Universitat d'Alacant
Universidad de Alicante

lsi Departamento de Lenguajes y Sistemas Informáticos

El póster científico

Sergio Luján Mora

Poster

- Definición:
  - Presentación visual de un trabajo científico
- Tamaño:
  - A2, A1, A0
- Uso:
  - Hacer visible el trabajo en la propia institución, en una reunión científica
  - Hacer visible el trabajo en un encuentro científico
- Control de calidad:
  - *Program committee* (si lo hay)

- Una lectura rápida (3 páginas):

“How to make an academic poster”

Buket Gundogan, Kiron Koshy, Langhit Kurar, Katharine Whitehurst

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How to make an academic poster

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HIGHLIGHTS

- Academic posters are an excellent way for trainees to showcase their work at conferences and meetings.
- When done effectively they provide a succinct and attractive summary of your project.
- This guide aims to provide trainees with a practical and concise method to prepare their academic poster.

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How to
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ABSTRACT

Academic posters are an excellent way to showcase your work at conferences and meetings. They can be used in poster presentations and serve as a summary of your project. In this how to article, we demonstrate how trainees can make and deliver a successful academic poster.

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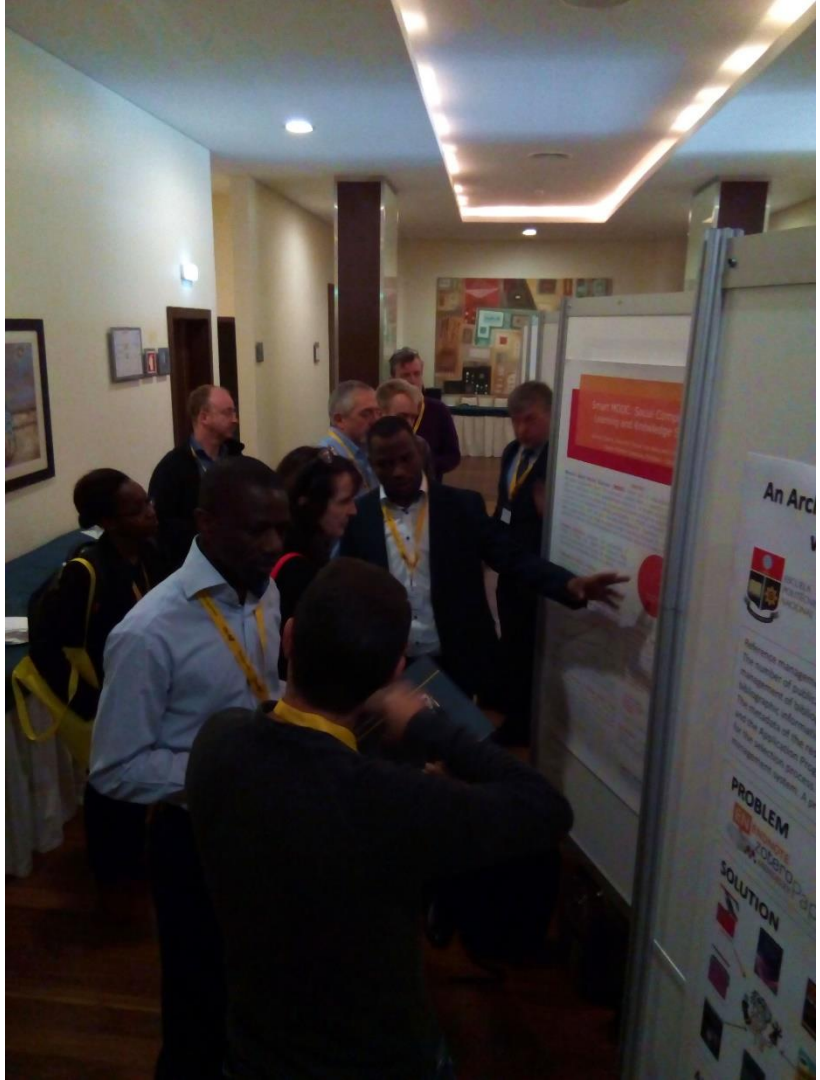
¿CÓMO SE PRESENTA EL PÓSTER?


An Architecture to Enhance a Reference Management System with Recommendations from Open Linked Data
PROBLEM
SOLUTION
ARCHITECTURE


Smart MOOC: Social Computing for Learning and Knowledge Sharing
A Methodology to Conduct Computational Thinking Activities in Children's Educational Context


PROBLEM
SOLUTION


PROBLEM
SOLUTION
ARCHITECTURE

El objetivo principal debería ser…

An opportunity to give and get information

Think about it. A poster session is an opportunity for you to tell others about your work. It is an opportunity for you to receive constructive comments, criticism and suggestions about your work. And your poster is an advertisement for both you and your laboratory. What a shame to botch such an opportunity by putting up an illegible, boring, overcrowded poster. But it's more than just a shame: others may judge both you and your work – and maybe even your laboratory – by your poster!

B.S. Brown, Communicate your science!. Producing punchy posters, Trends Cell Biol. 6 (1996) 37e39.

Pero el objetivo real es…

- Lo más importante: ¿se publica un artículo asociado al póster?
- Una vez se tiene el artículo publicado en las actas, no se suele indicar cómo fue presentado

- Instrucciones de congresos en las que se explica que los pósteres son publicados en las actas:

Paper Format and Submission

All manuscripts should be written in ***English*** and submitted in PDF format. The review process is, peer review and double blind, the names of authors should not be included, only accepted papers will be requested to include names. There are three paper submission categories:

- **Long Paper (Scientific Paper).** Submissions should report on substantial contributions of lasting value. The length is 6 to 8 pages. Each accepted paper will be presented either in a plenary session as part of the main conference or in a poster session. The presentation may include a system demonstration. We expect the review process to be highly selective. *Papers that do not respect the minimum and maximum length and include the name of authors will be automatically rejected.*
- **Short Paper (Case Studies or practical research).** Submissions typically discuss exciting new work that is not yet mature enough for a scientific paper such as case studies. The length is 4 to 6 pages. Each accepted paper will be presented either in a plenary session as part of the main conference or in a poster session. The presentation may include a system demonstration. *Papers that do not respect the minimum and maximum length and include the name of authors will be automatically rejected.*
- **Poster Papers.** Submissions that present new ideas and initiatives with potential to advance the state of research and state of practice in the field. The length is up to 4 pages. Each accepted paper will be presented in a poster session. *Papers that do not respect the maximum length and include the name of authors will be automatically rejected.*

For additional information you can contact us to: paper-submission@edem-egov.org.

CFP for POSTERS

The Poster Track is a forum to foster interactions among researchers and practitioners by allowing them to present their new and innovative work in-progress. The poster session will give conference attendees an opportunity to learn novel on-going research projects through informal interactions. Submitted posters are expected to be aligned with one or more of the relevant topics to the The Web Conf community. The Poster Track covers the same topic areas as the main conference.

Posters will be peer-reviewed by members of the Poster Committee based on originality, significance, quality, and clarity. Poster authors are not required to transfer copyright. Accepted poster papers will be allocated 2 pages in the conference proceedings. In addition to the 2-page submission, accepted poster authors will be asked to create a print poster. In addition, they may submit an electronic poster to be displayed in a dedicated poster area, and present their work during the poster session at the conference.

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Logistics Partner:

SCITEVENTS SCIENCE AND TECHNOLOGY EVENTS

Position Papers

Submission: Position Papers should be submitted for review with around 6 or 7 pages, with the appropriate font size and page format, including references, tables, graphs, images and appendices. Submissions with less than 4 pages or more than 9 pages will be automatically rejected.

Acceptance: After a double-blind peer review, qualifying Position Papers will be accepted as Short Papers.

Presentation: Position Papers are given either a 20' minutes slot for an oral presentation or assigned to present at a Poster Session. Authors who have been assigned an oral presentation may however also choose to present at a Poster Session instead, should they prefer it.

Publication: Position Papers will be assigned a 8-page limit in the Conference Proceedings, which will include final versions of all accepted papers, adjusted to satisfy reviewers' recommendations. If absolutely necessary, authors may increase the total number of pages by a maximum of 4 extra pages, for an additional fee. The total number of pages to consider is the number obtained after the paper has been correctly formatted according to the appropriate template. The Conference Proceedings will be published under an ISBN number by SCITEPRESS, on paper and CD-Rom support, and made available for online consultation at the SCITEPRESS Digital Library. Online publication is exclusive to papers which have been both published and presented at the event.

Indexation: The proceedings will be submitted to Thomson Reuters Conference Proceedings Citation Index (CPCI/ISI), INSPEC, DBLP, EI (Elsevier Engineering Village Index) and Scopus for indexation.

Schematic Summary

MIS EJEMPLOS

Integration of Web Accessibility into Agile Methods

Sergio Luján-Mora, Firas Masri

Department of Software and Computing Systems, University of Alicante, Spain

about:blank

ABSTRACT

In a short period of time, the World Wide Web has had a huge impact on our society and lives. In web sites and web applications, **accessibility** and usability are essential key requirements. Unfortunately, most web sites are **inaccessible** to many disabled people and fail to satisfy the most basic standards for **accessibility**. Many of the barriers people with disabilities face on the Web are completely avoidable and the disadvantage associated with disability can be entirely overcome. To support the **accessibility** of web sites, different **accessibility** guidelines and standards have been introduced for the last ten years. Nevertheless, a web site can meet **accessibility** standards, but it can still difficult for people with disabilities to use it. Moreover, web **accessibility** has been often an afterthought in the development process of web sites. In many cases, web developers provide an adaptation or a fix to the interface of a web site after it has been released to the public. In this paper, we argue that the adoption of **agile software development methods** can help to improve the **accessibility** of web projects. Besides, the integration of **accessibility** into **agile methods** is proposed.

about:blank

AGILE ACCESSIBILITY

Manifesto for Agile Software Development — **Agile Accessibility**

Agile values

- Individuals and interactions
  - Cooperation between people participating in the design and implementation must be encouraged.
  - **Everyone** in a development team must be **engaged with web accessibility**.
- Working software
  - From the beginning of a project, web site prototypes should be delivered with accessibility in mind.
  - **Accessibility testing** must be done from **the early stages** of a project and must not be postponed to the end of the project.
  - **Accessibility testing** must be run **continuously** and must be automated.
- Customer collaboration
  - It is very important to have instant access to feedback from disabled people: **accessibility user testing** is the best technique to identify (and later correct) accessibility problems.
  - Accessibility user testing highlights important accessibility problems and leads to **rate the severity** of the problems correctly and **prioritize the impact** of accessibility problems.
- Responding to change
  - Traditionally, user interfaces have been created assuming that users have concrete tasks or goals in mind, but when users surf the Web, **their goals shift and change** as they find their way through the Web. There is a clear shift in the effort of a web project: whereas in the past, the main part of the working effort was invested in programming, nowadays the **main effort is put on the maintenance and the adaptation** to the new requirements and functionalities.

