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# Centenary Project Proposals 2020-21

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**JULY 2020**

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**Department of Computer Science**  
**Head of the Department : Mrs. Gincy Abraham**

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# Union Christian College, Aluva

## Department of Computer Science

### Introduction

As our college celebrates its 100<sup>th</sup> year of service in the year 2020-21, the department of Computer Science proposes 11 different projects which vary from social service to research. Each of our faculty members has brought novel ideas of which the beneficiaries are the college staff and student community. We reached to these ideas by analyzing the current situation both in the college and in the society. After implementation, we hope that, these projects will accelerate the automation of teaching – learning process as well as the administration of the institution. We hereby attach the details of each project by each of our faculty, along with.



Name of Faculty : **Mr. Cijin K. Paul**  
Designation : **Assistant Professor**

### **Project 1**

#### ***“Excel in Excel”***

**Aim** : To offer a course in Microsoft Excel as detailed below

Duration of course : 10 hours (20 days) – Spend half an hour per day

To whom : Students, faculty members, non-teaching staff and others interested

Platform : Google classroom

How we learn

- a) View the videos in Google classroom posted day by day.
- b) Do the exercises in the classroom day by day
- c) Answer the quiz corresponding to each class

#### **Outcome**

Will decrease the digital divide, among the first year students who gets admission in the college.  
Will equip faculty members to create excel sheets depending on their necessity and this will increase their efficiency.

#### **Feature of the project**

This course will be saved in Google class room.

The project can be reused for any number of batches and hence the plan is to announce it once per semester.

#### **Beneficiaries of the Project**

Students in and outside college, faculty members, Non Teaching staff

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Name of Faculty : **Mr. Cijin K Paul**  
Designation : **Assistant Professor**

**Project 2**  
**“DiGi Diary UCC”**

**Aim**

Development of an online platform for the college for the seminar hall bookings and online permission register for conducting events.

**Present System**

Purely manual, lack of proper records, difficult event tracing

**Outcomes expected.**

1. To keep track of all the programs that happens in the college so that it can be accumulated for documentation purpose.
2. To classify student activities, club activities, faculty activities, department activities that happens year wise or a period wise.
3. While inputting the proper equations of different rankings, the system can compute our current point and recommendations can be given to IQAC about weaker sections.

**Feature of the project**

This project can later serve as a documentation back bone.

Useful for the creation of news letters.

Useful to compile data for different accreditation and ranking reports generation.

Upgradable to accept all type of activities that happens in college.

Since every activity will be recorded, it can act as a digital ready reference of events.

**Beneficiaries of the project**

All departments, IQAC, faculty members and the college

**Date of commencement**

November 2020

Date of completion/implementation: Jan 2021



Name of Faculty: **Mrs. Gincy Abraham**  
Designation: **Assistant Professor & HOD**

### **Project 3**

#### **Creative Self Care through Yoga**

Department of Computer Science in association with the department of Physical Education introducing a program to stay healthy during this pandemic through Yoga. COVID-19 is an infectious disease caused by a new virus which causes a respiratory illness. The practice of Yogasanas and meditation provides natural support to the immune system. By lowering stress hormones in your body, yoga fortifies the immune system. Apart from this, Yoga conditions the lungs and respiratory tract, stimulates the lymphatic system removing toxins from the body, and ensures the optimal functioning of your organs. In such a scenario, group practice of the ancient Indian form of exercise is unlikely and inadvisable. But the practice of yoga indeed is still beneficial, especially in these times with increased stress and decreased physical activity. Keeping this in mind we would like to introduce this initially among our staff community. Later on it will be extended to students as well.

**Duration:**

Weekly 3 days 30 - 40 minutes session (Monday, Wednesday and Friday)

**Timing :**

2.00pm to 2.40pm

**Program includes:**

- Sukshma Vyayamas
- Basic Asanas – (Standing, Sitting, Supine and Prone position)
- Suryanamaskar
- Pranayama
- Kriyas – Jala Neti

- 
- SMET – Self Management of Excessive Tension

**Beneficiaries:**

Faculty and students

**Tentative Date of Implementation:** Immediately after the college reopens.

Name of Faculty: **Mrs.Gincy Abraham**

Designation: **Assistant Professor & HOD**

### **Project 4 Webinar Series(12)**

Department of Computer Science organizes a series of webinars(12) by resource persons from various disciplines like faculty, Industrialists, IT professionals, Alumni as a part of centenary celebrations of Union Christian College, Aluva. Out of these 12 webinars, we have completed 5 webinars in this series.

