CS - SGPC
ISSN (Online): 2709-0264
ISSN (Digital): 2709-0272

وقائع المؤتمر الطلابي لمشاريع
تخرج قسم علوم الحاسوب

وقائع المؤتمر الطلابي الاول

لمشاريع تخرج قسم علوم الحاسوب

16 - 17 تموز 2020

قسم علوم الحاسوب - كلية دجلة الجامعة - بغداد - العراق

1st CS – SGPC 2020

"ورقة فارغة"

Proceeding of Students Graduation Projects Conference
ISSN (Online): 2709-0264

وقائع المؤتمر الطلابي لمشاريع تخرج قسم علوم الحاسوب
الرقم الدولي الموحد للدوريات (الردمد) : 2709-0264

وقائع المؤتمر الطلابي الاول

لمشاريع تخرج قسم علوم الحاسوب

1st CS – SGPC 2020

كلية دجلة الجامعة - قسم علوم الحاسوب – العام الدراسي 2019 / 2020

16 - 17 تموز 2020

www.duc.edu.iq/cs-sgpc

CC BY NC SA

مجلد وقائع المؤتمر الطلابي الاول
لمشاريع تخرج قسم علوم الحاسوب

اقام قسم علوم الحاسوب في كلية دجلة الجامعة مؤتمره "الافتراضي" العلمي الاول (1st CS-SGPC 2020) للمدة 16 – 17 تموز 2020 لمناقشة مشاريع تخرج طلبة القسم البالغ عددها 19 مشروع تخرج مقدم من قبل 72 طالب و 12 مشرف. والتي تمت مناقشتها من قبل اللجان العملية التخصصية بمشاركة مميزة من الخبراء من ارباب العمل وذلك ضمن محاور المؤتمر الخمسة والتي تتضمن (محور الوسائط المتعددة. محور الذكاء الاصطناعي. محور تطبيقات الموبايل. محور التطبيقات المتكاملة و محور قواعد البيانات).

وفي نهاية المؤتمر تم اصدار مجلد وقائع المؤتمر الطلابي الاول لمشاريع تخرج قسم علوم حاسوب الذي يشمل مستخلصات مشاريع تخرج الطلبة المشاركين في المؤتمر والاستنتاجات التي توصلوا اليها فضلاً عن سرد نقاط عمل التطوير المستقبلي.

وتم العمل على تسجيل رقم الدوريات المعياري الدولي (الردمد – ISSN) لمجلد الوقائع لاستكمال ترصين الجانب العلمي لوقائع المؤتمر.

كما تم العمل على تثبيت رخصة المشاع الإبداعي (Creative Commons License) لمجلد الوقائع ضمن تصنيف (CC-BY-NC-SA) لتنظيم استخدام حقوق المؤلف والحقوق التي يتنازل عنها لخدمة الساحة العلمية.

بالاضافة الى اصدار رمز الاستجابة السريعة (QR Code) الذي يمكن قرائته عن طريق قارىء رمز الاستجابة السريعة او عن طريق كاميرا الهاتف الذكي من اجل الوصول الى النسخة الالكترونية لمجلد الوقائع وللتفاصيل الاخرى المتعلقة بالمؤتمر.

وبذلك يعتبر مجلد الوقائع هذا بمثابة مصدر علمي مهم لكل من الطلبة و الاساتذة وايضا يعتبر بمثابة توثيق للمساهمات التطبيقية العلمية التي تهدف الى خدمة حقل العمل والمجتمع.

اللجنة التحضيرية

تموز ، 2020

كلمة عميد الكلية

ا.د. ابراهيم سعيد كاطع
عميد كلية دجلة الجامعة

في نهاية كل عام دراسي يستعد أبناؤنا الطلبه لمناقشة بحوث تخرجهم حيث يحصدوا ثمرة الجهد وتعب سنين الدراسة وعادة يكون هذا اليوم متميزا يبقى في الذاكرة مده طويلة كونه يمثل الخطوة الاخيرة في الحياة الجامعية و الخطوة الاولى في الحياة العملية بعد التخرج والذي حصل هذا العام جعل السنة الدراسية ٢٠١٩ – ٢٠٢٠ استثنائية بكل معنى الكلمة حيث شهدت بدايتها بطئ و صعوبة في الدوام الرسمي ثم جاءت الازمة الصحية لتزيد من الصعوبات التي فرضت على الوسط الجامعي والأكاديمي.

وبعد القرار الجريء الذي اتخذته وزارة التعليم العالي و البحث العلمي باكمال مستلزمات العام الدراسي إلكترونيا وعدم ضياع السنه الدراسية حيث كنتم على قدر المسؤولية كتدريسيين وطلبه على اكمال متطلبات السنة الدراسية ومنها بحوث التخرج حيث اثبتم مسوؤليتكم وحرصكم في انجاز البحوث بالتعاون مع المشرفين في قسم علوم الحاسوب وكانت مشاريع تخرجكم متميزة توجت بالنهاية في اقامة مؤتمر مناقشة هذه البحوث ولاول مرة في العراق و على مستوى الجامعات الحكومية و الاهلية بمشاركة شركات القطاع الخاص في مجال البرمجة و علوم الحاسوب.

مما جعلها تجربة نفخر بها من حيث التنظيم والمشاركة الخارجية و مستوى البحوث المنجزة والنتائج التي توصلتم اليها والذي يفتح آفاقا علمية واسعة يمكن الاستناد إليها مستقبلا لتطوير بحوث التخرج والاستفادة من الخبرات والتجارب الناجحة للمؤسسات المتخصصة في مجال علوم الحاسوب.

نقدم شكرنا وتقديرنا الى كل من ساهم في انجاح هذه الفعالية العلمية التي تخدم قطاع التعليم العالي ونخص بالذكر رئاسة القسم والتدريسيين والمشاركين والضيوف والشكر موصول لكم طلبة قسم علوم الحاسوب في كلية دجله الجامعة.

ونسأل اللّه لكم التوفيق والنجاح الدائم وان يحفظ عراقنا الحبيب من كل مكروه و آللّه ولي التوفيق.

كلمة اللجنة التحضيرية

ا.م.د. مازن سمير الحكيم

رئيس قسم علوم الحاسوب

(رئيس اللجنة التحضيرية)

"بات المجتمع العراقي بحاجة الى الحلول الرقمية اكثر من اي وقت مضى" ...

يعتبر المؤتمر الطلابي الطلابي الاول لمشاريع تخرج قسم علوم الحاسوب منبر علمي للطلبة وللسادة المشرفين لعرض نتاجاتهم العلمية وساحة لتبادل الخبرات التطبيقية والتجارب البرمجية. فضلا عن كونه ملتقى لتمازج الخبرة الاكاديمية في الحقل المعرفي مع الخبرة التطبيقية في حقل العمل. وذلك لاول مرة في العراق و على مستوى الجامعات الحكومية و الاهلية من خلال مشاركة الخبراء من حقل العمل (ارباب العمل) العاملين في شركات القطاع الخاص العراقية الكبرى في مجال تكنولوجيا المعلومات والاتصالات.

لقد حرصت اللجنة التحضيرية في قسم علوم الحاسوب بكلية دجلة الجامعة منذ تشكيلها في بداية العام الدراسي على اقامة هذا المؤتمر الطلابي رغم جميع التحديات والصعوبات الاقتصادية والصحية التي رافقت المسيرة التعليمية والاكاديمية في العام الدراسي 2019 / 2020. وتمهيدا لذلك فقد جرت المناقشة الاولية للجانب العملي من مشاريع التخرج خلال المدة من 18 الى19/ 2/ 2020. وتلى ذلك العمل على استكمال الجانب النظري ضمن منهجية بحثية تخصصية. ووصولا الى مناقشة كافة هذه الجهود التراكمية واثرها على رقمنة المجتمع العراقي وذلك من خلال المؤتمر الطلابي العلمي التخصصي من قبل لجان علمية تخصصية تضمنت مجموعة من الاساتذة المتخصصين في المجال البرمجي فضلا عن الخبراء من حقل العمل (ارباب العمل) .

لقد تم قبول مشاركة 19 مشروع تخرج (من قدم من قبل 72 طالب و 12 مشرف) من اصل 22 مشروع متقدم للمؤتمر. وتم مناقشتها خلال يومي المؤتمر ضمن محاور المؤتمر الخمسة التي تتضمن محور الوسائط المتعددة. محور الذكاء الاصطناعي. محور تطبيقات الموبايل. محور التطبيقات المتكاملة و محور قواعد البيانات. بالاضافة الى تقديم اربعة محاضرات رئيسية ضمن اليوم الاول لفعاليات المؤتمر من قبل رئيس القسم ومن قبل الخبراء العاملين في الشركات الرائدة تضمن عرض اهمية المشاريع الالكترونية في رقمنة المجتمع العراقي. واهمية ريادة الاعمال الشبابية. وقد قدم احد طلبة القسم (من المستمرين بالدراسة و العاملين في المجال البرمجي في القطاع الخاص بنفس الوقت) محاضرة رئيسية حول كيفية انشاء وظيفة خاص بالشباب المبرمجين العراقيين.

تم تنظيم جلسات المؤتمر على منصتي Zoom و Google Meet وتم تسجيل وبث وقائع المؤتمر عبر وسائل التواصل الاجتماعي على الانترنت. وقامت لجان المناقشات العلمية بتحديد واعلان افضل مشروع تخرج في كل محور من محاور المؤتمر الخمسة.