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An Architecture to Enhance a Reference Management System with Recommendations from Open Linked Data

ESCUELA POLITÉCNICA NACIONAL

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Department of Informatics and Computer Science
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Universidad de Alicante

Reference management software helps students and researchers to store and to cite publications in different citing formats. The number of publications grows each year and the researchers devote so much time to the retrieval, analysis and management of bibliographic information. We present a framework to support the search, download and management of bibliographic information. A content-based recommender module based on Open Linked Data is included into the framework. The metadata of the research publications and the corresponding PDF files links are extracted using the recommender module and the Application Program Interface from the Directory of Open Access Journals (DOAJ). The results are presented to the user for the selection process. The metadata of the selected publications are stored in a local database integrated in a bibliographic management system. A prototype was developed and was tested with information from DOAJ.

PROBLEM

Reference management is a hard task for researchers. At present, the researchers have access to more information than they can consume and most of the retrieved publications are not so relevant. The search for related work is a hard consuming task for researchers. The number of publications grows each year.

SOLUTION

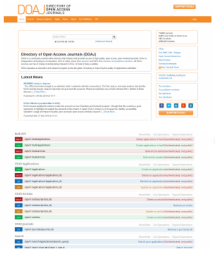
A framework for a reference management system including a content-based filtering recommender approach based on **Open Linked Data** for open access to scientific publications.

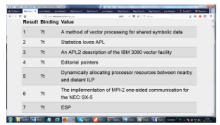
A recommender system for research publications is a useful application to help researchers to know the state of the research in a specific topic. A good recommender system is one that recommends the most relevant items considering the user preferences and goals.

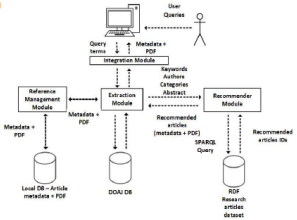
The information is extracted from the **Directory of Open Access Journals (DOAJ)** for the initial search combined with information from **ACM publication metadata** for the recommendations.

The retrieved publications are stored in **Wikindx**, a free bibliographic and quotations/notes management and article authoring system.

ARCHITECTURE








```
SELECT DISTINCT count (?links) WHERE
{
# output links
{ <inURI > ?links <cRURI >. }
# input links
UNION
{ <cRURI > ?links <inURI >.}
}
```

The similarity of two resources (r1, r2) is measured by:

LDSD (r1, r2) =1/(1+Cdout +Cdin)

PROTOCOLO DE PRESENTACIÓN

- Revisad las instrucciones concretas de cada congreso

Actions
On-line Registration
Registration Fees
Deadlines and Policies
Submit Paper
Guidelines
Templates
Glossary
Author's Login
Reviewer's Login

Information
Conference Details
Important Dates
Technical Program
Social Event
Call for Papers
Program Committee

Presentation Details

Poster Presentations at the Conference, Special Sessions and Workshops

Posters will have dedicated sessions on the technical program of the conference, during which authors must be next to their poster to answer questions. The poster must not exceed the A0 (84 cm X 118 cm) portrait format. Please use an appropriate font size for the posters so that they are readable by the participants from 1.5 meter away. The poster message should be clear and understandable even without oral explanation. Please assure the poster is placed on the board before the beginning of the poster session. Authors are required to stand by their posters during the whole poster session, during which the participation certificates will be distributed. The poster must be printed beforehand and brought along to the conference by the author. Alternatively, the conference may provide a printing and transportation service but you must contact the secretariat at least one month ahead before the conference dates, inquiring about costs and deadlines. Please note that it is not acceptable to print A4 sheets and hang them at the poster board.

Oral Presentations at the Conference, Special Sessions and Workshops

All technical session rooms are equipped with a video projector and a computer running Microsoft Windows with Microsoft PowerPoint and Adobe Acrobat Reader. It is recommended that your presentation is uploaded to PRIMORIS before the conference, which ensures that it will be stored at the aforementioned computer by the time it is needed. However, you may prefer to bring it in a USB drive (also recommended as a backup precaution). Using your own laptop or smart device, as long as it is enabled with VGA output connection is possible but not recommended. The presenter should prepare a set of slides that clearly illustrate the main points of her/his paper, and make sure the presentation fits well within the assigned time slot, leaving at least 5 minutes for a period of question-answering. Should sound be required,

Instructions for Posters/Demonstrations:

Posters/demonstrations will be in held in the Grand Caribbean Ballroom (Lobby Level) at The Loews Sapphire Falls Resort, Universal Studios Orlando, Florida.

1. Sessions are scheduled: Monday, July 23, Tuesday, July 24 and Wednesday, July 25, 2018. Posters/Demonstrations will be displayed during the designated timeslots listed in the Final Program: http://www.ahfe2018.org/posters.html

2. Posters should be positioned 30 minutes prior to the designated start of the timeslot (Morning Sessions: 10:30 - 12:30 / Evening Sessions: 13:30 - 15:30). Posters should be removed no later than 30 minutes after the end of the designated timeslot.

3. Posters will be mounted on poster boards located at the Grand Caribbean Ballroom (Lobby Level) at The Loews Sapphire Falls Resort, Universal Studios Orlando, Florida (one poster per board) with tacks which will be available on site.

4. The poster boards are 4 feet (height) x 8 (feet) wide. Printed posters should not exceed this size. Poster presenters can mount multiple single sheets of paper, larger posters, pictures, or any printed materials on the boards.

5. Construct the poster to include the title, the author(s), affiliation(s), and a description of the research, highlighting the major elements that are covered in the abstract.

6. Make sure your lettering is neatly done and is large enough to be read from a distance.

7. Equipment needed for demonstrations is the responsibility of the presenter.

- Normalmente, los organizadores habrán preparado los paneles y habrán indicado dónde se debe colgar cada póster

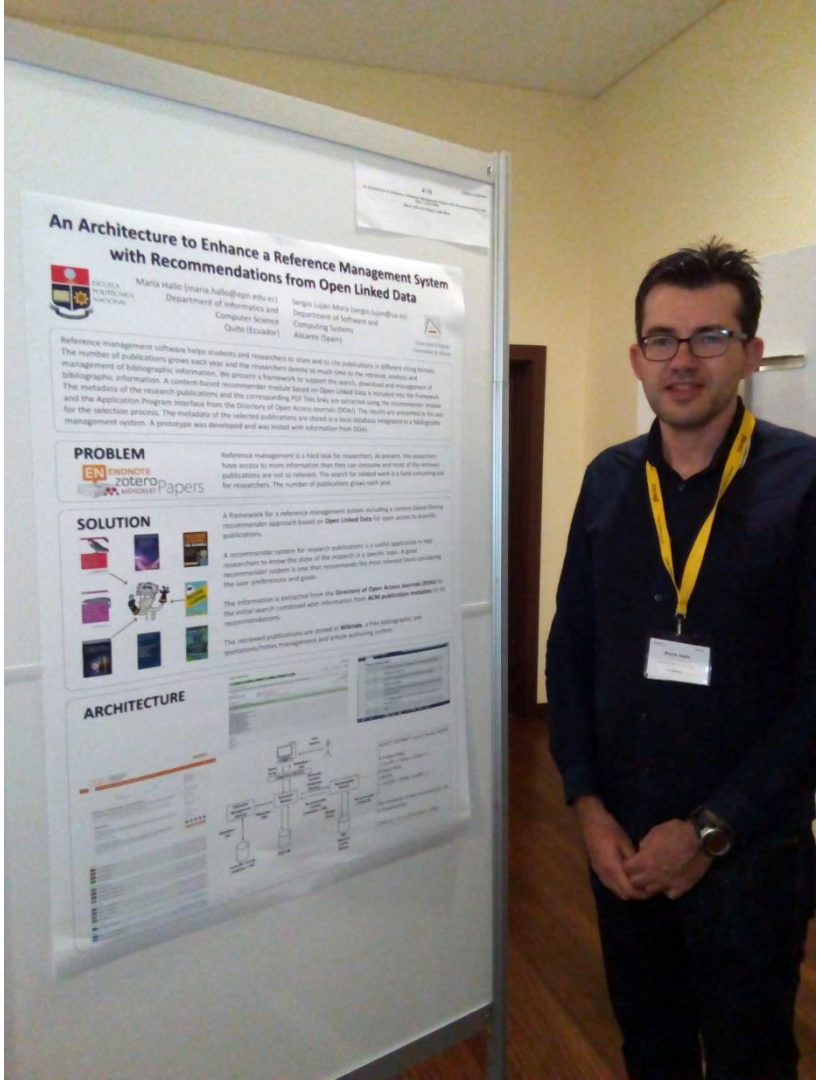
CSEDU Conference

#175

An Architecture to Enhance a Reference Management System with Recommendations from Open Linked Data

María Hallo and Sergio Luján-Mora

- Te quedas al lado del póster durante toda la sesión, esperando que alguien interesado se acerque para hacerte preguntas


An Architecture to Enhance a Reference Management System with Recommendations from Open Linked Data
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Quito (Ecuador)
Sergio Luján-Mora (sergio.lujan@ua.es)
Department of Software and Computing Systems
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PROBLEM
ENDNOTE
zotero
Papers
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SOLUTION
A framework for a reference management system including a content-based filtering recommender approach based on Open Linked Data for open access to scientific publications.
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The retrieved publications are stored in Wikindx, a free bibliographic and quotations/notes management and article authoring system.
ARCHITECTURE

- Sonríe, se amable, crea un ambiente de discusión y toma nota (¡lleva una libreta!) de las preguntas e ideas que surjan

ERRORES

- Un póster no es un artículo científico

Abstract

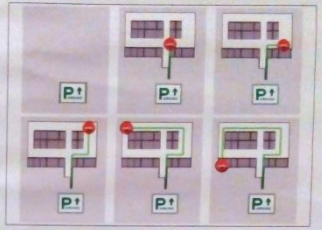
Introduction
Proposed Method
Evaluations
Future Work

PRECISE VEHICLE POSITIONING FOR INDOOR NAVIGATION VIA OPENXC

Yusuf Turk Baturay Ozcan Sezer Gören
Department of Computer Engineering, Yeditepe University

Abstract

We propose a method for vehicle positioning for indoor locations like parking garages. Our method does not require other external positioning systems such as GPS. Instead, we determine the vehicle position from the vehicle data obtained from an OpenXC dongle attached to the OBD-II interface of the vehicle. An accompanying smartphone application which connects with the dongle via Bluetooth is developed. This application calculates the position of the car and applies the algorithms proposed in this paper to the vehicle data received from the interface. The route of the vehicle is then constructed and displayed on the smartphone screen. As a future work, an assistant application will be developed that guides the driver to the spot where the car was parked before.

