gouëzel, BNP Paribas, France
 - Françoise Mercadal-Delasalles, Société Générale, France
 - Grégoire Postel-Vinay, DGSIC, France

Invited Speakers

DAY 1: New Digital Business Models

- Nicolas Colin, Inspecteur des Finances, Inspection Générale des Finances – France
- Dominique Cuppens, Information Systems Director, RFF – France
- Fernando Iafrate, Senior Manager Business Intelligence, EuroDisney – France
- Sylvain Lafrance, Professor, HEC Montreal – Canada
- Jerry Luftman, Professor, Global Institute for Information Technology Management – United States
- Jean-René Lyon, CEO, MphasiS Wyde – France

DAY 2: New Digital Practices & Technologies

- Richard Baskerville, Professor, Georgia State University – USA
- François Bourdoncle, CTO, Exalead - Dassault Systèmes – France
- Dietmar Fauser, Director Software Development, Amadeus – France
- Hervé Panetto, Professor, University of Lorraine / CNRS – France
- Patrick Starck, President – CloudWatt – France
- Paul Timmers, Director Sustainable & Secure Society, European Commission – Belgium

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Use Case: Business Intelligence “New Generation” for a “Zero Latency” Organization (When Decisional and Operational BI Are Fully Embedded)

Fernando Iafrate

1 Introduction

Business Intelligence link to an EDA (Event Driven Architecture) for a “Zero Latency Organization”

2 What for?

“To Serve Every Day Thousand of Dreams”

When the operational performance is a key success factor to deliver the expected customer on site experience (where the dreams come through), the monitoring of this performance in order to anticipate and take the right action is mandatory.

The Business Intelligence link to and Event Driven Architecture in conjunction with business process, is the corner stone of the monitoring of the on site activity.

This is achieved via predictive analysis, near-real-time traffic monitoring and performance management.

3 Key Issue

What are the factors that lead to successful strategic deployment of business intelligence and information management?

Fernando Iafrate
Senior Manager Business Intelligence,
EuroDisney
France

4 What You Need to Know

Disneyland Paris built a world-class Business Intelligence environment, which provides customer-focused strategic and near-real-time operational insight to a broad set of users. Business activity is predicted and continuously monitored against key performance indicators (KPI's). Unexpected traffic patterns and congestion in the parks are quickly identified and addressed. As with most successful BI projects, best practices were involved in the project, such as a strong focus on business problems over technology, sticking to pre-defined infrastructure standards and reliance on a BI competency center.

Disneyland Paris, located near Paris, was opened in 1992 and has become the most frequented tourist destination in Europe, with over 16 million (in 2012) visitors per year. Its business goes beyond the theme parks to include hotels, shops and restaurants.

Disneyland Paris has long understood that customer satisfaction is a key business metric.

Each day is different at Disneyland Paris. While crowds move in predictable patterns that vary with the season and day of the week, a cloudy day or sudden rain storm can create unpredictable traffic flows.

Business Technology (IT) department at Disneyland Paris embarked on an OPM (Operational Performance Management) project to provide "real time" information and alerts about operational business activity to the operational managers, so they could become aware of urgent conditions, make fact-based decisions and take immediate action. The project was a partnership between the BT organization and line-of-business users. An OCC (Operation Control Center) and distribution system was planned to monitor the global operational activity. To Disneyland Paris, building the OPM application was more than just a project — it was a cultural change that embraced real-time information as a way for it to become more customer-centric and to be better achieving its motto "**to serve every day, thousands of dreams.**"

5 Challenge

Disneyland Paris was faced with a challenge was driven by technical and business issues, but also a change in operational activity monitoring culture (move from an on site manager skill/local context based decision to a solution fact based decision monitored by the OCC).

- A key business requirement was to reduce customer waiting time wherever possible.
- Cultural changes were driven by a workplace that required action based on, and workers were made more accountable for their **zero-latency decision** (is a decision where the action latency is align on business process timing) operational efficiency, which was continuously measured. Along with increased awareness came a degree of autonomous authority to correct problems at the local level. In effect, everyone was to be made responsible for customer satisfaction.