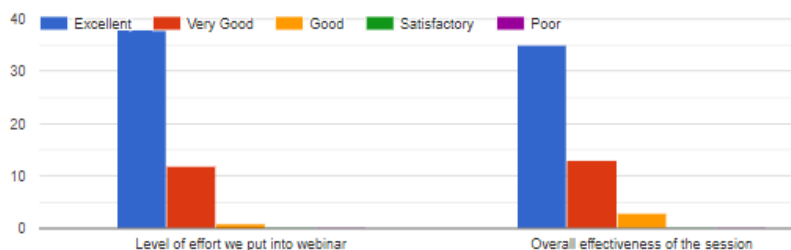
### **Report of 5 Webinars**

#### **Webinar 1: Education Reboots To 4.0 With E-learning –An Impact of Covid 19 Pandemic**

**Resource Person : Mr. Binu A., Assistant Professor, Dept. of Information Technology, Rajagiri School of Engineering & Technology**

Est. in 1921  
**UNION CHRISTIAN COLLEGE, ALUVA**  
Department of Computer Science  
**Organizes**  
**Webinar series #1**  
**"Education Reboots To 4.0 With E-learning - An Impact of Covid 19 Pandemic"**  
26/05/2020 (Tuesday) 10 a.m. to 11 a.m. @  
Resource Person: Mr. Binu A, Assistant Professor  
Dept. of Information Technology  
Rajagiri School of Engineering & Technology  
> e-certificate will be provided  
> teachers / students can join  
> joining link will be issued to registered email id/mobile  
Registration link @ <https://bit.ly/3gd63xB>  
For more details,  
Mrs.Gincy Abraham(HoD), 9496761013  
Mrs.Greeshma K (Staff Coordinator) ,9497354275

Effectiveness of Webinar



## Webinar 2: Covid 19: Meet the challenges ! Capture the opportunities

**Resource Person : Dr.Neelima Ranjith, Assistant Professor, Department of Psychology, Union Christian College, Aluva.**

Est. in 1921

Union Christian College, Aluva

Department of Computer Science

*Organizes*

Webinar Series #2

**Covid 19: Meet the challenges!**

**Capture the opportunities**

28th May 2020 , 10.00 a.m. to 11.00 a.m.

**Break the chain**

• E-certificate will be provided

• Only students can join

• Joining link will be issued to registered email id/mobile

• Free Registration @ <https://bit.ly/3c2zdMz> or

Resource Person:

**DR.NEELIMA RANJITH**  
Assistant Professor  
Department of Psychology  
Union Christian College,  
Aluva

For more details  
Mrs.Gincy Abraham(HoD) - 9496761013





### Webinar 3: Insights into Blockchain

**Resource Person : Dr. Shine K George, Associate Professor, Department of MCA, Union Christian College, Aluva.**

Est. in 1921



Union Christian College, Aluva  
Department of Computer Science

*Organizes*

Webinar Series #3  
**Insights into Blockchain**  
29th May 2020 , 10.00 a.m. to 11.00 a.m

Resource Person:



**DR.SHINE K GEORGE**  
Associate Professor  
Department of MCA  
Union Christian College,  
Aluva

For more details  
Mrs.Gincy Abraham(HoD) - 9496761013  
Mr. Cijin K. Paul (Staff Coordinator)- 9447169964

**Break the chain**  
Blockchain Education, Skills, Inspiring

- E-certificate will be provided
- Teachers and students can join
- Joining link will be issued to registered email id/mobile

**Free Registration @**



**or**  
<https://bit.ly/36CdF8d>



## Webinar 4(International): Technology Trends 2020

**Resource Person : Mr. Vicky Das, Assistant Vice President for Regional Development Center, OCBC Bank, Singapore**

Est. in 1921



Union Christian College, Aluva  
Department of Computer  
Science  
*Organizes*  
International Webinar Series #4

### Technology Trends 2020

30th May 2020 , 10.00 a.m. to 11.00 a.m.