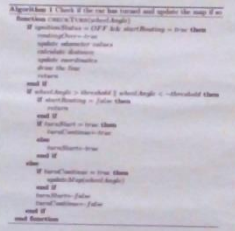


Introduction

This paper focuses on offering a route assistance solution for the cases where GPS is not available such as an indoor parking garage multiple levels below the ground. Our solution is based on OpenXC platform (OpenXC Platform, 2011). OpenXC vehicle interface is composed of a microcontroller with two external connections – one to the CAN bus via the OBD-II port, and one to the host device via USB or Bluetooth. It passively listens for a subset of CAN messages, performs required unit conversion or factoring and outputs a generic version to the USB interface. Many vehicle output parameters such as vehicle speed, steering wheel angle, door status, wind shield status, etc. are available and sent through Bluetooth and received by a custom smartphone application developed on iOS or Android operating system. OpenXC API enables the development of custom applications using the information retrieved from the vehicle. The adapter and the smartphone communicate through Bluetooth. In this paper, we developed a smartphone application which uses the real-time values retrieved from OpenXC interface in order to draw and save the route of the vehicle on the indoor map of the parking garage and offers precise vehicle positioning for indoor navigation. In the future, our smartphone application can be updated to guide the driver to the already parked car using the saved route.

Proposed Method

OpenXC supports various number of measurements of a car such as engine speed, steering wheel angle, fuel consumption, accelerator pedal position, ignition status, etc. The data retrieved using the OpenXC API as JSON formatted messages in a class called Vehicle Messages. In our design, we make use of three of the measurement data received through OpenXC vehicle interface: i. steering wheel angle, ii. odometer, and iii. ignition status. Steering wheel angle provides the information about the angle of the steering wheel in degrees in a range from -600 to +600. When the steering wheel is turned to the right, positive values are read in the message and negative when to left. Odometer gives the data of the distance that the vehicle travels as a unit of kilometer between the values 0 to 16777214 with about 0.2-meter resolution. Ignition status returns as a Boolean value indicating one of the 4 states of the ignition: off, accessory, run, and start.



In our implementation, we have three functions:

i. CheckTurn,

ii. UpdateTurn,

iii. UpdateDirection.

CheckTurn function checks whether the car has turned or not. If so, the route is updated. At the beginning, we consider the ignition status of the vehicle. If it is off and the car is in the parking area, we know that the driver has parked his/her car in a parking spot. Therefore, we update the route and return.

In order to detect a turn, we set a threshold value for the steering wheel angle. If the current angle of the steering wheel exceeds the threshold we assume turn is started or continues when it has already started. Exceeding the threshold means that the angle can be over the positive threshold or below the negative threshold. When this is the case, we check the *startRouting* value which indicates if the car has entered the parking area or not. If false, just return. Otherwise, if the vehicle has already started to turn, we set *turnContinue* value as true. If not, that means rotation is just started, then we set *turnStart* value as true. If the threshold value is not exceeded but the car was in turning state, we predict that the rotation is over and update the map. To do this, we need the other two functions: updating the coordinates with turn points and updating the direction after the turn. The threshold value can be adjusted to detect the different types of curves. For example, a U-turn is detected when there are multiple and complete steering wheel rotations.

Evaluations

The car was driven inside the indoor parking lot until an empty parking spot is found. The OpenXC adapter used in tests does not support GPS and all the location services including the GPS was disabled on the smartphone. While we were doing the tests, we always observed that the vehicle and parking lot sizes are detected with an error of less than a half meter. In addition, we also observed that the route was successfully drawn without crossing the area of the parking space. The steering wheel angle range from -600 to 600 where positive values indicate that wheel is turning to the right and negative values indicate that the wheel is turning to the left. If the driver turns left, it does not necessarily mean that the steering wheel angle values will always be negative. This is because the steering action can consist of steering to the right for a certain angle, followed by a large angle steering to the left. Among all the in-car tests, our algorithm calculated the steering angles and turn direction correctly.

Future Work

As a future work, driver assistance to the last parked location of the vehicle will be added as a new feature to our application. In addition, detection of the story level in multi-story parking garages is another future work. We expect that smart parking solutions and assistants like our approach will be more common in the following years.

Contact

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A Decentralized algorithm to revisit the debate of centralization and decentralization approaches for cloud scheduling

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Contribution

Existing cloud management systems are mostly based on centralized architectures and energy management mechanisms are suffering several limitations. To address these limitations, our contribution is to design, implement, and evaluate a novel cloud management system which provides a holistic energy-efficient VM management solution by integrating advanced VM management mechanisms such as underload mitigation, VM consolidation, and power management. In this paper, we introduce a distributed task scheduling algorithm for Clouds that enables to schedule VMs cooperatively and dynamically inside a federation of clouds. We evaluated our prototype through simulations, to compare our decentralized approach with a centralized one. Our results showed that the proposed scheduler is very reactive.

Introduction

Decentralized algorithms solve the main shortcomings of centralized algorithms such as scalability, fault tolerance and bottlenecks which can significantly degrade performance, the adequacy of the cloud computing environment and autonomy. In centralized scheduling, one cloud scheduler maintains a complete control over the clusters. All the jobs are submitted through the cloud scheduler. In contrast, in decentralized scheduling, organizations maintain (limited) control over their schedules. Jobs are submitted locally, but they can be migrated to another cluster, if the local cluster is overloaded. The possibilities of migration are, however, limited, so that migrated jobs do not overload the network and the node themselves. The aim of this article is to compare energy consumed by centralized algorithm and decentralized algorithm. In this paper, we compare both classes of scheduling algorithms, centralized and decentralized ones.

Related Work

The choice of a single master node can lead to well-known fault-tolerance issues or a node can be overloaded; a subgroup of VMs may be temporarily isolated from the master node in case of a network disconnection; QoS properties may not be ensured any more if the master node crashes. Some nodes could be overloaded which increases the energy consumed. A centralized approach will always be subject to scalability, reactivity, and fault-tolerance issues. We investigate whether a more decentralized algorithm approach can tackle the aforementioned limitations. (Quesnel and Lèbre, 2011) designed a distributed VM scheduler (DVMS) to be nonpredictive and event-driven, to work with partial views of the system, without any potential single points of failure. Our DVMS thus has the same characteristics and is more reactive, more scalable, and more tolerant to nodes crashes or network disconnections. Kang and Choo (Kang and Choo, 2016) introduced an Inter Cloud Manager (ICM) job dispatching decentralized algorithm which operates well in large scale environments.

Algorithm statements

There are in total N sites and in each site a set H_i of nH_i nodes distributed in a cloud data center system with the same start time U. $H_{i,j}$ is the node j in site i. Each time when one node (initiator) attempts to (re)assign a task to another node (or the same node) for execution, the initiator is called the requester node, and the node receiving such a request is called the responder node. Each task $VM_{i,j,k}$ $i \in [1, 2, ..., N]$ and $j \in [1, 2, ..., nH_i]$ is sent from node $H_{i,j}$. The decentralized algorithm is comprised of two phases, namely the job submission phase and the dynamic scheduling phase, which work together to ensure both a quick job distribution and an optimized rescheduling effect.

Job submission and dynamic phases

The job submission phase is the first phase of the algorithm. Each time a node j, receives a $VM_{i,j,k}$ submitted by its local user, node j behaves as a requester node $H_{i,j}^{req}$ and generates a request message $VM_{i,j,k}^{req}$ for $VM_{i,j,k}$.
This phase solves some problems related to the ever changing data center infrastructure during VM submission phase. It allows for example a redistribution algorithm for a VM that is in a long tail and thus a node can not be executed instantly.
The selection of the node that will receive the task is the same as during the submission phase except that the initiator is no longer a candidate node.

Results

The final simulation results show the gain in energy and makespan does not depend on the numbers of jobs but mostly of the distribution of jobs between nodes. The gain in energy and makespan don't depend on the number of jobs but mostly of the distribution of jobs between nodes.

Expression neutralization improves results on the expression dataset without decreasing the accuracy on the neutral testset. Plotted is the ratio of correct answers to the number of possible correct answers.

Centralized (Cent) vs Decentralized (Dec) algorithms With

Energy

Migration

In Figure (Energy) it is easy to notice that energy consumed by the distributed algorithm is comparable to centralized strategy for low number of jobs. These poor results are caused by low number of migrations since majority of jobs can be executed without exceeding their due dates. This situation changes for higher loads when number of migrations is increased and the distributed algorithm outperforms the centralized in some case. We achieved similar results for centralized algorithm which use migration and anti load-balancing techniques.