كما وشارك عدد من طلبة القسم من مختلف المراحل بتصميم شعار المؤتمر وتم اختيار واحدا منها بعد المنافسة الشديد بين هذه التصاميم التي كانت بمستوى جيد من حيث المعنى الدلالي.

ان جميع المبرمجين (الاساتذة و الطلبة) في قسم علوم الحاسوب بكلية دجلة الجامعة مؤمنين بأن المجتمع العراقي قد بات اليوم بحاجة الى الحلول الرقمية اكثر من اي وقت مضي، لذلك فقد كانت جميع مشاريع التخرج تتجه بجاهزيتها نحو التطبيق لخدمة المجتمع كما اضاف الخبراء من حقل العمل المشاركين في لجان المناقشة توجيهاتهم لتعميق هذه الجاهزية لتتحول مشاريع التخرج الى مشاريع ريادية قابلة للتطبيق والتنفيذ. فضلا عن توثيق التوصيات العلمية والتطبيقية التي توصل لها كل مشروع تخرج بجانب تشخيص الجوانب التي من الممكن تطويرها مستقبلا.

ان اللجنة التحضيرية فخورة بما انجزه المبرمجين (الطلبة والسادة المشرفين) وبالجهودة الكبيرة للجان المناقشة العلمية وبمشاركة السادة الخبراء من حقل العمل وبمتابعة ومشاركة السيد عميد الكلية المحترم. وقد قامت اللجنة بتوثق كافة هذه الجهود والتفاصيل العلمية ضمن "وقائع المؤتمر الطلابي الطلابي الاول لمشاريع تخرج قسم علوم الحاسوب للعام 2019/ 2020" ليكون احد الروافد الساندة لانبثاق مشاريع خرج طلبة العام الدراسي المقبل 2020/ 2021 ان شاء اللّه ...

كلمة الخبراء من حقل العمل (ارباب العمل)

علي الحلي

شركة زين العراق

(ممثل عن الخبراء من حقل العمل - ارباب العمل)

نعيش اليوم انتقاله نوعية في مجالات التعاون بين هيكل التعليم العالي والقطاع الخاص في العراق وإن ما حدث في المؤتمر الطلابي الأول لمشاريع تخرج قسم علوم الحاسوب في كلية دجلة الجامعة هو جزء لا يتجزأ من التكامل الضروري والأساسي الذي يجعل المؤسسات المختلفة في القطاع الخاص تشارك في رحلة بناء مهارات الطلبة قبل التخرج والتي بدورها توفر جسراً معلوماتياً للطالب ليندمج بطريقة صحيحة في سوق العمل العراقي.

إن تفاعل القطاع الخاص مع المؤسسات التعليمية المختلفة يساعد في توجيه مخرجات التعليم وبالأخص مشاريع التخرج في تلك المؤسسات باتجاه عملي يساعد في جعل مشاريع التخرج تلك قابلة للتطبيق على ارض الواقع وقابلة على بناء فرص عمل مناسبة للشباب تساعد برفد عجله الاقتصاد في طاقات شبابية بمستويات عالية تواكب ما تفرضه التحديات الاقتصادية التي يمر بها الوطن اليوم.

للقطاع الخاص نظرة عملية تحاكي مستوى الخدمات والتحديات المرحلية التي في حال الأخذ بها قد تنعكس بطريقة إيجابية على جعل مشاريع التخرج قابلة للتطبيق بمستوى موضوعي رائد. وإن هذا التطبيق ما ان تم بأيادي عراقية مبدعة سيشعل مستوى المنافسة بين الطلبة لتقديم الأفضل والأقرب الى حاجة السوق اليوم من منتجات وخدمات حيث نعلم جميعاً اننا نعيش في عصر التكنولوجيا والتي لها آثار على جميع القطاعات دون استثناء. ففي عصر التكنولوجيا هذا أصبحت الحلول البرمجية مطلوبة أكثر من أي وقت مضى لتوفير مساحات أكبر من الإبداع.

أتمتة القطاعات المختلفة تبدأ من جيل قادر برمجياً على ترجمة مواجهه جميع التحديات وترجمة المواجهة تلك الى حلول برمجية ترفع من كفاءة هذه القطاعات وتعزز من واقعها الخدمي.

نشكر كلية دجلة الجامعة على ريادتها في هذا المجال وتوفير منصة للتفاعل بين كادرها التدريسي وطلبتها من جهة وبين زملائي في القطاع الخاص الذين شاركوا وقتهم لجعل هذا الاندماج مثمراً وساهموا في إضافة بعد عملي نابع من خبراتهم المكتسبة ونظرتهم العملية.

كما وادعو المؤسسات التعليمية الأخرى لأخذ زمام المبادرة ودعوة القطاع الخاص للمشاركة في مختلف النشاطات التعليمية خدمة للصالح العام.

اللجنة التحضيرية

ا.م.د. مازن سمير الحكيم

كلية دجلة الجامعة

قسم علوم الحاسوب

م. عبد المنعم عبدالواحد

كلية دجلة الجامعة

قسم علوم الحاسوب

م. علي طه ياسين

كلية دجلة الجامعة

قسم علوم الحاسوب

م.م. وسام رعد احمد

كلية دجلة الجامعة

قسم علوم الحاسوب

عمار رافد

شركة زين العراق

داليا القيسي

شركة ايرثلنك

سالي شاذل سعيد

شركة بوابة القمر

اللجنة العلمية

ا.م.د. حمزة داود

كلية دجلة الجامعة

قسم علوم الحاسوب

د. سيف محمد علي

كلية دجلة الجامعة

قسم علوم الحاسوب

د. سالم محمد زكي

كلية دجلة الجامعة

قسم علوم الحاسوب

د. مصطفى موسى جبر

كلية دجلة الجامعة

مركز تكنولوجيا المعلومات

د. عمر صبرالدين عزيز

كلية دجلة الجامعة

قسم علوم الحاسوب

م . زينة حسين فهد

كلية دجلة الجامعة

قسم علوم الحاسوب

م . مثنى عبد الواحد

كلية دجلة الجامعة

قسم علوم الحاسوب

م. زينه طارق نايف

كلية دجلة الجامعة

قسم علوم الحاسوب

م.م انسام احمد علوان

كلية دجلة الجامعة

قسم علوم الحاسوب

م.م. علي نافع يوسف

جامعة تكنولوجيا المعلومات والاتصالات

الخبراء من حقل العمل (ارباب العمل)

د. الخير محمد عبدالمجيد

مسؤول شعبة التدريب والتطوير

شركة ايرثلنك

علي الحلي

Youth & Entrepreneurship Consultant

شركة زين العراق

عمر دلير

Head of Infrastructure & Security Department

شركة زين العراق

ضرغام رعد

Platform & Operation Digital Expert

شركة زين العراق

علي سامي جابر

CEO – Satgate and SGITC

شركة بوابة القمر

علي انور عيسى

CEO – Ibtikar

شركة ابتكار لتكنولوجيا المعلومات

المتحدثين الرئيسيين

ا.م.د. مازن سمير الحكيم

رئيس قسم علوم الحاسوب

كلية دجلة الجامعة

علي الحلي

Youth & Entrepreneurship Consultant

شركة زين العراق

فادي حنا القس

Senior Software Engineer

في شركة Dell الامريكية

مصطفى علوان

طالب في كلية دجلة – قسم علوم الحاسوب

و مستشار تقني في شركة زين كاش

فريق المصممين

حسين علي جياد

قسم علوم الحاسوب

المرحلة الرابعة

ضياء محمود سلمان

قسم علوم الحاسوب

المرحلة الاولى

رانيا محمود كريم

قسم علوم الحاسوب

المرحلة الثانية

براء عمار مهدي

قسم علوم الحاسوب

المرحلة الاولى

زهاء احمد عباس

قسم علوم الحاسوب

المرحلة الثانية

خطاب علي محمود

قسم علوم الحاسوب

المرحلة الاولى

شعار المؤتمر

المعنى الدلالى لشعار المؤتمر:

ضياء محمود سلمان
المرحلة الاولى

يرمز الشعار الى اهمية البرمجة في بناء العراق الرقمي ...

حيث ان الاقواس <<< >>> المتعددة تدل على سلسلة اكواد البرمجة والتي تحيط بخارطة العراق. تم وضع رموز نظام العد الثنائي (0 و 1) داخل الخارطة للدلالة على التحول الرقمي للعراق. اما نهر دجلة فهو نهر الخير الخالد الذي يمر من شمال العراق الى جنوبه ويرمز كذلك لكلية دجلة الجامعة.

تضمن الشعار مزج عدة ألوان بشكل متناسق لتعزيز فكرة الشعار الاساسية المتعلقة بالرقمنة. فاللون الازرق يتميز بكونه لونا هادئا ويرتبط بالذكاء أيضًا و اللون البنفسجي يدل على الهدوء والاناقة والجمال و اللون الأرجواني هو لون روحي أو ملكي مرتبط بالترف والخيال والجودة والحقيقة.

تم اختيار هذا الشعار من قبل اللجنة التحضيرية بعد إجراء تنافس بين طلبة القسم (المشاركين في فريق التصميم) لتصميم شعار المؤتمر .