Resource Person:



**Mr. Vicky Das**  
Assistant Vice President for  
Regional Development Center,  
OCBC Bank, Singapore

- E-certificate will be provided
- Teachers and students can join
- Joining link will be issued to registered email id/mobile

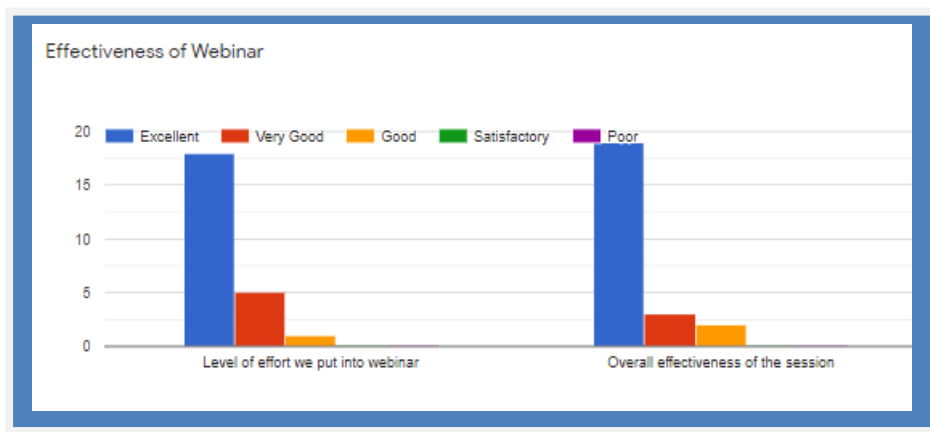
Free Registration @  
<https://bit.ly/2X6CyGc>

or



For more details  
Mrs.Gincy Abraham(HoD) - 9496761013  
Mrs.Elizabeth Thomas(Staff Coordinator) - 8606830926

**#Stay Safe #Stay Home**



## Webinar 5: IoT applications

Resource Person : **Mr. Sameer Mohamed Thahir**, Research Scholar, CUSAT

Est. in 1921 Union Christian College, Aluva  
Department of Computer Science  
*Organizes*  
Webinar Series #5  
**Building IoT applications**  
30th May 2020 , 3.00 p.m. to 4.00 p.m.  
**Resource Person**



**Mr. Sameer Mohamed Thahir**  
Research Scholar,  
Cochin University of Science  
and Technology



- E-certificate will be provided
- Teachers and students can join
- Joining link will be issued to registered email id/mobile
- Free Registration @ <https://bit.ly/3euvybR>

**Break the chain**  
For more details  
Mrs. Gincy Abraham (HoD) - 9496761013  
Mrs. Asha Das (Staff Coordinator) - 9446459890



We will organize the remaining 7 webinars during the centenary year.



Name of Faculty: **Dr. Asha Das**  
Designation: **Assistant Professor**

### **Project 5**

## **Research Project on “Automated Nuclear Atypia Scoring using Generative Adversarial Networks in Breast Cancer Histopathological Images”**

### **Introduction**

Cancer is the second major cause for mortality globally, and is now of major health concern worldwide. Breast carcinoma is the most prevalent type of malignancy among women, and worldwide about 19.7 million new cases and the mortality of 5.8 million women are expected in the next decade. Breast cancer grading or nuclear pleomorphism scoring, often termed as nuclear atypia scoring (NAS), forms a significant factor in determining individualized treatment plans and also for the prognosis of the disease. The Nottingham grading system (NGS) adopted by the World Health Organization (WHO) is the most widely used standard for breast cancer grading. NGS, the modified Scarf-Bloom-Richardson grading system, forms a qualitative evaluation technique in which the grading score is calculated based on three morphological features: degree of tubule formation, nuclear pleomorphism or nuclear atypia and mitotic count.

### **Shortcomings of the existing System**

The prevailing manual grading based on microscopic examination is highly dependent on the opinion of the pathologist, which may be highly subjective, and hence suffer from lack of repeatability, inconsistency and can endure with inter- and intra- observer variations, thereby affecting the prediction of the disease outcome and the adopted treatment modality. This has motivated in exploring automated grading mechanism for cancer grading, based on the quantitative image-based analysis and assessment of the histopathological images which can provide more reproducible and objective prognosis of the disease.