Centralized (Cent) vs Decentralized (Dec) algorithms With

Maximum nodes switched on

Makespan

When a cluster load is below the under-loaded threshold, centralized and Decentralized algorithm are able to migrate jobs to more-loaded clusters and switch off under-loaded cluster. In this case, performance measures and energy depend strongly on the collaboration of less-loaded clusters. When their cooperation is too low the system as a whole starts to be inefficient, although the performance of the less-loaded clusters is not affected. Consequently, we consider that there must be some minimal cooperation that results from a cloud agreement. As in real systems the job stream changes, this minimal cooperation can be also interpreted as an 'insurance' to imbalance the load. From the experiments above, we can get the obvious conclusion that both the Centralized algorithm and Decentralized algorithm can reduce energy consumed of data centers. Figure (Makespan) above shows the execution time for all tasks and both schedulers. We can see that the two algorithms have the same behavior.

Finally we can get the obvious conclusion that both Centralized and Decentralized algorithm algorithm can reduce energy consumed of data centers. Compared to centralized algorithms, decentralized algorithms have a simplicity that makes them promising in practice though for a verification more experiments are required.

References

References

Kang, B. and Choo, H. (2016). A cluster-based decentralized job-dispatching for the large-scale cloud. *EURASIP Journal on Wireless Communications and Networking*, 2016(1):25.

Quesnel, F. and Lèbre, A. (2011). Cooperative dynamic scheduling of virtual machines in distributed systems. In *European Conference on Parallel Processing*, pages 457–466. Springer.

¡Hasta tiene referencias!

- ¿Por dónde se empieza a leer el póster?
  - Debe existir una jerarquía visual que guíe el proceso de lectura
  - Si no la existe, se puede indicar mediante números o letras

¿Summary?
¿En medio del póster?

SIEMENS

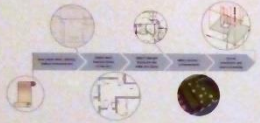
SMARTGREENS 2018

Digitalization of Legacy Building Data

Preparation of printed building plans for the BIM process

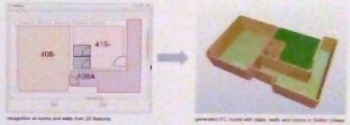
Workflow

Recognize compartments and spaces in CAD data of different maturity level



Features

- Polygons are converted into spaces, slabs and walls
- Creation of doors / area of rooms can be measured
- BIM IFC file is created and stored to disk



Summary

Building Information Modeling provides a new way of augmenting geometric models by semantic data. Currently, conversion of legacy data is a cumbersome manual process, which regularly leads to non-compliant, defective models. We provide a novel procedure to automate the digitalization process and prove the feasibility of an automated derivation of simulation models.

Challenges

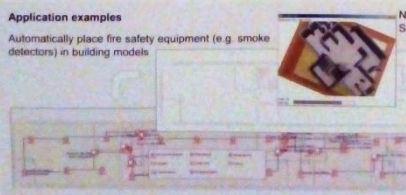
- Digitizing issues / errors
- Reduced quality of source data
- Availability and standardization of API-based IFC creators
- Non-conform BIM/IFC data
- Wrong expectations

Users' benefits

- Enable novel technologies like VR/AR for legacy buildings
- Reduce non-conformance costs
- Facilitate digitalization of building (and other) plans
- Automatic derivation of simulation models
- Save legacy data from decline

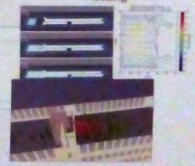
Application examples

Automatically place fire safety equipment (e.g. smoke detectors) in building models



NIST FDS Fire Dynamics Simulation

Flooding



Pedestrian Stream Simulation

Contact: Hermann Mayer, hermann-georg.mayer@siemens.com, CT RDA SDT MSP-DE

www.siemens.com

- No pueden faltar los datos de contacto:
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  - Correo electrónico

USAGE PROFILE RATING OF SUITABILITY TO E-VEHICLES

Florian Hertrampf, Sebastian Apel, Steffen Späthe

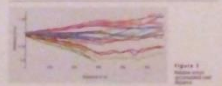
PURPOSE

The project "Wohnungswirtschaftlich integrierte netzneutrale Elektromobilität in Quartier und Region" (WINNER) aims to integrate shared electric vehicles, smart local grids and renewable energy in tenant households. The objective is to find a consumption, charge and usage model for electric vehicles that allows forecasts of required energy as well as the assessment of whether the use of electric vehicles at carsharing stations makes sense.

This approach utilises usage profiles of conventional combustion and electric vehicles. Each profile describes booking time and distance. Applying that information to a rating model which simulates the driving task and charges the vehicle between usages should be able to tell how much bookings might be handled by an electric vehicle as well as how much energy is required. Fig. 1 shows the overall architecture of our simulation system. This system contains the physical model as well as the usage splitting to generate driving tasks.

PHYSICAL MODEL

For calculating and comparing energy consumptions, we use the equations for kinetic, potential and rotational energy. The evaluation is done by using measurements from an i-MiEV used to drive constant tracks and compare simulated and real consumption data as shown in Fig. 2 and 3. The results differ by an amount of 10%.



SPLITTING

Calculating consumptions based on driving tasks requires detailed information on usage. This should cover tuples containing speed, duration, gradient and temperature. But booking information is not that fine-grained. Fig. 4 and 5 show how well these estimated routes fit with real measurement values.

APPLICATION

FUNDED BY

Gefördert durch:

Bundesministerium für Wirtschaft und Energie

aufgrund eines Beschlusses des Deutschen Bundestages

WINNER

FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

Crowdsourced System to Report Traffic Violations

RoadCop: Bi-Modular system

Maryam Jameela , Hammad Afzal, Khawar Khurshid and Asad Waqar Malik

National University of Sciences and Technology, Islamabad, Pakistan

Background

- With increasing demand of transportation, implementation of the traffic regulations has become a major challenge for the developing countries.
- Most of the traffic accidents occur due to violation of traffic rules, thus, resulting in loss of human lives and property.
- Developed countries have addressed the situation by deploying surveillance systems at intersection, but the solution can be expensive; therefore, due to the cost factor the solution is out of reach for many underdeveloped countries.

Proposed System

RoadCop is bi-modular solution (Mobile and Web Application) which works on information retrieval technique crowdsourcing. It helps user to report traffic violations along the video evidence and geo location of violation using Mobile App. The user reports are evaluated in two phases through web application.

1. Spam is eliminated through evaluation, and associated user profiles are blocked.
2. Traffic law experts evaluate the report and on every valid report the users are rewarded with incentive points while ensuring the anonymity.

Admissible violations for Proposed Systems are as follows

i) Red Light Violation (RLV) iv) Hit and Run (HR)
ii) Reckless Driving (RD) v) Illegal Lane Change (ILC)
iii) Illegal Parking (IP)

Mobile Application

Mobile Application is developed for Android Operating System. Perquisites to run RoadCop on smartphones are as follows

i. Android OS Version 2.3 (Gingerbread and above)
ii. Wi-Fi
iii. GPS Sensor *
iv. Camera with min 2MP.

Fig 2: Reporting Fig 3: Camera

Fig 1: Key Features of Mobile Applications

Web Application

Web Application/services are deployed on apache tomcat. It can be accessed through any web browser.

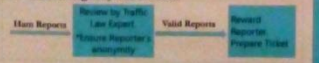


Fig 4: Second Stage Filtering

- Violations map gives view of reports with color coded markers on Google Maps which can be filtered by different dimensions such as by area, timing and type of violations. It helps in understanding the trends of violations by area. Place on Google Map with maximum markers is most vulnerable area.

Figure 5 shows technical implementation of the proposed system.

Fig 5: Violation Map

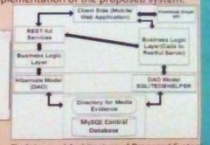
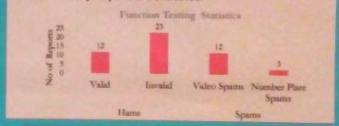


Fig 6: Layered Architecture of Proposed System

Data collected in this stage can be used to generate different statistics. Visual representation of these statistics can help make better infrastructure policies as well as traffic regulation decisions.

Functional Testing

Mobile Application was provided to 50 volunteers for the period of four weeks. 50 reports are evaluated.



No	Evaluation Criteria	Results
1	Usability	85% of the participants find it easy to use
2	Citizen Involvement	60% of the users think that the application gave them a sense of responsibility
3	Linkage and Trust	76% of the people think association of the application with concerned authorities can increase the frequency of reporting
4	Skills and Resources Required	85% believed no tutorial/special skills is required

Table 1: Results of Functional Testing

Conclusion

The results of functional testing concludes that the participants appreciated the purpose of the application and found it quite easy to use. With a large-scale deployment and an effective mechanism to identify offender, this system can lead to much improved implementation of traffic regulations.

Reference

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- Serrano, D., Nugueira, I., Bilò, T., Bryant, A. W., Bryant, R., Ledgard, J., and Garica-Perez, D. (2015). Commuternomer: Crowdsourcing road hazards in nairobi. In Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services, pages 445–456, Copenhagen, Denmark. ACM.

- No utilizar múltiples páginas A4 en vez de un póster de verdad

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All technical session rooms are equipped with a video projector and a computer running Microsoft Windows with Microsoft PowerPoint and Adobe Acrobat Reader. It is recommended that your presentation is uploaded to PRIMORIS before the conference, which ensures that it will be stored at the aforementioned computer by the time it is needed. However, you may prefer to bring it in a USB drive (also recommended as a backup precaution). Using your own laptop or smart device, as long as it is enabled with VGA output connection is possible but not recommended. The presenter should prepare a set of slides that clearly illustrate the main points of her/his paper, and make sure the presentation fits well within the assigned time slot, leaving at least 5 minutes for a period of question-answering. Should sound be required,

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Intelligent Containers Network Concept

Sergej Jakovlev, Audrius Senulis, Mindaugas Kurmis, Darius Drungilas and Zydrunas Lukosius

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Engineering Department, Klaipeda University, Bijunu str. 17, LT-91225, Klaipeda, Lithuania

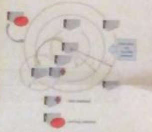
Abstract:

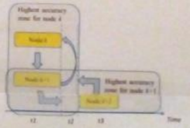
In this paper, a novel approach is presented to increase the security of shipping containers transportation and storage in container yards. This approach includes wireless sensors networks with programmable modules to increase the effectiveness of the decision support functionality for operators' onsite. This approach is closely related to the Container Security Initiative and is intended to deepen knowledge in the intelligent transportation research area. This paper examines an urgent challenge - secure of cargo transportation in containers, i.e., how quickly it is possible to detect dangerous goods in shipping containers without changing their tightness and hence rationally implements international security regulations all around the world. This paper contributes to the development of new approaches of shipping containers handling and monitoring in terms of smart cities and smart ports (for the development of the Smart Port initiative) for ports that have higher levels of security violations. This contribution is addressed as an informative measure to the general public working in the Information and Communications Technologies (ICT) research area.