جدول المحتويات

المحور الاول: الوسائط المتعددة 1

Image Segmentation using Watershed Method

نادين احمد علي و بتول قاسم خضير

م . زينة حسين فهد 2

Object Detection using Point Feature Matching

موج حسين اسماعيل ، سما عبدالزهرة فاضل ، بشرى يوسف محمود

م. زينة طارق نايف 4

Shadow Removal using Segmentation Method

محمد سعد بدري ، احمد ماهر عبد ، مصطفى سعد عبد الحق ، نور ماجد مزعل

م.د. سيف محمد علي 7

المحور الثاني : الذكاء الاصطناعي 9

Edge Detection using Fuzzy Algorithm by Matlab

أيوب خليل ابراهيم ، كرار حمود لعيبي ، علي عماد مجيد ، طارق علاوي حسين

م . زينة حسين فهد 10

Smart Tint for Glass System using Arduino and Android App

محمد محسن جبار ، حيدر محسن جبر ، عبدالله رعد ناصر ، رؤى الهام وهبي

م.د. سالم محمد زكي 12

Driving Car Simulation using Monocular Camera (SIMA TOKA)

حسين علي جياد ، زيد أسامة عصام ، نور عماد محمد ، شهد إبراهيم صالح

م. علي طه ياسين 14

Driving Car Control using Mindwave

اية قاسم ناصر ، امنة مصطفى صبحي ، محمد طالب عبدالعزيز ، سامر كاظم عبيد

م. د. مصطفى موسى جبر 16

المحور الثالث : تطبيقات الموبايل 18

"Made in Iraq" Mobile Application

حسن لؤي حسن ، عبد الرحمن عادل طالب ، مصطفى قاسم محمد ، مصطفى برهان نجم الدين

ا.م.د. مازن سمير الحكيم 19

"The Best Doctor" A Phone App on The Android System

ليث عبد الله حمادي ، احمد عبدالرحمن ، علي طعمه ، احمد محمد

م.د . مصطفى موسى جبر 22

SMS Sending Software Project

ليث شاكر كريم ، مصطفى صلاح قدوري ، محمود جمال محمود ، مصطفى هشام داوود

م. مثنى عبدالواحد 24

Using GPS for Creating Map with Data in Projected Coordinate Reference System

ديانا عصام ، رقاب احمد كرجي ، محمد إسماعيل ، محمد طالب ابراهيم

م. م انسام احمد علوان 26

المحور الرابع : التطبيقات المتكاملة 29

Analyzing Remote Sensed Image using Visual Basic

أحمد عباس فاضل ، حسن حيدر عبد الامير ، يوسف ادريس هادي

م.د. سيف محمد علي 30

Medical Bracelet using Internet of Things

امير انور ، علي عبد الامير ، منتظر سلام مزاحم ، حسين محمد عبد الهادي

م.م انسام احمد علوان 32

Paperless Organization

حيدر حسن حسين ، مصطفى سمير سعيد ، محمد حسين مهدي

م.م. وسام رعد 35

Design and Implementation A Secured Network for Organization Network Depending on New Firewall

مصطفى محسن علي ، سجاد غني رحيم ، حسن جمال سالم ، زهراء احمد شبيب

م.د. عمر صبرالدين عزيز 37

University Portal
ماجد لؤي عبد ، حسين محمد سعيد ، عبد الرسول علي ، علاء ماهر
م. د. مصطفى موسى جبر 40

المحور الخامس : قواعد البيانات 42

Improving The Data of Business Intelligent by Analyzing Raw Data from Different Warehouses
سارة داود سالم ، زينب احمد جاسم ، رندى باسم احمد ، اكرم محمد جاسم
م.د. عمر صبر الدين عزيز 43

Developing a Website for Research
علي رافد علي ، عباس عبدالله زرزور ، شمس عبد الرحمن شكر ، سهاد محمد جبار
م.د. سالم محمد زكي 46

File Converter Library Management System
امجد محمد ، حسين مناتي ، شهد رياض ، احمد فائز
م. مثنى عبد الواحد 48

Crime Management Identification for Crime Inspection in Vb.Net
حسين علي جرو ، ياسر سدير حسن ، مهند جبار عبد الرضا ، همام عامر عبد الهادي
م. عبد المنعم عبد الواحد 50

مشاريع التخرج المتميزة 52

المحور الاول

الوسائط المتعددة

لجنة المناقشة

رئيس الجلسة
د. عمر صبرالدين عزيز

مقرر الجلسة
م.م انسام احمد علوان

ارباب العمل- شركة ايرثلنك
د .الخير محمد عبدالمجيد

المحور الاول - الوسائط المتعددة

عنوان مشروع التخرج (باللغة العربية):

تجزئة الصورة باستخدام طريقة مستجمعات المياة

عنوان مشروع التخرج (باللغة الانكليزية):

Image Segmentation using Watershed Method

فريق العمل:

نادين احمد علي

بتول قاسم خضير

المشرف: م . زينة حسين فهد
zena.hussain@duc.edu.iq

Abstract:

Image segmentation is one of the most important categories of image processing. The purpose of image segmentation is to divide an original image into homogeneous regions. It can be applied as a pre-processing stage for other image processing methods. There exist several approaches for image segmentation methods for image processing. The watersheds transformation is studied in this report as a particular method of a region- based approach to the segmentation of an image. First, the basic tool, the watershed transform is defined. It has been shown that it can be implemented by applying flooding process on grey tone image. This flooding process can be performed by using basic morphological operations. The complete transformation incorporates a pre-processing and post- processing stage that deals with embedded problems such as edge ambiguity and the output of a large number of regions. Watershed Transform can be applied to gray scale images, textural images and binary images. The watershed transform has been widely used in many fields of image processing, including medical image segmentation.

Conclusions:

Watershed transform is a powerful tool for the purpose of image segmentation. However, the purpose of watershed transform is not limited in image segmentation. For images containing components of different shapes, we find that the Chessboard DT can achieve better watershed segmentation results than Euclidean DT and City Block D. Also, Marker controlled method is much effective in segmentation as it significantly reduces the number of minima.

Future Works:

Image processing is very hot field which needs extensive research and hard work. Following are the suggestions for future work.

1. Improve the speed by using parallel processing either on clusters system or multiprocessor System.
2. Merge this technique with some other technique to get the better results

المحور الاول - الوسائط المتعددة

عنوان مشروع التخرج (باللغة العربية):

الكشف عن الكائن باستخدام مطابقة ميزة النقطة

عنوان مشروع التخرج (باللغة الانكليزية):

Object Detection using Point Feature Matching

فريق العمل:

موج حسين اسماعيل

سما عبدالزهرة فاضل

بشرى يوسف محمود

المشرف: م. زينة طارق نايف
zena.tariq@duc.edu.iq

Abstract:

Object recognition is an essential component in a number of computer vision tasks. In the context of mobile platforms and manipulators, sensors (cameras or lasers) on the platform are used to capture information about the scene to enable the platform to interact with the environment. For some of application which involve detection of any object though a digital image, image matching is an essential trait. For detecting a particular object within an image, detection using point feature method is much effective technique. The Point feature matching within an image is done by comparing various correspondence points of object and analyzing the points between cluttered scene images to find a required object of interest in image. In this paper, a modified approach of Point

feature matching with novel SURF algorithm is used for extracting the information from image, describing the points, matching object and detecting of object of interest in colored images. The algorithm works on finding correspondence points between a target and reference images and detecting a particular object. Speeded-up robust features (SURF) algorithm is used in this study which can detect objects for unique feature matches with non-repeating patterns. This approach of detection can vigorously find specified objects of interest within an image even with cluttered objects in image and provide constriction to other achieving near real time performance. This algorithm implemented with MATLAB, which is one of efficient tool to perform image processing.

Conclusions:

For this graduation research project (GRP), many points which are certain significance are drawn and concluded from this work, they are:

1. This project contains an algorithm for capturing a specific target based on the points which corresponds between reference and target image. It can capture the objects in-plane rotation and also effective to small amount of out of plane rotation also.
2. This method of object capturing works best for objects that exhibit in a cluttered texture patterns, which give rise to unique point feature matches.
3. As long as there are enough features detected in the unconcluded part, the object can have captured.
4. This method of object capturing works best for objects that exhibit non-repeating texture patterns.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future work, as listed in the following:

1. Investigate using more complex object models such as texture and shape together and make comparison with other methods and techniques which is used in object detection.

2. Apply this technique for real time applications such as object detection and tracking for military applications and fingerprint matching.
3. Detect and tracking multiple objects in same time.

المحور الاول - الوسائط المتعددة

عنوان مشروع التخرج (باللغة العربية):

إزالة الظل بطريقة التجزئة

عنوان مشروع التخرج (باللغة الانكليزية):

Shadow Removal using Segmentation Method

فريق العمل:

محمد سعد بدري

احمد ماهر عبد

مصطفى سعد عبد الحق

نور ماجد مزعل

المشرف: م.د. سيف محمد علي
saif.alameri@duc.edu.iq

Abstract:

Today's digital photographs are being heavily "filtered." By simple clicks on mobile apps like Hipstamatic and Instagram, users can easily apply digital filters to their pictures to create effects such as faux- vintage and light leaks. To understand the potential impacts of photo filters, we conducted an online experiment and investigated how the use of the black-and-white and film-style photo filters changed viewers' perceptions and descriptions of photographs. We found that photo filters substantially increased viewers' perceived temporal distances to photographs. Participants also tended to describe analogue style photos more interpretively and tentatively than unfiltered ones, indicating an increase in construal levels. We suggest that the widely used photo filter is not just

a tool to change aesthetics; it also adds a layer of history, meaning, and DE familiarization to photographs, allowing users to construct a mental distance in images that deviates from everyday experiences. We offer insights into the psychology of visual styles and implications for designing filter apps and photo-sharing platforms.