### **Proposed System**

The training of an accurate and robust supervised classifier based cancer grading model often require large amount of labeled data. However, the samples are often unlabeled and hence they need labeling to be done through manual annotations by domain experts and experienced pathologists. Thus

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the semi-supervised learning forms a challenging problem of training a classifier in a dataset that contains a small number of labeled examples and a much larger number of unlabeled examples. The Generative Adversarial Network, or GAN, is an architecture that makes effective use of large, unlabeled datasets to train an image generator model via an image discriminator model. This research project aims at exploring the possibilities of GAN networks for the semi-supervised breast cancer grading of the histopathological images.

### **Problem Statement and Research Objectives**

Research problem formulated for this work is to develop algorithms for the automated nuclear pleomorphism scoring in the breast histopathological images, that can circumvent the shortcomings of the prevailing manual grading, and compare them with the state-of-the-art algorithms for breast cancer grading. Therefore, the objectives of the work include:

- To explore the possibilities of Generative Adversarial Network, or GAN on nuclear pleomorphism scoring thereby mitigating the need for annotated histopathological images.
- To implement and assess the efficacy of the algorithms based on appropriate assessment and evaluation criteria.
- To compare the proposed algorithms with the state-of-the-art algorithms and techniques employed for the same.

### **Date of implementation**

June 2021

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Name of Faculty: **Dr. Asha Das**  
Designation: **Assistant Professor**

**Project 6**  
**Intercollegiate Centenary Quiz Competition on Information Technology (ICQCIT'21)**

Union Christian College, Aluva is one of the earliest colleges in India and was founded in 1921 by four young graduates and teachers of Madras Christian College - Prof. K. C. Chacko, Prof. C. P. Mathew, Prof. V. M. Ittiyerah and Prof. A. M. Varkey. As the college celebrates its 100<sup>th</sup> anniversary, the year 2020-21 is celebrated as the centenary year. As part of the centenary celebrations, the Department of Computer Science will be conducting an Intercollegiate Centenary Quiz Competition on Information Technology on 24<sup>th</sup> June 2021. The Quiz shall involve the participation from leading colleges within the state. Each college can nominate two teams consisting of two participants per team. The competition consists of two parts:

**Part I – Written Test**

20 questions to be answered in 10 minutes. Negative marks for incorrect answers. Six teams emerging winners go to part II.

**Part II – Oral**

Three teams with the highest score get high amount cash prizes.

Total Prize money adds up to Rs.5K.

Each participant will be issued a certificate.

Last date for registration May 31, 2021.



Name of Faculty: **Mrs. Elizabeth Thomas**

Designation: **Assistant Professor**

### **Project 7**

#### ***Keep in touch***

#### **(Digital Alumni Management System)**

#### **Introduction**

Creating an engaged, supportive alumni network is crucial to an institution's success. If communication stops once graduates leave an institution, their understanding of the institution will become stale. Instead, they should be kept informed so they can remain engaged and keep abreast on the progress of the university.

#### **Goals and Objectives**

- ◎Creating a Digital Alumni Management System for the Department of Computer Science which can be expanded for the other departments.
- ◎Creating and maintaining a Strong Personal and Professional Alumni Network.
- ◎To form an engaged alumni network which will allow the Department to benefit from the skills and experience of the passed out graduates, by offering their support to the students and the institution and to each other.
- ◎Ease of communication and availability anytime, anywhere.

#### **The Current System**

- ◎Presently the Department keeps a Hard Copy of the details of the Alumni when they pass out from College.
- ◎The Details contain Name, Address, phone number, email id, Photograph etc.
- ◎WhatsApp Group of the Students is also created to keep in touch with the Students.

#### **Problem - Problems with the Current System**

- ◎Hard Copy can be easily damaged and can be misplaced.

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- ◎It's a tedious task to get updates from the Passed out Students as Teachers have to contact each of the students personally.
  - ◎Some Students change their contact numbers so it becomes difficult to contact them.
  - ◎Also the Professional Information of the Students is not readily available.
  - ◎When organizing Alumni Meet at the end of each Academic Year, it becomes very difficult to contact all the passed out students belonging to different academic years.

