

Online Learning Portal

(Digi Skills)

Project Proposal



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1.1 Abstract

Online learning platforms help people to learn new skills and courses at remote places. The need of online learning platforms has been increased due to the Covid-19 pandemic. The government of Pakistan also takes initiative of online learning platform (**DigiSkills**) to educate the youth of Pakistan in technology. These Platforms provide lectures in audio and video, e-books, e-journals and more. These Platforms also award course completion certificates that can make resume more valuable. Although there are many profit and non-profit online learning platforms available all over the world but in Pakistan there is a need to develop more (**DigiSkills**) like platforms to educate the youth of Pakistan in technology related skills. That's why an online learning platform is proposed here that allow the users to sign up on the platform to enroll in the offered courses, get content of the course and ask Q/A in discussion window. There is no requirement of pre-qualification to take any course. User can take notes. Users can also check their progress in enrolled courses. For the assessment of the candidate platform provide exercises to solve and also arrange online quizzes time to time. Users can see their results of quizzes and exercises. At the end of the course platform award course completion certificate. There are some eligibility criteria for getting completion certificate. Users can comfortably learn the course anywhere and can achieve the target at any time. System will be developed by using C# windows applications.

1.2 Introduction

Online Learning Environment System has been established in 1999. It was first named as E-Learning but later on it started being called as Online Learning or Virtual Learning. Before the launching of internet, distance courses were offered which were to be entertained by people physically. They were completely paid, moreover, it was difficult for one to take time from their busy routine. But after the dawn of age of advancement, E-Learning concept took place and different sites started offering online courses to those who are interested in learning skills. Different platforms are available for providing different courses to students free of cost.

Our project is about a type of an Online Learning Portal which provides different Online Skill Based Learning Courses to obtain basic and advanced level knowledge to develop skills. It shall be completely free of cost. It shall cover country – wide scope. Any person from any corner of Pakistan shall register himself / herself to enroll in interested course.

Specific teachers for each course shall set who will upload lectures on weekly basis. Assignments and quizzes are also a part and the student who will score up to required limit will be provided with certificate as well.

Every session will be of 3 months in which selected course will be completely taught. Hence our project will prove so beneficial for the learners who are too busy in their life and don't have time to attend physical lectures. So they are provided with an online platform where they can easily jump into their captivated course and learn to a professional extent.

1.3 Problem Statement

There are very few online learning platforms available in our country Pakistan that provide easy and flexible learning environment and award course completion certificates that make the candidate resume valuable. There is also a need of Pakistani youth to develop skills in the field of technology. The aim of this project is to fill that space. This project provides facility to learn new skills on online platform in an efficient way without spending one penny.

1.4 Objective

1. Our main objective of our project is to develop a platform where interested learners log in after enrolling to website to take lectures according to field of their choice.
2. Our aim is to provide youth with complete course details by supplying them video lectures of related course.
3. By providing enrolled students with complete guidance regarding freelancing through different skills implementation.
4. The course will be of 3 months and totally free of cost.

1.5 Functional Requirement

FR-00-001

- **FR-01-001:** The system shall allow users to make account on the platform in order to enroll in offered courses.
- **FR-02-001:** The system shall collect all necessary information (Full name, CNIC, Email, Personal phone etc.) of users in order to register them.
- **FR-03-001:** The system shall allow users to login to their account every time they want.
- **FR-04-001:** The system shall require Email and password of the users to login to their accounts.
- **FR-05-001:** The system shall match the login credentials with the collected information in order to give access to only authorized users.
- **FR-06-001:** Before enrollment system shall not give complete access of the courses to users
- **FR-07-001:** The system shall allow users to see the course description before enrolling in that particular course.
- **FR-08-001:** After enrollment system shall give complete access of the course to users.

FR-00-002

- **FR-01-002:** The system shall allow users to get access to the exercises.
- **FR-02-002:** The system shall allow users to get access to the quizzes.
- **FR-03-002:** The system shall allow users to see their marks in assessments.
- **FR-04-002:** The system shall allow users to see their current courses in their profiles.
- **FR-05-002:** The system shall allow users to request for course completion certificate.
- **FR-06-002:** The system shall allow users to see FAQs.
- **FR-07-002:** The system shall allow users to see contact us information.
- **FR-08-002:** The system shall display popular courses to the users.
- **FR-09-002:** The system shall display instructor's profiles to the users.
- **FR-10-002:** The system shall award course completion certificate to the eligible candidates.