Conclusions:

Filters are becoming increasingly popular among users of mobile photo sharing tools and sites. In this work, we take a first step towards understanding motivations behind filter use and their impact on user engagement. Our contributions are two-fold. First we perform a qualitative study to understand motivations of producers in applying filters on their photos. We find that both serious and casual photographers use mobile app filters on their photos. The serious hobbyists apply filters to correct their photos, expose certain objects or manipulate certain colors. More so casual photographers like to add artificial vintage effects to their photos and make them more playful and unique. Our second contribution is an empirical study on 2.0 million mobile uploaded photos to analyze the effect of filters on viewers' engagement. We find that filtered photos are more

likely to be viewed and commented on. This work has several implications both for theory and design of technology.

Future Works:

During the development of work presented in this project one recommendation have come to mind, building a good segmentation algorithm to detect damage in the damaged imaged. Our future work will include further evaluation of the proposed approach which includes the following:

1. The black and white digital image will be transferee to colored image and then remove shadow.
2. The characters will be detected from the real image before remove the shadow.

المحور الثاني

الذكاء الاصطناعي

لجنة المناقشة

رئيس الجلسة
د .سيف محمد علي

مقرر الجلسة
م. زينه طارق نايف

ارباب العمل – شركة بوابة القمر
علي سامي جابر

المحور الثاني – الذكاء الاصطناعي

عنوان مشروع التخرج (باللغة العربية):

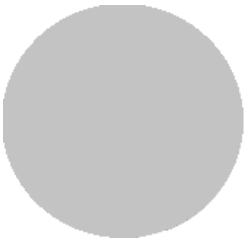
كشف الحواف باستخدام الخوارزمية الضبابية بواسطة MATLAB

عنوان مشروع التخرج (باللغة الانكليزية):

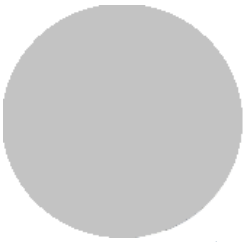
Edge Detection using Fuzzy Algorithm by Matlab

فريق العمل:

علي عماد مجيد



كرار حمود لعيبي



أيوب خليل ابراهيم

المشرف: م . زينة حسين فهد
zena.hussain@duc.edu.iq

طارق علاوي حسين

Abstract:

Edge detection is an important task in image analysis, and it plays important role in computer vision and medical imaging applications. Fuzzy rule based image processing algorithm has been developed for detecting the edges in the image, based on the changes in the gray values. Gray values of the image are taken as the input of the fuzzy system is applied on the image to detect edge pixel using the predetermined fuzzy rules. We show the development of an algorithm to perform edges extraction based on fuzzy logic theory. The proposed algorithm describes the creation of a fuzzy inference system that permit evaluate the existent relationship between image pixels, finding variations on grey levels of related neighbor pixels. Subsequently, it shows an implementation of OTSU method to binarize an image that was obtained from fuzzy process and so generate an image

containing only extracted edges, validating the algorithm with Humanoid League images. Later, we analyze obtained results that evidence a good performance of algorithm, considering that this proposal only takes an extra 35% processing time that will be required by traditional methods, whereas extracted edges are 52% less noise susceptible.

Conclusions:

1- By comparing the results obtained from the application of traditional and fuzzy methods to perform edge extraction, it is possible to demonstrate the good performance that presents the algorithm.
2- Analyzed images with low contrast between objects, can obtain some errors in edge detection; this is due to minimum difference between intensity values of pixels, so it is necessary to have a suitable lighting system. However, compared to other methods, the algorithm used has a lower percentage of loss in edges which are desired to identify.
3- It has been concluded from the subjective approach that Fuzzy logic based Edge detection gives more accurate result as compared to sobel.

Future Works:

1- Try used other method with fuzzy logic to edge detection.
2- Used this method to improve the other fingerprint security systems.

المحور الثاني – الذكاء الاصطناعي

عنوان مشروع التخرج (باللغة العربية):

نظام التعتيم الذكي للزجاج بأستخدام الاردوينو وتطبيق اندرويد

عنوان مشروع التخرج (باللغة الانكليزية):

Smart Tint for Glass System using Arduino and Android App

فريق العمل:

محمد محسن جبار

حيدر محسن جبر

عبدالله رعد ناصر

رؤى الهام وهبي

المشرف: م.د. سالم محمد زكي
salim.zaki@duc.edu.iq

Abstract:

The parts of buildings most susceptible to heat and heat loss are the windows that are calculated for basic cooling and heating. A huge amount of electricity Energy is used to power air conditioners to adjust the temperature of living and indoor buildings, while appropriate glazing techniques and materials can be used to reduce energy consumption. As the glazing technology progresses smart development that can greatly reduce the energy requirements of buildings and reduce coldness inside buildings in the summer and maintain warmth in winter, as well as controlling them very easily either by phone or automatically controlled by adding a light sensor or a temperature sensor. Through the use of the PDLC film with the development of the hardware, which consists of an Arduino with some electronic modules and a light sensor, we were able to manufacture smart glass

that works within the specifications that we mentioned. The developed Android app, can control the tint of the smart glass. This makes the control over glass can be done through hardware sensor automatically and through mobile app in hand.

Conclusions:

For this graduation research project (GRP), many points which are certain significance are drawn and concluded from this work, they are:

1- Replacement of traditional window shade with modern technology more beautiful than traditional blinds and more easy to control with automatic control smart tint gives extra beauty to the windows of buildings or cars as it contains different colors, depending on desire, by pressing a button, the color of the glass can be white, black or blue.
2- Developed smart tint in this project is much easier to control than traditional blinds, controlled via the phone or automatically, without user intervention, whether the user is inside or outside the home or building
3- In addition, it contains a feature that is not found in traditional curtains, and it controls the degree of transparency to allow the passage of sunlight into the home.
4- The hardware and software developed in this project makes it easy and efficient to control tint of glasses with avoiding limitations of traditional tint techniques.

Future Works:

The designed and implemented system offers many fruitful lines for continuous graduate research, and opens the door for a range of future work.by developing the project by adding other ways to control it, as listed in the following:

1- Control the transparency of the glass by voice commands through Alexa Amazon.
2- Control the transparency of the glass by the Internet by adding Wi-Fi modules, and this type is considered one of the Internet of Things applications.
3- Automatically control the transparency of the glass through the temperature by adding the temperature sensor. When the temperature becomes high it becomes opaque and vice versa.

المحور الثاني – الذكاء الاصطناعي

عنوان مشروع التخرج (باللغة العربية):

محاكاة قيادة السيارة بأستخدام الكامرة الاحادية

عنوان مشروع التخرج (باللغة الانكليزية):

Driving Car Simulation using Monocular Camera (SIMA TOKA)

فريق العمل:

حسين علي جياد

زيد أسامة عصام

نور عماد محمد

شهد إبراهيم صالح

المشرف: م. علي طه ياسين
ali.taha@duc.edu.iq

Abstract:

For safe urban driving, one prerequisite is to keep a car within a road- lane boundary. This requires human and robotic drivers to recognize the boundary of a road-lane and the location of the vehicle with respect to the boundary of a road-lane that the vehicle happens to be driving in. We present a new computer vision system that analyzes a stream of perspective images to produce information about a vehicle's lateral movements, such as distances from a vehicle to a road lane's boundary and detection of lane-changing maneuvers. This project try practice existing work in this field, such as driving on inter-city highways. Tests on real inter-city highways showed that our system provides stable and reliable performance in terms of computing lateral distances, while yielding reasonable performance in detecting lane- changing maneuvers.

Conclusions:

A real-time driver assistance system for ADAS application has been proposed to minimize the potential hazards during lane-change man oeuvre. The proposed system can effective Ely detect and track rear-approaching vehicle in dense traffic and calculate the distance from ego-vehicle. The system is also capable of alerting the driver of the ego-vehicle about the presence of any vehicle inside the 'danger zone' and can predict whether a lane-change man oeuvre is feasible in the current situation. The proposed framework is simple and fast to execute and can be ported to any available embedded control unit with minimal adaptations. This framework has every potential to be a part of real-time automotive safety system and can be an essential Feature for autonomous driving in feature.

Future Works:

We are currently working on developing a more robust classifier for vehicle detection. More training samples are being collected and fed to the system for better accuracy in vehicle detection. We are also planning to replace the linear Kalman filter with a non-linear tracking algorithm. The future works also in clued creating a complete environmental model of the surroundings of ego-vehicle to provide more information to the driver. A parallel architectural implementation is also being tested for faster implementation of the proposed system.

المحور الثاني – الذكاء الاصطناعي

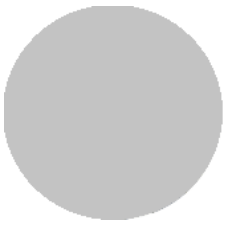
عنوان مشروع التخرج (باللغة العربية):

التحكم في السيارات باستخدام موجات الدماغ

عنوان مشروع التخرج (باللغة الانكليزية):

Driving Car Control using Mindwave

فريق العمل:


اية قاسم ناصر

امنة مصطفى صبحي

محمد طالب عبدالعزيز

سامر كاظم عبيد

المشرف: م. د. مصطفى موسى جبر
mustafa.musa@duc.edu.iq

Abstract:

The ability to effectively classify electroencephalograms (EEG) is the foundation for building usable Brain-Computer Interfaces as well as improving the performance of EEG analysis software used in clinical and research settings. Although a number of research groups have demonstrated the feasibility of EEG classification, these methods have not yet reached a level of performance that is acceptable for use in many practical applications. Object of design is creation a model of control system by using a mindwave device along with Arduino Uno which connected via Bluetooth. The goal of this research is to implement a full system of control by sending orders from the human brain signals by using a mindwave device analyzed using virtualizer application and then transfer the data into Arduino to compile the data into act which is forward and backward.