### **Vision - The Proposed System**

- ◎The Proposed System will provide a System that will register all the Alumni with the existing information.
- ◎Regular notifications will be sent to the Alumni so that they can update their profile on a regular basis.
- ◎The System will provide a platform to organize the Alumni meet
- ◎*The System will also generate different Reports which can be used by the Institution for official purposes.*
- ◎*It will have a Photo and Video Gallery of the different Alumni Events and Meetings that takes place during the academic year.*

### **Benefits –**

1. Alumni details will be available in digital form which is non-perishable
2. Easy and Simple User interface will be provided
3. Latest Updated details of the Alumni will be present.
4. Different Reports can be generated.

### **-Planning - Implementation of the System**

- ◎Computer with a good disk capacity and internet connectivity with minimum delay.
- ◎The Software development Life Cycle – Waterfall Model will be followed which will include Requirement Gathering, System Design, Coding, Testing and implementation.
- ◎If the Project Succeeds the System can be hosted on the Web.

### **Beneficiaries OF THE PROJECT**

The Institution, Department and Alumni.

Tentative DATE OF IMPLEMENTATION

March 2021



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Name of Faculty: **Mrs. Elizabeth Thomas**

Designation: **Assistant Professor**

**Project 8**  
**Green Campus – E-Waste Aware Campus (E-Waste Awareness Programme)**

**Objective:**

- ☐ To conduct a one week programme for E-Waste Awareness as part of the World Environment Day Celebrations.
- ☐ Conduct a Survey of amount of E-waste inside the Campus and few locations outside the Campus and provide a statistics.
- ☐ Providing Solutions to dispose/recycle the E-waste.

Target Group: Teachers, Students of the college and local community residing outside the College Campus.

**Action Plan:**

Day 1: Campus Cleaning

DAY 2: E-Waste Awareness Campaign

DAY 3 and 4: E-Waste Survey

1. Take a Survey of E-Waste generated in different Departments of the College and collect data.
2. Similarly conduct a Survey in some selected locations nearby the campus and collect the data.
3. Analyse the data and create reports.
4. Based on the Reports, possible solutions to dispose/recycle E-waste will be provided with the help of an E-Waste Recycling Agency.

Day 5: A Seminar on Environment related issues

**Expected Outcome:**

1. Create an Awareness about the Hazards of E-waste and possible solutions to dispose it in a proper way.
2. Discuss and propose solutions to properly dispose and recycle E-Waste.
3. Creating awareness about “reduce-reuse-recycle



Name of Faculty: **Mrs. Greeshma K**

Designation: **Assistant Professor**

### **Project 9**

#### **Coursera for Campus @ Union Christian College**

Higher education worldwide is at a historic crossroads. With more than 300 million people entering the workforce in the next 10 years, universities urgently need to augment their capacity to meet the aspirations of a young and growing demographic. Employers rely on universities to provide them with graduates armed with the digital skills needed to drive their businesses in the age of AI and automation. But higher education in many countries finds it difficult to deliver — they are constrained by the capacity of their on-campus programs, lagging curricula, and the challenge of recruiting expert faculty required to launch new programs.

Coursera was founded by Stanford Professors Daphne Koller and Andrew Ng seven years ago to give anyone, anywhere access to the world's best education.

#### **What is Coursera for Campus?**

Coursera for Campus is a new offering designed to help any university to use content on Coursera to deliver job-relevant, multi-disciplinary online learning to its learners. Coursera has collaboration with universities globally. Through Coursera for Campus, Coursera will be available today to their partner universities as well as to institutions that have not yet experienced the innovation, scale, and impact Coursera has to offer.

Universities/ Colleges will have access to more than 3,600 high-quality courses to enhance their core curricula, offer credit-eligible and supplemental learning to students, and deliver lifelong learning to their alumni, faculty, and staff. Faculty can use Coursera's world-class tools to author content, assessments, and hands-on projects. Educators can also improve learner outcomes by tracking skill mastery and growth using Coursera's powerful learning analytics.

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## **How Coursera helps?**

- Provide current students with job-relevant learning and credentials –
- Enable faculty to author and scale online programs for free –
- Deliver lifelong learning to alumni, faculty, and staff –

## **How Coursera is Beneficial to Students, Faculty and Non Teaching Staff of Union Christian College?**

To help minimize the impact of the coronavirus (COVID-19) outbreak on students the Coursera is launching a programme to assist universities and colleges to deliver courseware online. Coursera is available at no cost to any global university/college impacted by COVID -19.