FR-00-003

- **FR-01-003:** The system shall display overall sign-ups on the system.
- **FR-02-003:** The system shall display overall enrollments on the system.
- **FR-03-003:** The system shall allow users to take notes.
- **FR-04-003:** The system shall allow admin to update contact us information.
- **FR-05-003:** The system shall allow admin to update popular courses.
- **FR-06-003:** The system shall allow admin to update instructor's profiles.
- **FR-07-003:** The system shall remove candidates from enrollment list after completion of their course.

1.6 Non – Functional Requirements

Following are the requirements which can be non – functional for our project.

NR-00-001

- **NR-01-001: Performance**

The system must respond to student in 2 to 3 minutes.

- **NR-02-001: Reliability**

The system must store the exact information and details of students.

- **NR-03-001: Recoverability**

The system must have a backup store that if any information misses, it must be easily recoverable.

- **NR-04-001: Maintainability**

The system must update and maintain the information.

- **NR-05-001: Serviceability**

The system must be easy to use by having shortcuts and providing the detail of every portion.

- **NR-06-001: Scalability**

The system must be flexible enough that new functions must be add easily.
- **NR-07-001: Capacity**

The system must deal with 100+ students at a time.
- **NR-08-001: Availability**

The system must have large band width and high speed. It must be active 24 hours.
- **NR-09-001: Security**

The system must have ability to keep student's data secure by keeping their logins and passwords private.
- **NR-10-001: Regulatory**

The system must follow rules and regulations of government for secure information.
- **NR-11-001: Manageability**

The system must have ability to manage the information by changing or updating according to requirements.
- **NR-12-001: Environmental**

The system must be environmental friendly and must not leave negative effects on environment.
- **NR-13-001: Data Integrity**

The system must not misuse the student's data and information. It must be secure.
- **NR-14-001: Usability**

The system must be well usable to update or verify the system information.
- **NR-15-001: Interoperability**

The system must be linked with other system securely and data must transfer between them easily.

1.7 Related Work

There are many online learning platforms available on internet that provides the facility to learn new technology and skills. The most important of these are listed in the table.

Table 1: Related Work [2]

NAME	COST	COURSE LANGUAGES	TYPE	FOUNDED	HEADQUATERS
Coursera	Subscription/ Free	English, Hindi, many more	Commercial	2012	US
Udemy	Subscription/ Free	English	Commercial	2010	US
Udacity	Subscription/ Free	English	Commercial	2012	US
edX	Free/ Fee for certification	English and many more	Non-Profit	2012	US
Khan Academy	Free	English	Non-Profit	2006	US
Alison	Free	-	Commercial	2001	Ireland
Stanford Online	-	-	Non-Profit	2006	US
Canvas Network	-	-	Commercial	2008	US
Swayam	Free/ Fee for certification	English, Hindi	Non-Profit	2017	India

Table 1: Related Work [2]

I. Coursera

Coursera [3] is a free learning site that offers courses from well-known universities. All Coursera courses contain pre-recorded video lectures that you can watch when it is convenient for you.

This site is offering free programs from accredited institutions. The courses available on such platforms are designed by a leading university.