METHOD

To adapt the intelligent container approach to the working conditions new method is proposed to connect the intelligent containers to a network with the capability to perform computational tasks in different parts of the network (in nodes). Such connection can be done using simple cables. But this would pose serious problem s to engineers and operators' onsite. A plausible solution is to use wireless communication technologies to connect all the computational neurons in the network. Such technology called WSN. WSN in common applications use Ad-Hoc routing protocols. Routing is meant to establish a proper connection among the nodes in the network. Such connections are fast and agile.

Nodes act as routers for other nodes and transmit their data by adding their own data packets. Additionally, this data can be modified at each node separately and resent. In other words, it is possible to correct the data at each container node if this functionality is programmed. Each node then can receive data from several nodes around it at the closest distances and make assumptions about the security of its contents and the surrounding area. Specific hardware and software tools should be used to reach this goal.





CONCLUSIONS

In this proposed method, each node performs a local decision support based on the prediction of the background noise, estimation of the accuracy of the estimation and its surrounding area. The estimation of the required data sample size for the initial communication is a serious mathematical and computational problem, because each individual scenario requires a different statistical analysis approach for computing data reliability. The integration is possible only when there all necessary standardization tasks are finished and the system is widely used throughout t he transport chain. This innovation must be taken into consideration not only by a single port authority, but by the whole global transport chain.

Therefore, any intelligent container knows the exact info it needs to know at the most appropriate moment and predict its neighbour's possible deviations in the monitored spectrum. This functionality is already implemented in some E-Seal systems. As briefly mentioned previously, application of intelligent systems plays an essential role in achieving the optimality goal of security in many countries of the world. These networking technologies can be applied in both in container yards, trucks, trains and ships to connect each individual container in a common network.
Future work includes research on the impact of delays, errors and other uncertainties on the communications protocol, its application in laboratory environment and in practice using research grant described below.

[illegible]

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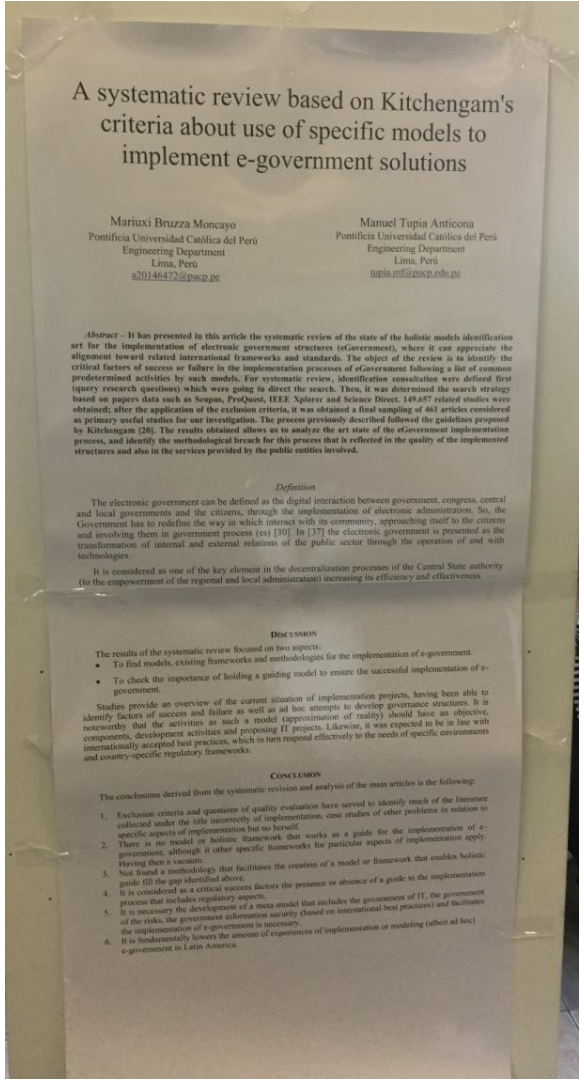
Authors would like to thank EU funded Research [illegible] project "Assistive autonomous [illegible] robot" (Nr. 01.2.2-LMT-K-718-01-0081) for the support while writing and publishing the manuscript.

¡Demasiado texto!



A systematic review based on Kitchengam's criteria about use of specific models to implement e-government solutions

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Abstract **– It has presented in this article the systematic review of the state of the holistic models identification art for the implementation of electronic government structures (eGovernment), where it can appreciate the alignment toward related international frameworks and standards. The object of the review is to identify the critical factors of success or failure in the implementation processes of eGovernment following a list of common predetermined activities by such models. For systematic review, identification consultation were defined first (query research questions) which were going to direct the search. Then, it was determined the search strategy based on papers data such as Scopus, ProQuest, IEEE Xplorer and Science Direct. 149.657 related studies were obtained; after the application of the exclusion criteria, it was obtained a final sampling of 461 articles considered as primary useful studies for our investigation. The process previously described followed the guidelines proposed by Kitchengam [20]. The results obtained allows us to analyze the art state of the eGovernment implementation process, and identify the methodological breach for this process that is reflected in the quality of the implemented structures and also in the services provided by the public entities involved.**

Definition

The electronic government can be defined as the digital interaction between government, congress, central and local governments and the citizens, through the implementation of electronic administration. So, the Government has to redefine the way in which interact with its community, approaching itself to the citizens and involving them in government process (es) [30]. In [37] the electronic government is presented as the transformation of internal and external relations of the public sector through the operation of and with technologies.

It is considered as one of the key element in the decentralization processes of the Central State authority (to the empowerment of the regional and local administration) increasing its efficiency and effectiveness.

Discussion

The results of the systematic review focused on two aspects:

- To find models, existing frameworks and methodologies for the implementation of e-government.
- To check the importance of holding a guiding model to ensure the successful implementation of e-government.

Studies provide an overview of the current situation of implementation projects, having been able to identify factors of success and failure as well as ad hoc attempts to develop governance structures. It is noteworthy that the activities as such a model (approximation of reality) should have as objective, components, development activities and proposing IT projects. Likewise, it was expected to be in line with internationally accepted best practices, which in turn respond effectively to the needs of specific environments and country-specific regulatory frameworks.

Conclusion

The conclusions derived from the systematic revision and analysis of the main articles is the following:

1. Exclusion criteria and questions of quality evaluation have served to identify much of the literature collected under the title incorrectly of implementation, case studies of other problems in relation to specific aspects of implementation but no herself.
2. There is no model or holistic framework that works as a guide for the implementation of e-government, although it other specific frameworks for particular aspects of implementation apply. Having then a vacuum.
3. Not found a methodology that facilitates the creation of a model or framework that enables holistic guide fill the gap identified above.
4. It is considered as a critical success factors the presence or absence of a guide to the implementation process that includes regulatory aspects.
5. It is necessary the development of a meta-model that includes the government of IT, the government of the risks, the government information security (based on international best practices) and facilitates the implementation of e-government is necessary.
6. It is fundamentally lowers the amount of experiences of implementation or modeling (albeit ad hoc) e-government in Latin America.

- Pero a veces sí que dejan que el póster esté formado por varias hojas, pero mejor no → Invierte dinero en hacer un buen trabajo

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The posters will be mounted on poster boards (one poster per board) with tacks which will be available on site.

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Construct the poster to include the title, the author(s), affiliation(s), and a description of the research, highlighting the major elements that are covered in the abstract. Make sure your lettering is neatly done and is large enough to be read from a distance. Inclusion of extended poster abstract in the Conference Proceedings is conditional upon registration of at least one author per poster.

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Intelligent Containers Network Concept


A Discussion on Effective Implementation and Prototyping of Voice User Interfaces for Learning Activities on Moodle
moodle

16

Encryption Techniques: A Theoretical Overview and Future Proposals

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Abstract

The usage of encrypted messages has a long history. Today, however, we are able to maintain the security and privacy of information, which is essential to current research in encryption. In this paper, we provide a theoretical overview of various encryption techniques. It may also include computer algorithms that have binary functions, which produce coding of a message. Thirdly, it encapsulates the latest advances in science, which are used to obtain the maximum objective of an encrypted message, i.e. the secret-coded message. For the latter, algorithms are used to determine quantum calculations. For this study, the concepts and processes that are discussed are based on algorithms. The conclusions in this study examine the current theoretical framework, and propose the usage of methods to prevent online security breaches. Here we also argue that it is possible to achieve a mixture of cryptography algorithms that foster an improved performance and enhance the speed of safe transactions.
Index Terms: ciphered, encryption, password, secure, cryptography.

I. INTRODUCTION

Cryptology is comprised of two major fields: crypto-analysis and cryptography. Crypto-analysis focuses on determining how information systems, which are meant to be secure, can be attacked by outsiders. In other words, the systems can be affected by cryptography or deciphered algorithms, that is, where sensitive information may be hidden [3][4]. Sensitive information such as passwords, data access codes, and all kinds of private data are thus potentially affected by external threats. A password is the core of an encrypted message. To cipher a message, one can apply transformations to hide the message, but this should be recovered by means of explicit and unique processes, which are capable of being recovered. The algorithm of ciphered information functions the same way it uses the same input and output. Ciphered information can be shared.

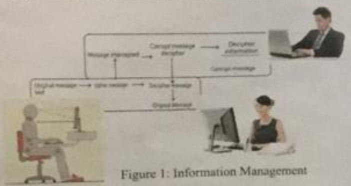

Figure 1: Information Management

Figure 1 shows that a message can be intercepted in order to decipher it or to crack it. Cryptography aims to provide security measures to these types of processes by means of algorithms, which ensure that the message that is being sent is in plain text. For this process, there are two types of cryptography: symmetric and asymmetric. Symmetric cryptography has a unique code whose problem is to share a password. Asymmetric cryptography does not have the same code to cypher and decode: the passwords are complementary. One is the public password and the other is the private one. For the cryptography of private passwords, there are principles of transposition and substitution. Substitution is establishing a correspondence between the letters of the alphabet in cleartext, and the elements of a series of symbols [5], while transposition (permutation) creates a cryptogram based on the text written in columns, which is read in rows. For this reason, it is a ciphered text organized by rows, or is read in a transposed form [6]. However, all these algorithms can improve their performance by means of quantum information in quantum computers.