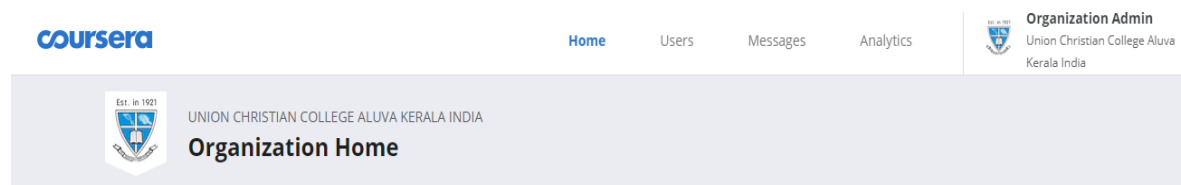
- Access to 3,800 courses, 400 Specializations, 270 Guided Projects
- Up to 5,000 licenses for enrolled students at impacted organization
- Institutions may enroll students through September 30, 2020
- Enterprise-level admin tools, analytics, and online support resources.

## **Where are we now on Coursera?**

- ❖ The Department of Computer Science has applied for this programme in April 2020 for our college. After making several email correspondence and verifications The Union Christian College Aluva was selected for the programme and confirmation mail was received on 20<sup>th</sup> July 2020.
- ❖ As a first step, we were given 1000 licenses, which can be used to earn Coursera certificates at no cost, by 1000 individuals. This includes, faculty members, students as well as non-teaching staff.
- ❖ The administration team includes 4 professionals of Coursera and a faculty member at the institution.
- ❖ The administrator at the institution can send licenses as invitation to the members of college community after verifying their identity.

- ❖ The members of the college can accept the invitation and check the catalog at the UCC Coursera Webpage.
- ❖ A learner can join any number of courses with the single license received from the administrator.
- ❖ Our contract with Coursera will expire on 30th September 2020.

The Department of Computer Science coordinates the programme Coursera for Campus at the college. Students and faculty members are encouraged to join as many courses as they like and earn the Coursera certificate before 30<sup>th</sup> September 2020. Several screenshots of administrator login are attached:



## Summary

[Email usage report](#)



## Learning Programs

[How Learning Programs Work](#) ▾

[Export Gradebook](#)

### Union Christian College Aluva Kerala India on Coursera

4,159 courses

LEARNERS INVITED

**200**

[Invite learners](#)

LEARNERS JOINED

**109**

[View learners](#)

ENROLLED LEARNERS

**56**

[View enrolled learners](#)



**Learner activity status: Joined a program** ▾

🔍 Search by name or email...

🔗 Filters

**+ Invite Learners** ▾

115 results

🔗 Columns

Show

20 ▾

< 1 2 3 4 ... 6 >

<input type="checkbox"/>	Learner	Join Date	Programs	# Enrollments	# Completions	
<input type="checkbox"/>	AJAN P J ajan.pj@gmail.com	Jul 22, 2020	Union Christian College Aluva Kerala India on Coursera	6	0	...
<input type="checkbox"/>	Cijin K Paul cijinknau@unccollege.edu.in	Jul 23, 2020	Union Christian College Aluva Kerala India on Coursera	1	0	...

**Send a message to learners**

Create your own message to send to learners, or select a preset to save time. You can remind learners to join the program or to enroll in courses.