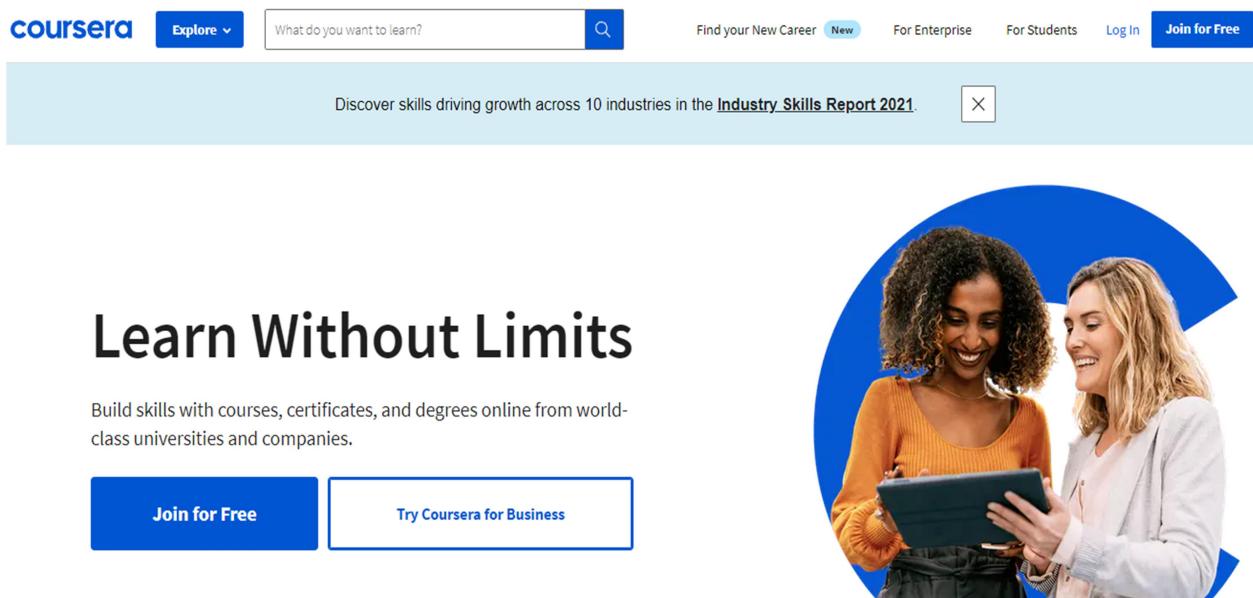


Figure 1: Coursera

II. Udemy

Udemy [4] was founded by Eren Bali, Oktay Caglar, and Gagan Biyani to make quality education more accessible.

It is an online platform that helps you to take courses. You can develop new skills and achieving their goals by learning from the extensive library of various courses. Subjects that are available in Udemy are taught by expert instructions. You do not require any prequalification to take any course. **Figure 2: Udemy**

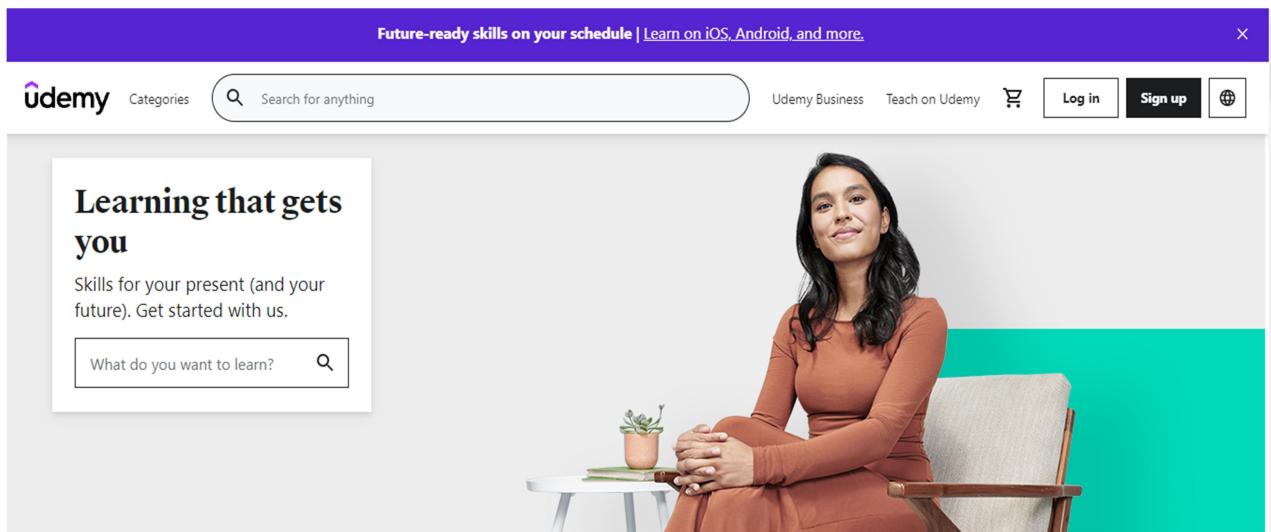


Figure 2: Udemy

III. Udacity

Udacity [5] an online learning platform started by two Stanford instructors who knew that offering up quality education would revolutionize the future of learning. Udacity offers good quality courses. It helps you to prepare for the interview. This site provides the assistance of a mentor.