STATE OF THE ART

The symmetrical algorithms are based on simple mathematical operations, *XOR* conversions, Permutations or Combinations, which are very fast algorithms [8]. Caesar's Cypher uses letters of the alphabet and assigns one letter for another (substituting). The *ROT13* algorithm indicates that the correspondences are reciprocal, that is, where one displaces 13 units in order to obtain the letter to be substituted. The *ROT47* algorithm functions with all the printable 47 forward characters, and works in the same way as *ROT13* [13][14]. The Vigenere cypher code is a generalization of the Caesar cypher method, i.e. where the password takes on various values. Most current algorithms base their principles on the same procedures. The problem of Caesar cyphering is that some letters are repeated more than others. The solution therefore is to work with the cyphered text with various passwords, which makes cryptoanalysis that much more complex. However, this has already been considered in crypto-analysis theory [15][16]. To avoid this problem, a different key is needed for each one of the elements of the text, where the key is a binary random sequence of the same longitude of the plane or clear text.

Vernam algorithm

The ciphering method used by *Vernam* uses the same principle, which is based on a binary alphabet, namely *XOR*. In this case, the key is random and is extensive like the message. Moreover, it is used a single time, and is thus the safest method, and is very difficult to process with crypto-analysis [17]. The Vernam table has a binary alphabet of 32 characters. An example of its usage is shown in Figure 2. The key point here is that the table containing codes has special characters that make it difficult for the plane message to be deciphered. It should also be kept in mind that the cyphered table is essential to be able to processed with the cryptographic method. However, all these algorithms can be eliminated by a quantum computer and processes that are executed in these types of computers. However, as in any process, there are gaps that need to be analyzed, such as in the case of lateral code channels, which would facilitate a possible attack of quantum hacking [18].

Binary code	Character	Binary code	Character
00000	White	10000	T
00001	E	10001	Z
00010	=	10010	L
00011	A	10011	W
00100	spacer	10100	H
00101	S	10101	Y
00110	I	10110	P
00111	U	10111	Q
01000	<	11000	O
01001	D	11001	B
01010	R	11010	G
01011	J	11011	↑
01100	N	11100	M
01101	F	11101	X
01110	C	11110	V
01111	K	11111	↓

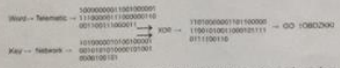

Figure 2: Example of the Vernam algorithm The word to encrypt has the same longitude as the passwords. The table of codes contains special characters that would make it even more difficult to be processed by crypto-analysis The distribution of quantum keys makes it impossible for the newly-created codes to be vulnerable.

To close these gaps, algorithms have been created that help to randomly generate data without the needs for synchronization between the transmitter and the receiver. This would prevent potential computer attacks by any crypto-analysis technique. Indeed, we are facing the creation of dynamic passwords, which when taken by possible attacker, may prevent him from deciphering them, because their handling is dynamic [19]. Neurosciences also contribute to this field by providing a technical focus for cryptography. Voice instructions emitted to clients can be personalized and cyphered using a neuronal encryption of the message, e.g. whereby the process of the verification of the result increases its speed and performance [20].

Table 1 shows the main contributions to the field of cryptography over the last decade. The algorithms previously described are the fundamental basis for these contributions.

Table I. Main Contributions to Cryptography

Contribution	Autor
Reduction in the random model of creating passwords	[21] [22]
Improvement in the speed of the laser light base in quantum cryptography	[23] [24]
Application of elliptical curves for the encryption of public passwords	[25] [26]
Analysis of Boolean negation for the encryption of the plain message and of the password	[27]
Various characters of the corresponding ciphered text with a plane text character	[28] [29]
Prevention of terrorist attacks in the sending of messages by means of TripleData Encryption	[30] [31]
Cryptography in the cloud. Processing of secure transactions	[32] [33]
XOR encrypted and the second numerical complement to represent the ciphered text in 8-bits	[34] [35]
Optimization of cryptography in wireless networks via symmetric and asymmetric combination	[36] [37]
Applied Cryptography to Android operative systems 4 * 4 * 4, symmetrical and non-symmetric	[38] [39]

CONCLUSIONS

To usage of public and private passwords, the main problem is the ciphering of passwords. In the symmetrical ciphering of data, the usage of the public password is fundamental. Despite the ciphering achieved by the Helman and ElGamal algorithms, the symmetric and asymmetric algorithms by Vigenere and Vernam also validate the process of user authentication to proceed with the sending of messages. Clearly, these types of algorithms can be used in the sending of messages of high security; they cannot be part of the final objective of cryptography, which are secret messages. In order to obtain secret messages, neuroscience algorithms are often used today. Lastly, the quantum ciphering provides total security to the password and of the message. If part of the password had the same length as the message, and if we had a password that was the longest as possible, which had been created by quantum algorithms, it would be practically impossible to crack. Besides the previous studies discussed, a summary chart (Chart 1) has been provided in which the latest advances in ciphering have been analyzed. What calls our attention most is that they are not only centered on the security of the password, but also that they provide advancements about the same field, i.e. where the paradigm is changed a little, but where the symmetric or non-symmetric password is not more important than the cleartext. This, apart from being applied in the cloud, is where the transactions not only require speed, but also achieve the principle of safe confidentiality. One can therefore propose a mathematical combination of neuronal algorithms and discriminated security, i.e. stating that the security of the ciphered text has various levels according to the type of transaction. This can help to improve the response times of algorithms. Indeed, crypto-analysis can also affect the speed of a process. Thus, when a ciphered message has a series of levels, it can be affected by various levels of security. This, as a theoretical concept, may be discussed in future research about the security of private messages.

REFERENCES

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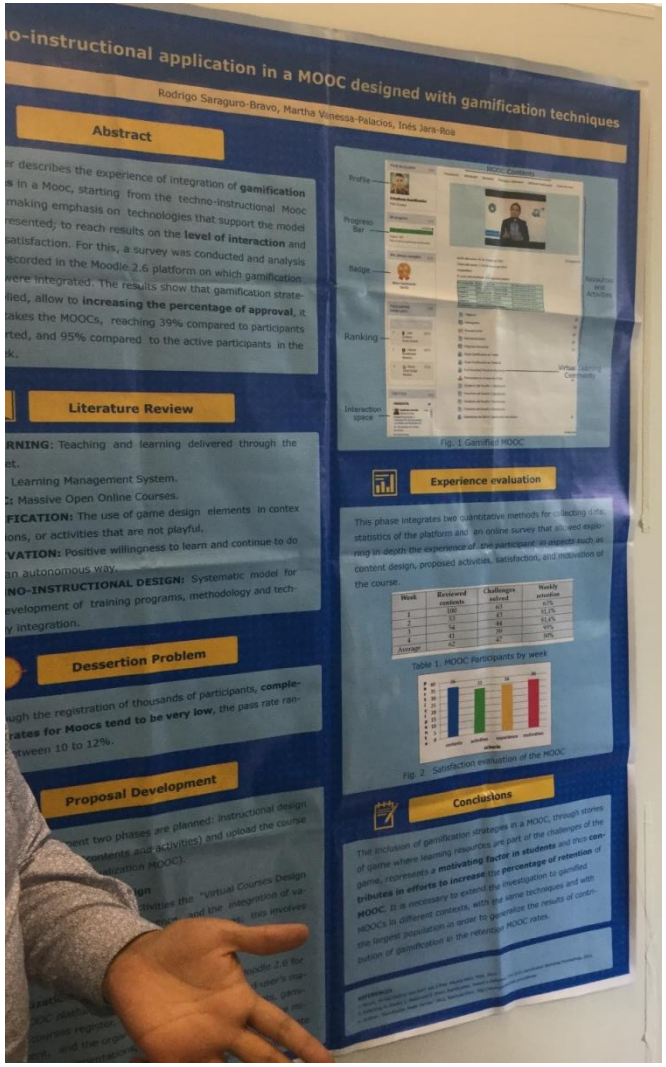
- No transportar y manipular el póster con cuidado



o-instructional application in a MOOC designed with gamification techniques

Rodrigo Saraguro-Bravo, Martha Vanessa-Palacios, Inés Jara-Roa

Abstract

r describes the experience of integration of **gamification** s in a Mooc, starting from the techno-instructional Mooc making emphasis on technologies that support the model resented; to reach results on the **level of interaction** and satisfaction. For this, a survey was conducted and analysis ecorded in the Moodle 2.6 platform on which gamification were integrated. The results show that gamification strate- lied, allow to **increasing the percentage of approval**, it akes the MOOCs, reaching 39% compared to participants rted, and 95% compared to the active participants in the k.

Literature Review

RNING: Teaching and learning delivered through the et.
Learning Management System.
: Massive Open Online Courses.
FICATION: The use of game design elements in contex ons, or activities that are not playful.
VATION: Positive willingness to learn and continue to do an autonomous way.
NO-INSTRUCTIONAL DESIGN: Systematic model for evelopment of training programs, methodology and tech- y integration.

Dessertion Problem

ugh the registration of thousands of participants, **comple- rates for Moocs tend to be very low**, the pass rate ran- etween 10 to 12%.

Proposal Development

ent two phases are planned: instructional design ontents and activities) and upload the course alization MOOC).

ign
ctivities the "virtual Courses Design and the integration of va- this involves

Fig. 1 Gamified MOOC

Experience evaluation

This phase integrates two quantitative methods for collecting data: statistics of the platform and an online survey that allowed exploring in depth the experience of the participant in aspects such as content design, proposed activities, satisfaction, and motivation of the course.