**Create a message**

**Automated Messages**

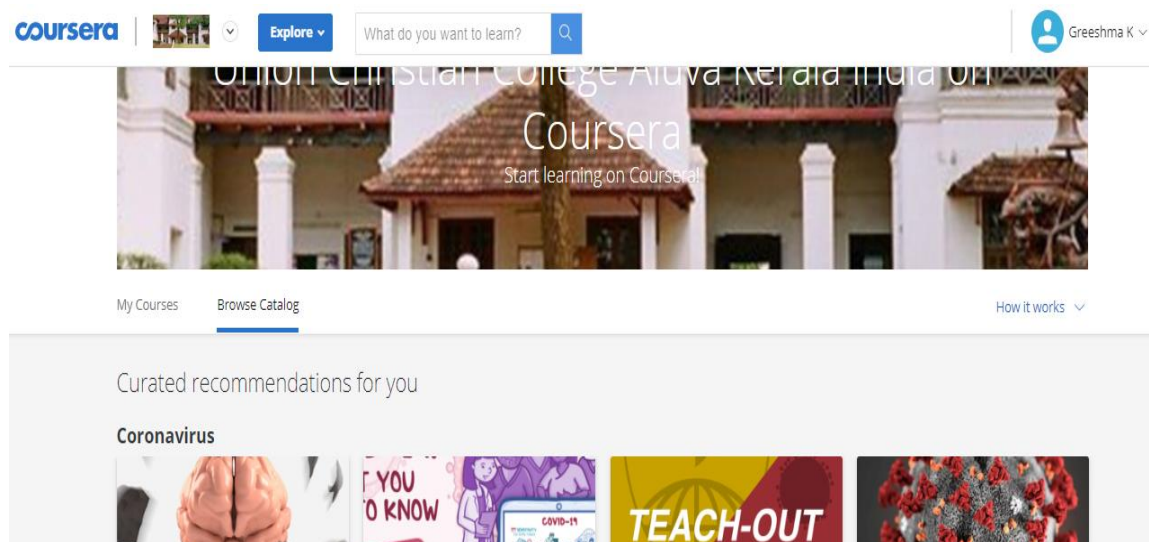
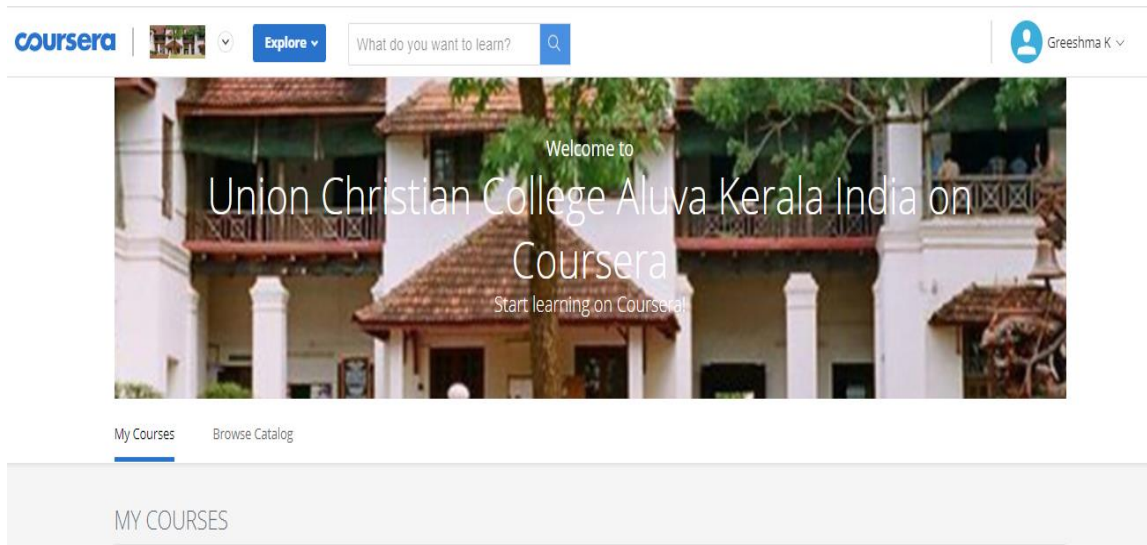
Sent Messages

**Automated Messages**

These are the messages automatically generated by the system and sent to learners.

Message purpose	Sent
<b>Remind learners to join the program</b> Includes all invited learners who did not join a learning program	One week and two weeks since original invitation was sent
<b>Remind learners to enroll in a course or Specialization</b> Includes learners who joined but are not currently enrolled	First and second Saturday since learner joined the program

## Some Screenshots of learner login:





- Arts and Humanities >
- Business >
- Computer Science >
- Data Science >
- Information Technology >
- Health >
- Math and Logic
- Personal Development
- Physical Science and Engineering >
- Social Sciences >
- Language Learning >

**Popular topics**

- Python
- Excel
- SQL
- R
- Tableau
- Big Data
- TensorFlow
- MATLAB
- Deep learning
- Machine Learning
- Artificial Intelligence
- Statistics

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Name of Faculty: **Mrs. Greeshma K**  
Designation: **Assistant Professor**

**Project 10**  
**An Android Based Application for the Official Communication Between College Administration and Faculty Members**

**Introduction**

For an educational institution, proper communication between the administration and the faculty members is important for its efficient running. This includes the communication in either direction. But presently due to the unexpected social scenario, the staff may not be physically present at college to initiate the communication in conventional way. Moreover staff are working for the college by other means. This should not turn down the official communication in anyway.