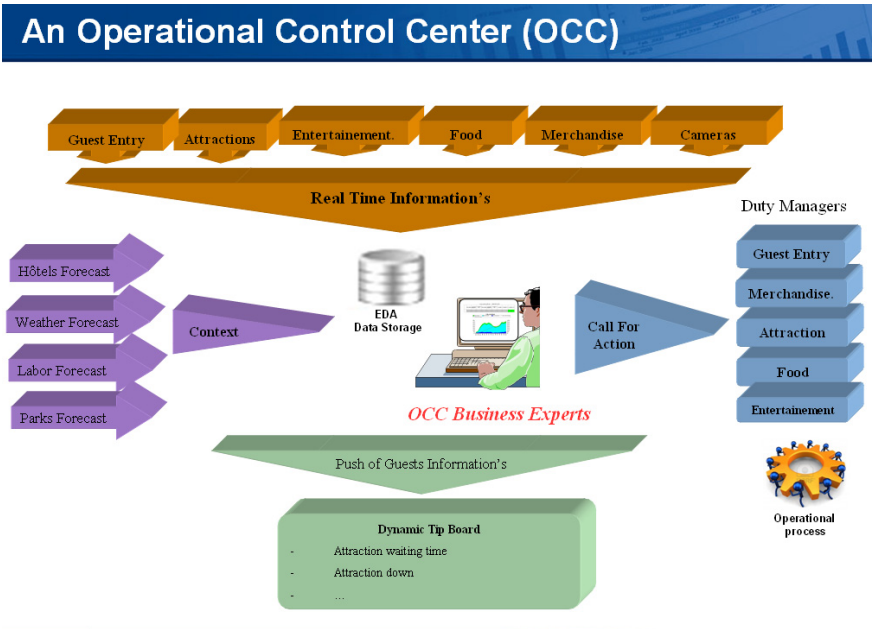


Fig. 1 The Operational Control Center

The Service Day : About 20+ customer iterations on the Resort

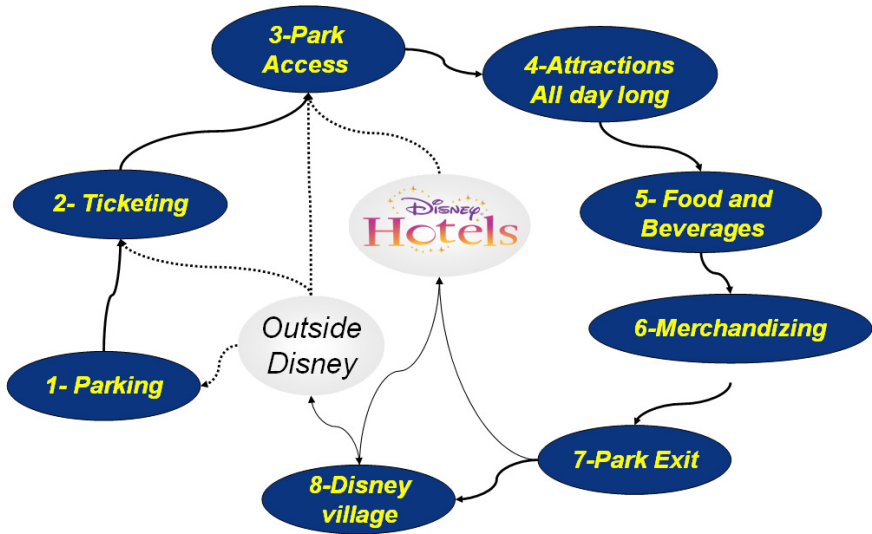


Fig. 2 On site customer interactions

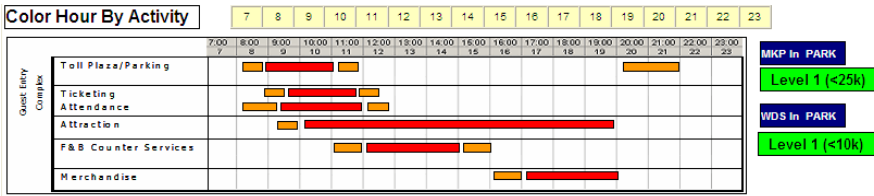


Fig. 3 The daily activity workflow by peak period (in orange & red)

6 Approach

Disneyland Paris took a multilevel approach to implement the operational performance management solution and processes. An operational control center was created in order to provide a global view of the on site activity (parks, restaurants, shops...). The Information latency is aligned to business process timing (time needed to implement a corrective action), which is near real time. The operational control center is staffed with expert from each line of business in order to anticipate the collateral effect of a local issue.

As part as the operational performance management solution, the employees can have access to their operational performance metrics against the goals of their own department and others. The solution is also available on mobile devices, allowing the managers to receive alerts and high-level reporting.

The project leverages the same BI tools that Disneyland Paris uses for its standard reporting solution. An engineering study confirmed that the system components (network, operational systems, data integration tools and reporting tools) would perform well under low-latency conditions (moving less data but more frequently). Data is gathered from hotels, ticket windows, food service outlets, merchandise stores and attractions. Acceptable report performance is achieved by accessing some of the data directly from transaction systems, and other from the decisional systems. The data model for operational reporting has been standardized across all sources. The only raw data collected is date & time, location, transaction count and associated revenue. All metrics and KPIs are derived from the simple data model, but this leads to powerful indicators. For example, shop productivity is determined by correlating the percentage of cash drawers that are opened within a five-minute window, with the number of people that entered the shop. Short-term history is maintained by the solution. The business rule logic performs threshold analysis of metrics and generates alerts. Overnight, the history from that day is loaded into a data mart for use in predicting future traffic patterns and a new local modelization & forecast is executed every hour, in order to realign the targets with the current operational environment (i.e. variance in term of parks attendance)