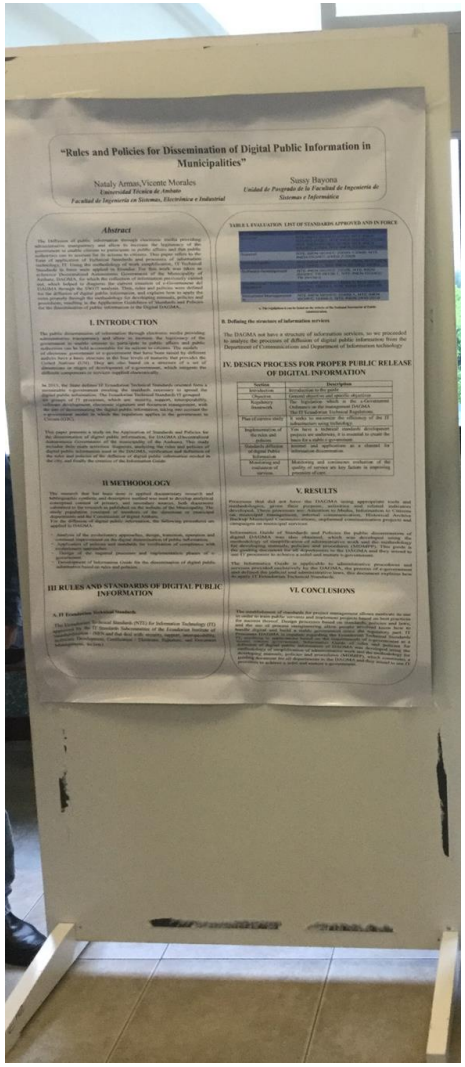
Week	Reviewed contents	Challenges solved	Weekly retention
1	100	63	63%
2	93	43	51,1%
3	94	44	51,4%
4	50	50	95%
5	43	47	94%
Average	62		

Table 1. MOOC Participants by week

Fig. 2 Satisfaction evaluation of the MOOC

Conclusions

The inclusion of gamification strategies in a MOOC through stories of game where learning resources are part of the challenges of the game, represents a **motivating factor in students** and thus **contributes in efforts to increase** the **percentage of retention** of **MOOC**. It is necessary to extend the investigation to gamified MOOCs in different contexts, with the same techniques and with the largest population in order to generalize the results of contribution of gamification in the retention MOOC rates.



"Rules and Policies for Dissemination of Digital Public Information in Municipalities"

Nataly Arman, Vicente Morales
Universidad Técnica de Ambato
Facultad de Ingeniería en Sistemas, Electrónica e Industrial

Sassy Bayona
Unidad de Posgrado de la Facultad de Ingeniería de Sistemas e Informática

Abstract

I. INTRODUCTION

II METHODOLOGY

III RULES AND STANDARDS OF DIGITAL PUBLIC INFORMATION

A. IT Foundation Technical Standards

B. Defining the structure of information services

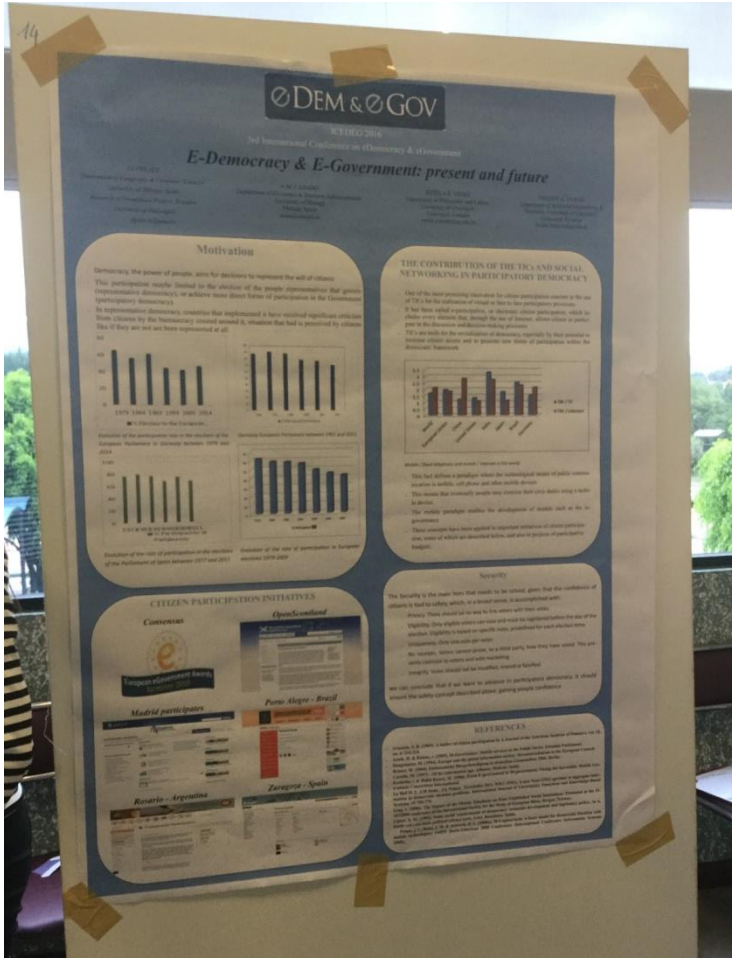
IV. DESIGN PROCESS FOR PROPER PUBLIC RELEASE OF DIGITAL INFORMATION

V. RESULTS

VI. CONCLUSIONS

- No usar un sistema de fijación adecuado

¡No hay consistencia en el formato de los gráficos!



- ¡Cuidado con los errores ortográficos!

Towards a Dynamic Visualization of Online Collaborative Learning

Malik Koné
malik.kone-etu@univ.lemans.fr

Supervisor : Sébastien Iksal
Co-supervisor : Madeth May

1 CONTEXT

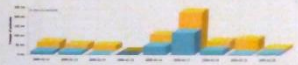
- How to support the learners' collective dynamics using visualizations of MOOC forum?
- What interaction indicators to use?
- What visualization type for learners?
- What visualization type for instructors?
- Background

No dynamic indicators for learners

Existing social networks graphs but static and for instructors

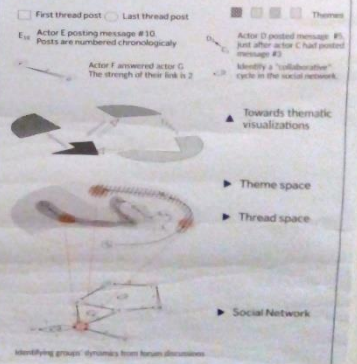
2 APPROACH

3 VISUALIZATION EXAMPLES



- Moodle Data
- Learner's Forum activity

4 FUTUR WORK



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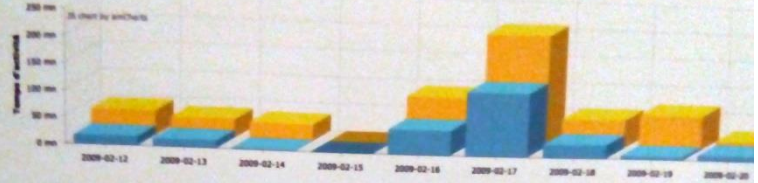
3 VISUALIZATION EXAMPLES



- Moodle Data
- Learner's Forum activity

4 FUTUR WORK

First thread post Last thread post

E_{10} Actor E posting message #10.
Posts are numbered chronologicaly

Actor F answered actor G
The strengh of their link is 2

D_5 C_3 Actor D posted m
just after actor C
message #3

Identify a "collabo
cycle in the social

▲ Towards ther
visualizations

- No usar imágenes de alta calidad

CONSEJOS

- Consulta las instrucciones de presentación

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  - Con números o letras

Accessible Online Indoor Maps for Blind and Visually Impaired Users

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University of Alicante

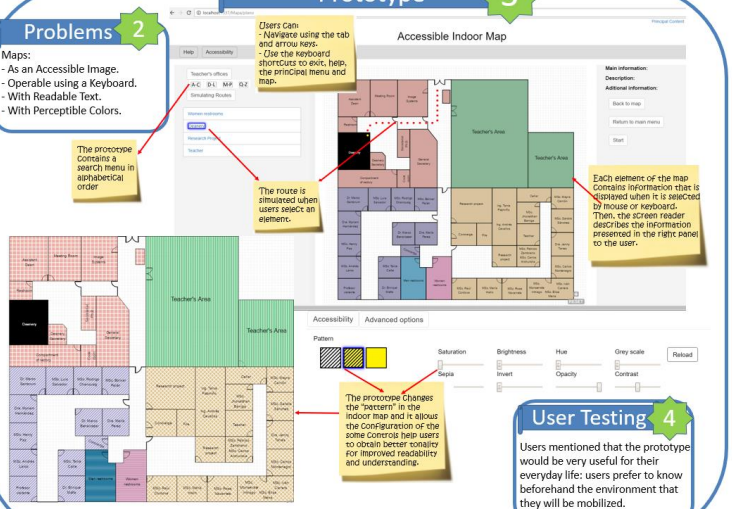
1 Abstract

This paper proposes **alternatives for the development and improvement of maps to aid accessibility**. Based on our analysis, we present an accessible online indoor map prototype that complies with WCAG 2.0. For the case study, the prototype displays an indoor map that is designed using Scalable Vector Graphics (SVG) format. This format can include information that helps the screen reader to interpret the visual graph information. In addition, the prototype can simulate the route that the users select so they can get an idea of the environment where they will mobilize. We tested the prototype in different browsers with the help of blind people.

2 Problems

Maps:
- As an Accessible Image.
- Operable using a Keyboard.
- With Readable Text.
- With Perceptible Colors.

3 Prototype



4 User Testing

Users mentioned that the prototype would be very useful for their everyday life: users prefer to know beforehand the environment that they will be mobilized.

5 Conclusion

- The prototype was tested in three browsers: Google Chrome, Mozilla Firefox and Microsoft Edge. Google Chrome supports SVG and is compatible with web styles and colours, while, Mozilla Firefox and Microsoft Edge support HTML and SVG, but these browsers are not compatible with the tabindex property. Moreover, we evaluated the prototype with TAW and eXaminator that measure the compliance of the WCAG 2.0.
- For future work we intend to apply tools with voice commands, that is to say, we should use tools that simulate and transform the voice to text, so that users can speak the name of the place where they want to go to and the prototype will relay information about that place.