**Existing System**

As specified earlier, communication is needed in both directions. Presently, the notices and other official orders are reaching the faculty community by means of WhatsApp groups. On the other side, the leave application management of faculty members still lacks automation/digitalization.

**Disadvantages of Existing system**

- The current WhatsApp group created for announcing notices are not official in nature.
- As WhatsApp application is not intended for official communications, it lacks efficient management of contents posted in it.
- There can be several personal and official WhatsApp groups for a given phone number and there are chances to miss out an important notice/order.
- The leave application has to submitted manually in the current system which is not feasible as per the current scenario or if the faculty member is not physically fit.

**Proposed System**

I am proposing a system where an Android based application is used for the official communication between the office administration and faculty members. Using this app installed on the phone the staff can pass the official communication to others efficiently.



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### **Advantages of Proposed System**

- Efficient as the app is designed for the exclusive use of official communications
- Stores the official notices and leave applications so that searches can be made easier.
- Faculty can apply for leave and higher authorities can decide whether to grant/not grant it sitting anywhere in the world.
- History of leaves by a particular faculty will be easily available.

### **Hardware Requirements**

- Any android phone with OS not less than 4.0

### **Expected Date for Implementation**

The proposed system is expected to be completed by March 2021.

### **Beneficiaries of the System**

Faculty and administration staff working in the Institution

### **Future Scope**

More enhancements can be made to this application to automate every official communication other than leave and notices, like, examination scheduling, invigilator assignment etc.



**Mr.Alex M. Kuriakose**  
**Technical Assistant**

## **Project 11**

### **FACELOG"- DIGITAL SYSTEM FOR LOG "IN AND OUT" OF STUDENTS**

#### **Introduction**

"FACELOG" is a digital system for login and logout of students based on face recognition technology. The primary mission of the "FACELOG" is to develop automatic face recognition capabilities. And this can be used to maintain login register for Computer Science Lab in Union Christian College, Aluva. The "FACELOG" has focused on two major tasks. The first major task is to find best technology required for a face recognition system. The second major task, which began at the start and will continue throughout the program, is collecting a large database of facial images of students. This database of facial images is a vital part of the overall "FACELOG" digital system and promises to be a key to future work in face recognition, because it provides a standard database for algorithm development, test, and evaluation.

#### **Existing System**

In all labs in our College, it is used to maintain a login book/register for students for recording the date and time of their entry and exit. As this is a manual system, the students while entering and exiting have to write the time and date in the login book/register. As this is being recorded by the students themselves, proper verification is required which has to be done by the teachers/technical staff.

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## **Disadvantages of Existing system**

- As this is a manual system, it takes too much time for the students to write in the login book/register.
- Difficulty in finding the time and date of students' entry and exit for verification.
- There is a chance for malpractice.

## **Proposed System**

The proposed system is fully computerized based on face recognition technology. The Camera that would be placed at the entrance will capture the students' face while entering in to the lab and would recognize his/her face and would be automatically recording the date and time. And one more camera would also be placed so as to capture the students' face while exiting.

## **Advantages of Proposed System**

- The proposed system enables to save time by avoiding the manual entry.
- The proposed system enables to find/sort out a single student's record easily.
- The proposed system avoids malpractices that could have occurred in the manual recording system.
- Since the data is being saved as soft copy, it is more reliable and accessible. It avoids the requirement of physical maintenance of book/register.

## **Hardware Requirements**

- Face recognition cameras and sensors
- Computer system/mobile

## **Expected Date for Implementation**

The proposed system is expected to commence from January 2021.

## **Future Scope**

It is expected to make use of the proposed "FACELOG" digital system by all other labs in our College.

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