Conclusions:

The conclusions are achieved in our research are:

1- We made a full control system by using mindwave .
2- We sent the control signals from the brain to the robotic module (the car) by using the mindwave and sent it by the Bluetooth.
3- Our system can made the robotic module (the car) go forward and backward by using mindwave .
4- In our system there is a direct connection between the brain and the robotic module (the car) by using the mindwave device.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future work, as listed in the following:

1- You can make more steps to the car.
2- You can add another sense to your system to sending the signals.
3- You can use another media for sending the signals.
4- You can use another robotic module.

المحور الثالث

تطبيقات الموبايل

لجنة المناقشة

رئيس الجلسة
د. سالم محمد زكي

مقرر الجلسة
م . زينة حسين

ارباب العمل – زين العراق
ضرغام رعد

المحور الثالث - تطبيقات الموبايل

عنوان مشروع التخرج (باللغة العربية):

"صنع في العراق" تطبيق موبايل

عنوان مشروع التخرج (باللغة الانكليزية):

“Made in Iraq” Mobile Application

فريق العمل:

حسن لؤي حسن

عبد الرحمن عادل طالب

مصطفى قاسم محمد

مصطفى برهان نجم الدين

المشرف: ا.م.د. مازن سمير الحكيم
mazin.alhakeem@duc.edu.iq

Abstract:

Technology is one of the best developments of this time Because of the frequent use of the Internet We worked to create an application that helps users to access and know more about the Iraqi products available in the market more easily, Due of non-local products and highlighting them a lot, and making them available more than our national products for consumption, knowing that there are similar local products in the quality and price of the imported products, and we decided in our turn to highlight our national products to contribute to raising the Iraqi economy, and increasing job opportunities for the private sector in Iraq, where using electronic marketing can know the patterns of customer behavior, where purchase rates increase, after providing the appropriate products to the right customer.

Conclusions:

1. To obtain high-quality products at a specific time and without any effort from the customer, as the product arrives to the door of his house, no effort is made.
2. There is no time restriction, as online services are available for twenty-four hours.
3. The information is very clear, which makes it easy for the customer to make the purchasing decision.
4. Easily reach a large number of clients in a variety of geographical regions, and it is possible that the geographical location is far from the location of the seller or in another country, it is not a requirement that the seller and buyer be from the same country, as the Internet facilitated this issue
5. The process of buying and selling takes place in a short time and there is no restriction or condition for obtaining the sold item, as long as the price of the commodity is available, and the process of selling or buying takes place at any time during the day, month, or year without any restriction.
6. There is no operating cost to open an outlet for sale in any store or exhibition, so Internet marketing reduces the cost of having a store or showroom for sale with its high cost such as rent bills, electricity, labor, water and other expenses.

Future Works:

E-Marketing is the future of shopping today. Where he contributed to changing the ways of buying and selling services and products, he relied mainly on the emergence of e-commerce because it provides many options for buying online

1. One of the most important recent additions is the addition of the application to the IOS system to be more prevalent in Iraq
2. Facilitating the search process by adding the search feature by voice to facilitate finding the product or product for the customer, and this feature reduces the search time for the product.
3. Contracting from telecommunications companies that deal with electronic payment, to facilitate the payment process for the consumer, such as (Zain Cash or Asia Hawala).
4. Connect with social media to make more expansion and spread of the application and reach out to the largest group of people.

5. We can develop the delivery method and make it international, and this helps to increase the popularity of the program and increase the economy of Iraqi companies and the world's knowledge of Iraqi products.
6. Add an electronic wallet to the customer inside the application
7. At the end, it is possible to add several advantages in the future for the benefit of both parties.

المحور الثالث - تطبيقات الموبايل

عنوان مشروع التخرج (باللغة العربية):

" الدكتور الأفضل " تطبيق هاتف المحمول على نظام الاندرويد

عنوان مشروع التخرج (باللغة الانكليزية):

"The Best Doctor" A Phone App on The Android System

فريق العمل:

ليث عبد الله حمادي

احمد عبدالرحمن صالح

علي طعمه داوود

احمد محمد كلخان

المشرف: د . مصطفى موسى جبر
mustafa.musa@duc.edu.iq

Abstract:

The aim of the application is to create a more comfortable environment for the patient and easy to find the best doctor in a short time and improve the health situation in Iraq.

And the use of phone applications in the medical aspect and make the applications useful to the patient, doctor and most of the community, some of the problems facing us were how we will find the doctor, where and how I will know whether the application is good or not.

Through this application you can know all this information and this is what makes the application comfortable for the patient and easy to use the application for the presence of the Arabic language and the English language is running the Android

system which is a common system and the phones that operate this system are common so that the application can reach a large group of the world.

Conclusions:

In researching this project, there are important points, the most important of them

1- Help the patient to find the doctor as soon as possible.

2- Make the environment of sick people more comfortable.

3- Enter Medicine in the electronic world.

Future Works:

In the world of application development, there must be updates to the application and we are thinking for the future that we can make some changes or add some features in this application:

1. GPS feature: The search should be by the nearest doctor to the patient with the specialty determined by the patient.
2. Messages : Talk to the doctor via the app.
3. Website for the application.

المحور الثالث - تطبيقات الموبايل

عنوان مشروع التخرج (باللغة العربية):

مشروع برنامج إرسال الرسائل القصيرة

عنوان مشروع التخرج (باللغة الانكليزية):

SMS Sending Software Project

فريق العمل:

ليث شاكر كريم

مصطفى صلاح قدوري

محمود جمال محمود

مصطفى هشام داوود

المشرف: م. مثنى عبدالواحد
muthanna.khudhair@duc.edu.iq

Abstract:

This sketch send a SMS message from an Arduino equipped with a GSM shield. Using the computer of the Arduino Software (IDE), you'll enter the number to connect with, and the text message to send. However, the Hardware Required includes Arduino, Arduino + Telefonica GSM and SIM card. Short message service (SMS), which is an abbreviation of Short Message Service, is a written text message that is written by the laptop and sent via mobile networks. SMS is a practical, low-cost solution compared to voice calls this program includes a user database

Conclusions:

Many points which are certain significance are drawn and concluded from this work, they are:

1. We were able to change the concept of communication between the customer and the owner of the company.

2. We reduced time wasting the customer.

3. Quickly informing the customer of what is new.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future work, as listed in the following:

1- Connect the program and integrate it with artificial intelligence.

2- Replace the sim card with a server.

3- Providing the transmit and receive service.

المحور الثالث - تطبيقات الموبايل

عنوان مشروع التخرج (باللغة العربية):

استخدام نظام تحديد المواقع العالمي لانشاء الخريطة بالبيانات في نظام الاسناد المرجعي المتوقع

عنوان مشروع التخرج (باللغة الانكليزية):

Using GPS for Creating Map with Data in Projected Coordinate Reference System

فريق العمل:

ديانا عصام عبد الحميد

رقاب احمد كرجي

محمد إسماعيل حميد

محمد طالب ابراهيم

المشرف: م. م انسام احمد علوان
ansam.ahmed@duc.edu.iq

Abstract:

Although Earth images and map data that you use are typically rendered onto flat surfaces (such as your computer screen or a sheet of paper), the Earth's surface obviously is not flat. Because Earth has a curving, not-quite sphericial shape, planar maps of all but the smallest areas contain significant geometric distortions of shapes, areas, distances, or angles. In order to produce two-dimensional maps that preserve geographic relationships and minimize particular types of distortion, several steps are required. We must choose a geometric model (known as a geodetic datum) that closely approximates the shape of the Earth, yet can be described in simple mathematical terms. We must also

adopt a coordinate system for referencing geographic locations in the mapping plane. Finally we must choose an appropriate mathematical method of transferring locations from the idealized Earth model to the chosen planar coordinate system: a map projection.

This guidance document provides information about projections, coordinate systems, datums, and other spatial reference information used in Geographic Information Systems (GIS) and information about many applications Projects.

The spate of insecurity has received global attention lately and thus a need for an improved Global Positioning System (GPS) based tracking system is required to meet quickly evolving security issues. GPS tracking technology is one of the most rapidly growing technologies around the world. We attempt to explore the security benefits embedded in the GPS tracking system in respect to the National Security dilemma and its deployment into Security System.

The mapmisc package provides functions for visualising geospatial data, including fetching background map layers, producing colour scales and legends, and adding scale bars and orientation arrows to plots. Background maps are returned in the coordinate reference system of the dataset supplied, and inset maps and direction arrows reflect the map projection being plotted. This is a “light weight” package having an emphasis on simplicity and ease of use.