Fault Tolerance in the Traffic Management System of a Last-mile Transportation Service

Koji Hasebe, Shohei Sasaki, Kazuhiko Kato
Department of Computer Science, University of Tsukuba, Japan

1. Background and Research Issue

Background

Last-mile transportation system based on technologies of semi-autonomous driving has been developed[1]. A conceptual illustration of our vehicles is shown in Fig. 1.

Fig. 1: Conceptual illustration of a fleet of passenger-carrying vehicles

Fig. 2 shows an overview of the traffic management system.

This transportation system has a single *central server* and intermediate servers (called *node servers*). Central server aggregates the travel requests in real time and dynamically determines the schedule of the vehicles, while node servers distribute the schedule to vehicles.

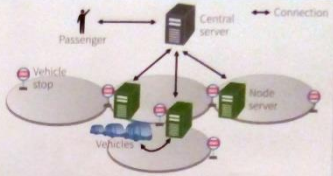


Fig. 2: Overview of the traffic management system

Research Issue

The entire traffic system may stop if the central server malfunctions owing to some unforeseen event.

2. Purpose

Propose a fault tolerant mechanism for the traffic management systems of last-mile transportation services.

3. Proposed Method

We use a primary-backup (or so-called passive) replication technique[2] to make the central server redundant.

In normal time

One node is selected as the central server.

Central server receives the travel demand, determines the schedule, and deliver schedule to each node server. Each node server gives instructions when each vehicle arriving at a node.

At server failure

Another node server will become the new central server (see also Fig. 3).

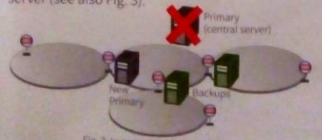


Fig. 3: In case central server fails

4. Experiments

To verify the correctness of our proposed mechanism and to demonstrate the availability with various types of server and network failures, we conducted experiments with our current prototype implementation.

Fig. 4: Case 1. failure of the majority of nodes

Fig. 5: Case 2. network partitioning

As a result, when the majority of nodes fails (see Fig. 4) or network partitioning occurs (see Fig. 5), immediately a node becomes a new primary.

5. Future Work

We will investigate the transportation system further to refine our implementation in experiments.

References

[1] K. Hasebe, K. Kato, H. Abe, R. Akiyo, and M. Kawamoto, Traffic management for last-mile public transportation systems using autonomous vehicles, IEEE 3rd International Smart Cities Conference, 2017.

[2] N. Budhiraja, K. Marzullo, F. B. Schneider, S. Toueg, The Primary-Backup Approach, Distributed Systems (2nd edition), S.Mullender, ed., pp. 199-216, ACM Press/Addison-Wesley, 1993.

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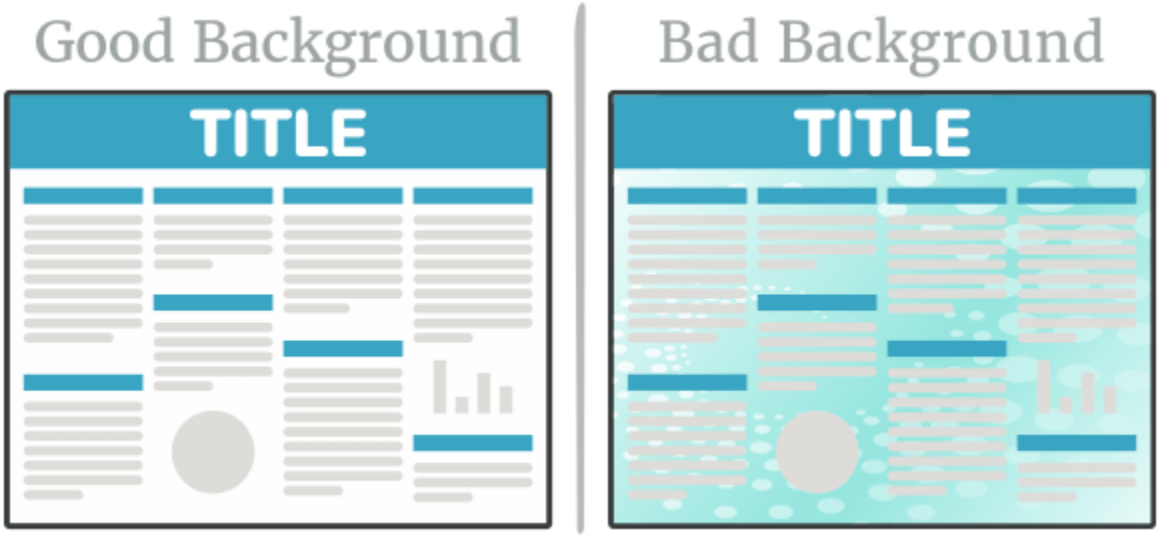

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Errores de diseño visual

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  - Por la jerarquía visual
  - Con números o letras

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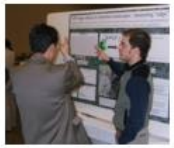

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ABSTRACT

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OBJECTIVES

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MATERIALS & METHODS

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Case studies

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Results

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RESULTS

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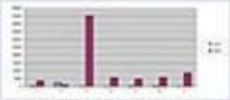

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RESULTS (cont.)

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CONCLUSIONS

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REFERENCES

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CONTACT

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Impacts of the interaction between environmental degradation and increasing environmental variability on a population's time to extinction

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INTRODUCTION

Currently living in the sixth great mass extinction in the history of life on Earth (Jablonski 1991), understanding time to extinction is greatly important. Previous mass extinctions were largely caused by climatic and eco-logical changes, however the current mass extinction is driven by humans (Jablonski 1991, 1994; Erwin 2001). With extinctions largely caused by random events and/or human changes to the environment, understanding these two factors' influence is essential to our ability to predict how a population may change over time. Further, understanding the joint effects of environ-mental variability and human disturbance is increasingly important; future ecosystems experiencing the strongest effects of climate change are predicted to largely be post-human disturbance landscapes (Chandler 2003). The number of threatened species on the International Union for Conservation of Nature (IUCN) Red List has more than doubled for each of the major groups of organisms since 1996 (IUCN 2014). A major threat to species worldwide is habitat degradation, which is happening at extremely high rates (Dirzo and Raven 2003). For instance, human intrusions and disturbance alone are a direct threat to 3372 species globally (IUCN 2014). Simultaneously, the environmental variability experienced in many systems is increasing over time, especially due to climate change. For example, temperatures are becoming more extreme; high temperature areas are experiencing even hotter temperatures and low temperature areas are experiencing even colder temperatures (e.g. the Northeast United States this winter) (IPCC 2013). According to the IUCN, climate change and severe weather events threaten 3284 species worldwide. Although many studies have looked at habitat degradation and increasing environmental variability separately (e.g. Tier and Hanson 1981; Lande 1993; Griffen and Drake 2008), to my knowledge, there are no studies that have looked at the simultaneous effect of these two factors on a population's time to extinction.

QUESTION

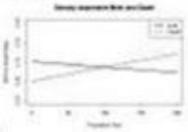
What is the impact of the interaction between increasing environmental variability and habitat degradation on a population's time to extinction?

METHODS

The model

Density-dependent population model

- b : per-capita birth rate
- N : population size
- s : per-capita survival rate
- k : density-dependence constant
- $b = b_0 e^{-kN}$, $s = s_0 e^{-kN}$, [illegible]
- d : per-capita death rate, $d = 1 - s$
- r : per-capita rate of increase, $r = b - d$



Modeling habitat degradation and increasing environmental variability

- Habitat degradation: decreased b (b_i to b_f) and increased d (d_i to d_f) over a period of time T_d
- Increasing environmental variability: changed magnitude of variation (L) and correlation between b and d (R)

$$b_t = b\,[\,1 + L\,(\,U - 0.5\,)\,]$$
$$d_t = d\,[\,1 + L\,(\,W - 0.5\,)\,]$$

U and W are uniform random variables taking values between 0 and 1

Cases

- 0 : Baseline scenario: No change in b or d, environmental variation fixed at L = 0.1
- 1 : b decreases and d increases over T_d, environmental variation fixed at L = 0.1
- 2 : b and d fixed at b_i and d_i, uncorrelated environmental variation increases to 100% over T_d (L_i = 0.1, L_f = 1, R = 0)
- 3 : b decreases and d increases, uncorrelated environmental variation increases to 100% over T_d (L_i = 0.1, L_f = 1, R = 0)
- 4 : b decreases and d increases, correlated environmental variation increases to 100% over T_d (L_i = 0.1, L_f = 1, R = 1)

METHODS (continued)

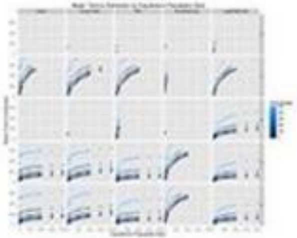
Parameter Values

Species	Doubling Time (years)	r	b_0	d_0	[illegible]
Insect	0.25	2.773	2.82	0.047	0.5235
Annual Plant	1	0.693	1.463	0.77	0.8825
Bird	5	0.139	0.763	0.626	0.6955
Small Mammal	10	0.0692	0.18	0.1107	0.14535
Large Mammal	25	0.0277	0.63	0.6023	0.61613

Simulations

- 1000 years
- Each of the 5 types of organisms
- Initial population size set to carrying capacity (K)
- 17 different K values ranging from [illegible]
- T_d = 10, 25, 50, 100, 200, or 500
- 10,000 simulations

RESULTS



CONCLUSIONS

We found that the combined force of habitat degradation and increasing environmental variability led to more rapid extinction than either factor alone. Specifically, with an increase in the time period over which habitat degradation and/or the increase in environmental variability occur, the mean time to extinction increases. Further, as the doubling time of the organism increases, the mean time to extinction also increases. We found that for organisms with a shorter doubling time, habitat degradation had a significantly stronger effect on time to extinction than increasing environmental variability. This difference in relative importance of the two factors underscores the significance of context in our understanding of population dynamics. The framework developed here is applicable across a broad range of systems and can be used to help determine where to focus conservation and management efforts.

ACKNOWLEDGEMENTS, CONTACT & REFERENCES

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Email: [illegible]

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