Conclusions:

For this graduation research project (GRP), many points which are certain significance are drawn and concluded from this work, they are:

Thus, we conclude, that GPS technology is very important to everyone because it helps users in different daily life activities such as map navigation, product tracking and more. GPS is very important tool for navigation and tracking purpose. GPS plays an important role in position tracking and map navigation. Today, there are many GPS based application being developed, such as Waze, Google Maps, HERE maps and so on. Its popularity has increased drastically and covered almost all the domains. This paper explains about GPS and its components. It also discusses about Accuracy and Precision which is the two major factors affecting the performance of GPS. Lastly the applications of GPS are explained in a detailed manner. GPS is an essential element of the global information like the internet and mobile in modern

times, infrastructure and advanced revolutionary technology that changing and operate in the various field of development.

The free, open, and dependable nature of GPS has led to the development of hundreds of applications affecting every aspect of modern life. GPS technology is now in everything from cell phones and wrist watches to bull dozers, shipping containers, and ATM's. GPS plays a vital role in tracking out vehicles. It also helps in providing easier routes. In case of a Disaster, the most appropriate emergency response personnel such as rescue, fire, police, ambulance personnel to allow much quicker and more accurate response efforts and further reduce disaster impacts.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future works, as listed in the following:

1. Connecting the system with the internet in order to make using of it more flexible.
2. Connecting this system with other application like medical applications that helps on the hospitals.
3. Improve that system by adding other commends like traking objects.

المحور الرابع

التطبيقات المتكاملة

لجنة المناقشة

رئيس الجلسة
ا.م.د. حمزة داود

مقرر الجلسة
م . مثنى عبد الواحد

ارباب العمل –زين العراق
عمر دلير

المحور الرابع – التطبيقات المتكاملة

عنوان مشروع التخرج (باللغة العربية):

تحليل الصورة الملتقطة عن بعد باستخدام الفيجول بيسك موبايل

عنوان مشروع التخرج (باللغة الانكليزية):

Analyzing Remote Sensed Image using Visual Basic

فريق العمل:

أحمد عباس فاضل

حسن حيدر عبد الامير

يوسف ادريس هادي

المشرف: م.د. سيف محمد علي
saif.alameri@duc.edu.iq

Abstract:

In this project we built a package for image clustering based on Visual Basic and using the Graphical User Interface environment of it. The designed package including image reading, displaying, and apply K-mean clustering algorithm for producing the discrete representations of image features through clustering features detected at multiple scales. The main class responsible for determine the number K of models (divide the image in to K partitions) that are likely to be observed in a sequence, and then perform clustering in the model parameter space, the K-means method will be used. Our lately build a procedure which converts the gray-level image to K cluster. And edge-preserving neighborhood is used to improve an already exist extension for K-Mean. A clustered image can be used in many applications like satellite image, clustering is used for classification

of geology is to measure the area on forest or cultivated land. Color image segmentation based on automatic morphological clustering is used for various applications.

Conclusions:

1- We must carefully select the parameter K of K-Mean clustering.
2- Doing many runs of k-means, each from a different random start configuration, to obtain good results.
3- The K-Mean algorithm is easy to implement and only requires that to selected initial K clusters and stopping criteria.

Future Works:

It is recommended as a future work to add more image clustering Algorithm processing tools to the program such as Fuzzy C-Means Clustering. Also converting the program to an executable image Clustering learning package for the students. The project loads images from disk to application for processing. As more and more images loaded to application memory used for each image is not freed so system become slow and slow. In java theory it is stated that garbage collector automatically deals locate unused memory. We suggest use JAVA programming language for modify or update this package.

المحور الرابع – التطبيقات المتكاملة

عنوان مشروع التخرج (باللغة العربية):

سوار طبي باستخدام انترنت الاشياء

عنوان مشروع التخرج (باللغة الانكليزية):

Medical Bracelet using Internet of Things

فريق العمل:

امير انور محمود

علي عبد الامير قاسم

منتظر سلام مزاحم

حسين محمد عبد الهادي

المشرف: م.م انسام احمد علوان
ansam.ahmed@duc.edu.iq

Abstract:

Communication and sensing devices, as well as their respective software, have become versatile for Information Technology (IT) solutions in different contexts. The emergent technology known as the Internet of Things (IoT) has helped both practitioners and researchers to design innovative solutions in healthcare. The IoT-enabled healthcare research is significant due to its valuable implications, including higher quality and lower cost of services and reliable preventive care. This paper reviews the current literature on the IoT in healthcare and discusses its applications and enabling technologies, as well as critical challenges.

Personal Emergency Response Systems (PERS) are traditionally used as fall alert systems for older adults, a population that contributes an overwhelming

proportion of healthcare costs in the United States. Previous studies focused mainly on qualitative evaluations of PERS without a longitudinal quantitative evaluation of healthcare utilization in users. To address this gap and better understand the needs of older patients on PERS, we analyzed longitudinal healthcare utilization trends in patients using PERS through the home care management service of a large healthcare organization.

Approximately 80% of global tuberculosis (TB) cases occur in low- resource settings, with little opportunity for TB control. We hypothesized that the rapid increase in smart phone users and advances in digital technology would render bracelet-based applications possible; specifically, that bracelet- and self-directed observational therapy (BSDOT) can be used by patients with TB to ensure adherence to TB medication regimens and by basic village physicians to monitor care. This will ultimately allow TB to be controlled in low-resource environments.

We present the design process of a smart bracelet that aims at enhancing the life of elderly people. The bracelet acts as a personal assistant during the user's everyday life, monitoring the health status and alerting him or her about abnormal conditions, reminding medications and facilitating the everyday life in many outdoor and indoor activities.

Conclusions:

For this graduation research project (GRP), many points which are certain significance are drawn and concluded from this work, they are:

1- The Internet of Things changed the healthcare industry, increasing efficiency, lowering costs and putting the focus back on better patient care. Meanwhile, the IoT is growing from building blocks of automation and machine-to- machine communication to the smallest sensors. We consider also how IoT can be used to increase healthcare and how IoT helps people and governments to improve daily activities in personal and public level. Although there are security issues in giving location information, we can give some permission to people in order to allow mechanisms to prevent people from abusing. Yet there are a lot of remaining works to be done in order to make the best use of this IoT technology. We need to grow these applications in the future until the desired level of health comes in society.

2- Conscious patients with mental capacity (or the careers/guardians of those without mental capacity) have a responsibility to answer direct questions as to adverse reaction or health status, or volunteer such information when they know it, and cannot rely on ID jewellery alone to convey this information.
3- Designing smart accessories for elderly people implies several additional challenges in respect to products with a generic target. The perceived usefulness of the product is often affected by socio-emotional factors, while the interface requires special precautions to improve the accessibility. we proposed the design of a smart bracelet that aims at improving elderly life by lowering the threshold to access everyday technologies, such as digital payments and Session: Atelier of Smart Garments and Accessories UbiComp'13, September 8–12, 2013, Zurich, Switzerland 431 smart household appliances, and through health monitoring and alert functions. The design aimed at improving the product desirability, by carefully studying the aesthetics, the proposed functionalities and an accessible multimodal interface. Besides the common challenges for technological integration, many features require an extended effort of integration with existing and future services.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range of future work where:

Our design process will involve several iterations and evaluation of prototypes with older adults. The preliminary interviews will be used to refine the product design in order to create a new mockup that will be used to conduct a usability evaluation. The proposed features will be simulated using a Wizard of Oz technique. Analyzing the result of this second evaluation, we will build a functioning prototype that will be tested again by older adults. Designing wearable systems for older adults is challenging and it requires a large flexibility in order to adapt the product to this heterogeneous category of people. Furthermore, this flexibility should also consider the changing requirements that will be introduced by the next generation of older adults, which have a different relationship with technology. These considerations could raise an interesting debate about how the design process of smart accessories for the old age could be influenced by this prominent need of flexibility.

المحور الرابع – التطبيقات المتكاملة

عنوان مشروع التخرج (باللغة العربية):

المنظمة غير الورقّية

عنوان مشروع التخرج (باللغة الانكليزية):

Paperless Organization

فريق العمل:

حيدر حسن حسين

مصطفى سمير سعيد

محمد حسين مهدي

المشرف: م.م. وسام رعد
wisam.alazawi@duc.edu.iq

Abstract:

This program is considered one of the most important programs that reduce time, effort and space in exchanging paper documents between users by creating a closed server between users in a department, company or institution this server is considered a closed circle between users and it is not possible to enter the program except with the permission of the supervisor.

Logging in to this program is obtained by obtaining a user name and password by the general supervisor of the program, so the user can log in to the server and exchange paper documents inside it, this program provides the user with the effort to exchange documents, so it contains two important sections. The first section is the Exports section. Which enables the user to send all types of photocopy documents in the format specified by the user and a brief summary can also be

written about the document content and the title (the document name) and also it is possible to add a date to the document. Many documents can be searched by the date on which they were sent in order to avoid the similarity of the names of similar documents in Different dates.

The storing space for paper documents is considered one of the most important problems that have been addressed in this program through the use of this program. We do not need the space to store documents. It archives all issued and received documents and can be obtained by searching for them in the search field and using them when needed and sending them through work New export, put a new address, and describe it as needed.

Connecting between users 'devices. Connecting is easy and simple in two ways. The wired method is by connecting the devices with a wire connected to a server device if the devices are close to each other, or in another way if the devices are scattered in different places that are connected via wireless via the internet and the server is locked By usernames and passwords where, as we mentioned earlier, each user has a private name and password that allows him to access the server and exchange information and documents in a secure manner.

Conclusions:

In researching this project, there are important points, the most important of them

1. Faster work flow.

2. Make the environment of employees comfortable.

Future Works:

In the world of application development, there must be updates to the application and we are thinking for the future that we can make some changes or add some features in this application:

1. Messages: Talk to the employees via the application.

2. Website for the application.

3. Questionnaire.

المحور الرابع – التطبيقات المتكاملة

عنوان مشروع التخرج (باللغة العربية):

تصميم وتنفيذ شبكة حماية لمنظمة بالاعتماد على جدار ناري جديد

عنوان مشروع التخرج (باللغة الانكليزية):

Design and Implementation A Secured Network for Organization Network Depending on New Firewall

فريق العمل:

مصطفى محسن علي

سجاد غني رحيم

حسن جمال سالم

زهراء احمد شبيب

المشرف: م.د. عمر صبرالدين عزيز
omar.sabri @duc.edu.iq

Abstract:

Today's world, most business, regardless of size, believe that access to Internet is imperative if they are going to complete effectively. Yet connecting a private computer (or a network) to the Internet can expose critical or confidential data to malicious attack from anywhere in the world since unprotected connections to the Internet (or any network topology) leaves the user computer vulnerable to hacker attacks and other Internet threats. Therefore, to provide high degree of protection to the network and network's user, Firewall need to be used. Firewall provides a barrier between the user computer and the Internet (i.e. it prevents unauthorized Internet users from accessing private computers and networks connected to the Internet). The project is concerned with the design and

implementation of a proposal firewall system which is used to protect both individual computers and corporate networks from hostile intrusion coming through Internet. The Dual-homed host architecture has been used to implement the proposed firewall system. The designed system is constructed using C# Language. Finally, this proposed system is built depending on the packet filtering mechanism to regulate all the packets entering and leaving the protected site using IP address and port number of the TCP packet. Also this system deals with application level and monitors all packet data (content) and maintains the firewall activity with Internet connection

Conclusions:

The graduation research project (GRP), focused to manipulate implemented project in order to work in very critical field, hard, and required because it is developed, the researchers concluded some of notices which are following as:

1. The proposed firewall system can be used to protect one computer (personal computer PC) from the attacker when connecting to a LAN and also can be used to protect many computers that connected together in LAN from the outside attack in the Internet.
2. From functional point view, the proposed system can be used in two ways: first as security tool, where the system prevents the hacker from entering the protected computer or network. Second as monitoring tool which can be used in many applications by using IP address and port number.
3. All types of firewall depend on packet capture processing. When we need to build any type of firewall, we must process the packet of connection to make firewall work in the right place. For this reason, this research depends on packet filtering firewall.
4. Using dual-homed host architecture helped us in increasing the protection because it isolate the protected network from the Internet and all traffic must pass though this host.
5. There are basic firewall types, but they can typically be grouped into (Packet filtering, Application level, and Circuit level) with each approach having strength. However, all firewalls share a common attribute, either allowing or deny access to the packet coming from Internet.

Future Works

The goal of this work is how to build a specific policy to repel any attack from outside. This goal has been achieved. The future plan for this project will be:

6. Building a private policy for a company or bank whose information cannot be hacked in the traditional way.
7. The possibility of building a local fire wall with local specifications, that is, according to the requirements of the company or bank, through which its information can be protectedز
8. Building protocols agreements on all layers by applying this policy to other operating systems, whether mobile or computer.

المحور الرابع – التطبيقات المتكاملة

عنوان مشروع التخرج (باللغة العربية):

بوابة الجامعة الالكترونية

عنوان مشروع التخرج (باللغة الانكليزية):

University Portal

فريق العمل:

ماجد لؤي عبد عطوف

حسين محمد سعيد

عبد الرسول علي عبد الرسول

علاء ماهر

المشرف: م. د. مصطفى موسى جبر
mustafa.musa@duc.edu.iq

Abstract:

A portal is a website that is the starting point for communication with other websites. The name of the portal came from its function as an open door from which one looks at the world of information and other activities provided by the Internet. The portal is distinguished from the websites by a very high degree of organization, as its integrated services provide easy and quick access to the most important topics of concern to people. Most of the portals get their funding from the advertising links that appear in them, and these links lead the portal visitors to the advertisers' sites themselves. There are many factors that play an important role in attracting site visitors and maintaining their communication with it, and the most prominent of these factors

The services provided by the site, such as education and education services.

• Research services based on the latest technologies.

• General services such as: email box and floating storage space (Free drives) and others.

Conclusions:

For this graduation research project (GRP), many points which are certain significance are drawn and concluded from this work, they are:

1. Facilitating the communication process between students and professors electronically.
2. Presentation of activities and exam dates and delivery of exam scores to students in a simple and understandable way.
3. Follow-up of the department head to what is going on inside the department in terms of professors and students.
4. If we wanted to obtain information about the teacher or student, the process will be in the gate quickly, simple and complete (only needs to search for the name).
5. Easy access to parents of students in the event of a problem through their information, phone numbers and personal email registered in the information.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future work, as listed in the following:

1. We are heading to home electronic education, we can add the feature of electronic lectures (video lectures, text lectures) and join each class with its own class that can send lectures and also take exams in electronic form with students.
2. Using the property of the QR in the identification identities of students and adding an advantage to university security through the portal. The identity of the student can be identified by simply scanning the QR. Complete information appears in the gate.

المحور الخامس

قواعد البيانات

لجنة المناقشة

رئيس الجلسة
د. مصطفى موسى جبر

مقرر الجلسة
م.م. علي نافع يوسف

ارباب العمل – ابتكار
علي انور عيسى

المحور الخامس - قواعد البيانات

عنوان مشروع التخرج (باللغة العربية):

تطوير بيانات برنامج الاعمال الذكي بواسطة تحليل بيانات خام من المستودعات المختلفة

عنوان مشروع التخرج (باللغة الانكليزية):

Improving The Data of Business Intelligent by Analyzing Raw Data from Different Warehouses

فريق العمل:

سارة داود سالم

زينب احمد جاسم

رندى باسم احمد

اكرم محمد جاسم

المشرف: م.د. عمر صبر الدين عزيز
omar.sabri@duc.edu.iq

Abstract:

Due to the raw data in the warehouses for integrated information systems, these will provide scientific institutions with the necessary information on research activities and results of business intelligent (BI) in assured quality. While unstructured data collection, duplication, missing values, incorrect formatting, inconsistencies, it can arise in the collection of research data in different researched information systems, which can have a wide range of negative effects on data quality, the subject of BI data quality should be treated with better results. This project examines the BI data quality problems in research information

systems and presents the new techniques that enable organizations to improve their quality of collected information.

The researchers proposed the sentiment analysis to analyze the collected data but what is sentiment and why they select this kind of analyzer? These questions will be answered via the papers. Sentiment analysis requires a lot of information coming from different sources and about different topics to be retrieved and fused. For this reason, one of the most important subtasks of sentiment analysis is subjectivity detection, i.e., the removal of 'authentic' comments that lack sentiment. It is possibly the most essential subtask of sentiment analysis as sentiment classifiers are often optimized to categorize text as either negative or positive. The project reviews handmade and automatic models for subjectivity detection in the literature. It highlights the key assumptions these models make, the results they obtain, and the issues that still need to be explored to further our understanding of subjective sentences.

The practical part will be focused on the implementation of methodology by using Python platform and analyzed the collected data. Lastly, the advantages and limitations of each project are compared. The methods can be broadly categorized as handmade, automatic, and multi-modal. Handmade templates work well on strong sentiments; however they are unable to identify weakly subjective sentences. Automatic methods such as deep learning provide a meta-level feature representation that generalizes well on new domains and languages. Multi-modal methods can combine the abundant audio and video forms of unstructured data with text using multiple kernels. We conclude that the high-dimensionality of n-gram features and temporal nature of sentiments in long product reviews are the major challenges in sentiment mining from text.

Conclusions:

The graduation research project (GRP), focused to manipulate a modern project in Data Science which is diagnosing the situations of certain groups in a certain city and finding their the serious topics or common topics by implementing some of tools and source codes that are dealing with unstructured data inside the warehouses or distributed clouds in the internet world. The following points summarize the conclusions of the project:-

1. Cleansing procedure needs to enhance for producing a high quality of tokens.
2. The analysis part needs to emphasize more vocabularies for recognize the usage words
3. The researchers found many privileges in Python language which makes the parts of project are implemented easily.
4. The Powerful in Power BI makes the presentations very clear and accurate.
5. Sentiment analysis algorithm is suitable for this type of dataset because its parts are dealing with input data as a structured database.

Future Works:

The designed and implemented system presents many productive lines of continued graduation research, and opens the door to a range of future works, as listed in the following:

1. The project can implement other algorithm to enhance the analysis speed.
2. The project can be mobile application
3. The project will be used in many parts of social life to explore a certain people in the world whether it is marketing well.

المحور الخامس - قواعد البيانات

عنوان مشروع التخرج (باللغة العربية):

تطوير موقع إلكتروني للبحث العلمي

عنوان مشروع التخرج (باللغة الانكليزية):

Developing a Website for Research

فريق العمل:

علي رافد علي

عباس عبدالله زرزور

شمس عبد الرحمن شكر

سهاد محمد جبار

المشرف: م.د. سالم محمد زكي
salim.zaki@duc.edu.iq

Abstract:

The scientific research method is a frame of techniques for inspecting phenomena, obtaining new knowledge, or correcting and integrating preceding knowledge. Researchers and students doing research need a software tools and services to do the research correctly. Therefore, the aim of this project is to develop a website that collects free tools and service assisting researchers doing their job using free of charge and with no crack software. The website will be a reference to researchers and students working on their projects.

Conclusions:

This project designed and developed a website using WordPress. The developed website collects and presents summarized information on doing research using free tools and services.

The provided information classified into webpages on the website. The guidelines of writing, enhancing English language text. Also it provided free services of searching information on Internet using professional and specialized services. Free tools for researchers instead of cracked software or limited versions. This project saves time on students to find the way of doing research. It reduces the mistakes those done by students during writing time.

Future Works:

The next step of enhancing and adding new features to this website will make the website more reliable and serve more students and researchers based on their projects requirements.

The feedback of website visitors and discussions about research details is needed when number of visitors increased. This feedback and discussion could be done through Leave a Comment and Contact Us features in our website. This may increase the shared knowledge and experience of students and researchers.

المحور الخامس - قواعد البيانات

عنوان مشروع التخرج (باللغة العربية):

نظام إدارة مكتبة تحويل الملفات

عنوان مشروع التخرج (باللغة الانكليزية):

File Converter Library Management System

فريق العمل:

امجد محمد مجيد

حسين مناتي ماضي

شهد رياض عبد الحسين

احمد فائز عبد الغني

المشرف: م. مثنى عبد الواحد
muthanna.khudhair@duc.edu.iq

Abstract:

Library management system is a project which aims in developing a computerized system to maintain all the daily work of library .This project has many features which are generally not availiable in normal library management systems like facility of user login and a facility of teachers login .It also has a facility of admin login through which the admin can monitor the whole system. It also has facility of an online notice board where teachers can student can put up information about workshops or seminars being held in our colleges or nearby colleges and librarian after proper verification from the concerned institution organizing the seminar can add it to the notice board . It has also a facility where student after logging in their accounts can see list of books issued and its issue date and return date and also the students can request the librarian

to add new books by filling the book request form. The librarian after logging into his account ie admin account can generate various reports such as student report, issue report, teacher report and book report.

Overall this project of ours is being developed to help the students as well as staff of library to maintain the library in the best way possible and also reduce the human efforts.

Conclusions:

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library. It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where student can login and can see status of books issued as well request for book or give some suggestions. It has a facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

Future Works:

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility, a feature Of group chat where students can discuss various issues of software can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible.

المحور الخامس - قواعد البيانات

عنوان مشروع التخرج (باللغة العربية):

تحديد إدارة الجريمة لتفتيش الجريمة في باستخدام لغة الفيجوال بيسك

عنوان مشروع التخرج (باللغة الانكليزية):

Crime Management Identification for Crime Inspection in Vb.Net

فريق العمل:

حسين علي جرو

ياسر سدير حسن

مهند جبار عبد الرضا

همام عامر عبد الهادي

المشرف: م. عبد المنعم عبد الواحد
abdulmunem.khudhair @duc.edu.iq

Abstract:

This kind of problems. Biometrics features include face, speech, handwriting and finger prints etc. Face identification has the advantage of being a passive, non-invasive system for personal identification. The success of face identification depends on the solution of two problems: Representation and matching. Both the algebraic features and geometric features will be used to represent face images.

Conclusion

The project titled FACE RECOGNITION USING IMAGE CROPPING is developed to design a system that supports to find the criminals in less time. A user with valid user id and password are only allowed to access the developed system. In this

project we store the details of the criminals in database and retrieve them when required.

Previously it was difficult to find the criminal manually through files. In the proposed system we can maintain the details of criminals of all regions in a database so that time required for finding the criminals is reduced.

The documentation and the project report is finally prepared to be referred as user manual for further effective results of this software solution. Now the project is completed and ready to submit to the head of the department of the college for further process. We request HOD to kindly receive and acknowledge the same.

Future Works:

The designed and implemented system presents many fruitful lines of continued graduation research, and opens the door to a range if future work. This system is very much suitable for further enhancements. We can take cropped parts of different images to develop a new image.

مشاريع التخرج التميزة

مشاريع التخرج التميزة

المحور الاول - الوسائط المتعددة

الكشف عن الكائن باستخدام مطابقة ميزة النقطة

Object Detection using Point Feature Matching

تفاصيل المشروع في صفحة رقم 4

موج حسين اسماعيل

سما عبدالزهرة فاضل

بشرى يوسف محمود

المشرف: م. زينة طارق نايف
zena.tariq@duc.edu.iq

المحور الثاني – الذكاء الاصطناعي

محاكاة قيادة السيارة بأستخدام الكامرة الاحادية

Driving Car Simulation using Monocular Camera (SIMA TOKA)

تفاصيل المشروع في صفحة رقم 16

حسين علي جياد

زيد أسامة عصام

نور عماد محمد

شهد إبراهيم صالح

المشرف: م. علي طه ياسين
ali.taha@duc.edu.iq

المحور الثالث - تطبيقات الموبايل

" الدكتور الأفضل " تطبيق هاتف المحمول على نظام الاندرويد

“The Best Doctor” A Phone App on The Android System

تفاصيل المشروع في صفحة رقم 22

ليث عبد الله حمادي

احمد عبدالرحمن صالح

علي طعمه داوود

احمد محمد كلخان

المشرف: د.مصطفى موسى جبر
mustafa.musa@duc.edu.iq

مشاريع التخرج التميزة

المحور الرابع – التطبيقات المتكاملة

سوار طبي باستخدام انترنت الاشياء

Medical Bracelet using Internet of Things

تفاصيل المشروع في صفحة رقم 32

امير انور محمود

علي عبد الامير قاسم

منتظر سلام مزاحم

حسين محمد عبد الهادي

المشرف: م.م انسام احمد علوان
ansam.ahmed@duc.edu.iq

المحور الخامس - قواعد البيانات

نظام إدارة مكتبة تحويل الملفات

File Converter Library Management System

تفاصيل المشروع في صفحة رقم 48

امجد محمد مجيد

حسين مناتي ماضي

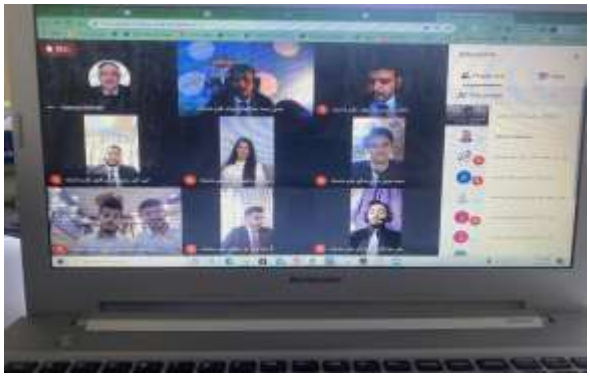
شهد رياض عبد الحسين

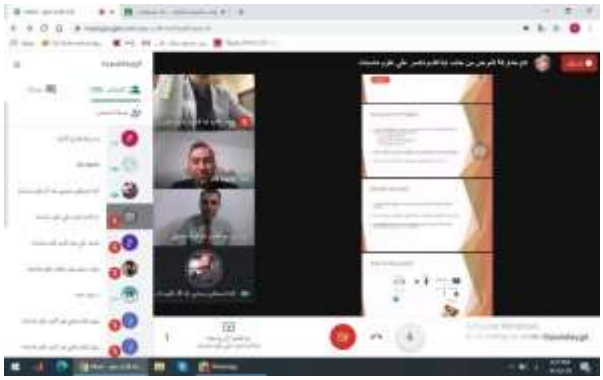
احمد فائز عبد الغني

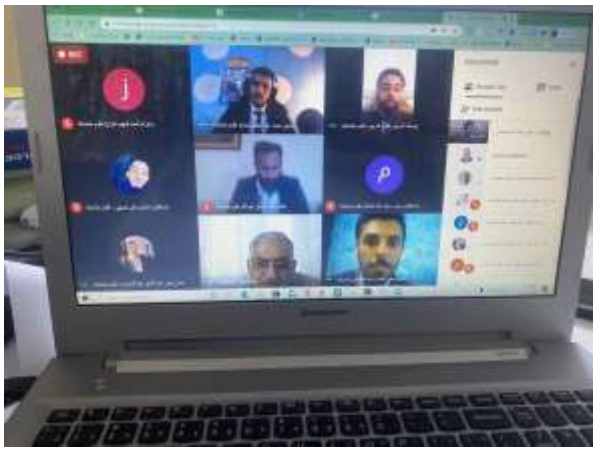
المشرف: م. مثنى عبد الواحد
muthanna.khudhair@duc.edu.iq

صور متنوعة

المؤتمر الطلابي الاول لمشاريع تخرج قسم علوم الحاسوب
1st CS - SGPC







Object Detection Using Feature Matching Method

جامعة دجلة

جامعة دجلة

جامعة دجلة

جامعة دجلة
DIJLAH UNIVERSITY

جامعة دجلة
DIJLAH UNIVERSITY

جامعة دجلة

جامعة دجلة

جامعة دجلة
DIJLAH UNIVERSITY

جامعة دجلة

جامعة دجلة
DIJLAH UNIVERSITY

جامعة دجلة
DIJLAH UNIVERSITY

جامعة دجلة

"ورقة فارغة"

قسم علوم الحاسوب - كلية دجلة الجامعة - بغداد - العراق
1st CS – SGPC 2020

ISSN (Online): 2709-0264
ISSN (Digital): 2709-0272

www.duc.edu.iq/cs-sgpc

CC BY NC SA