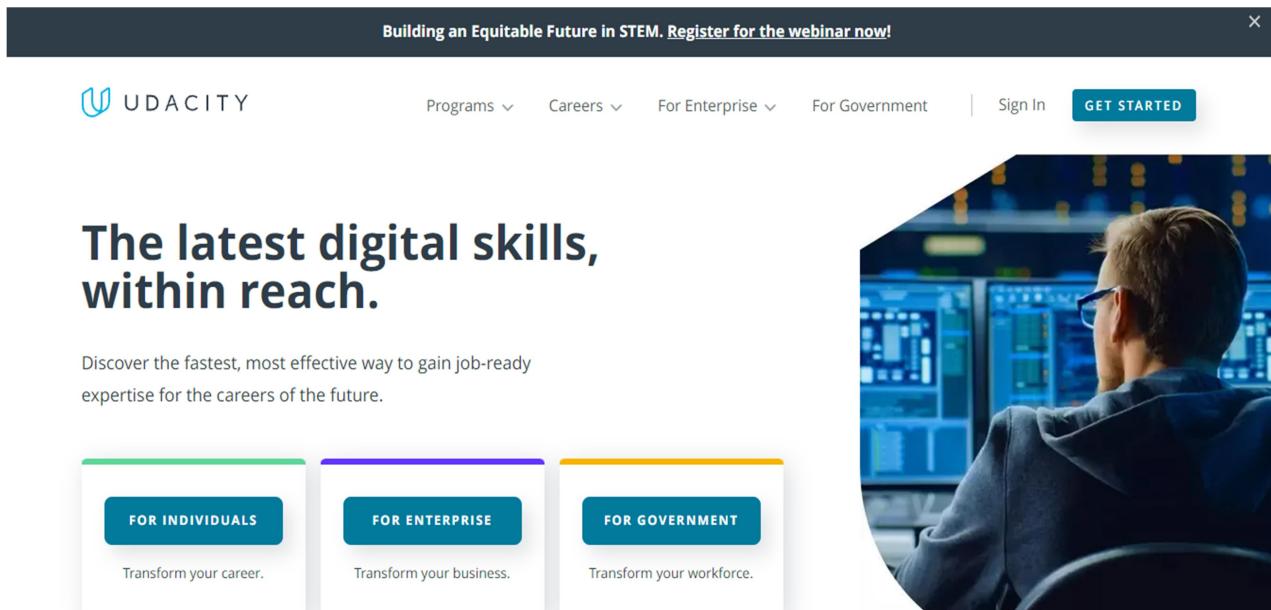


Figure 3: Udacity

IV. edX

edX [6] is one of the best free online courses provider. It offers university-level courses in varieties of disciplines.

This site contains a weekly subject sequence. It includes a short video with learning exercises. The platform provides video tutorials, which are similar to the on-campus discussion group and a textbook. It has an online discussion forum where students can post the questions to teaching assistants. It offers certification completion.

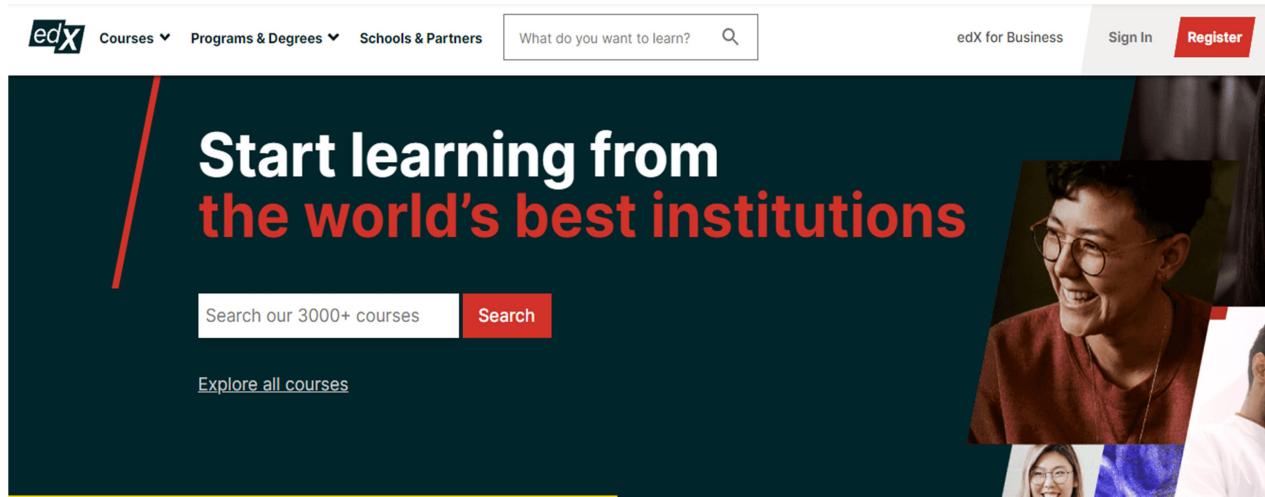


Figure 4: edX

V. Khan Academy

Khan Academy [7] is a study website. This free platform can be used for learners and teachers. It includes lots of learning exercises.

The resources of this site are available online as well as the app. It offers built-in video lectures which are hosted on YouTube.

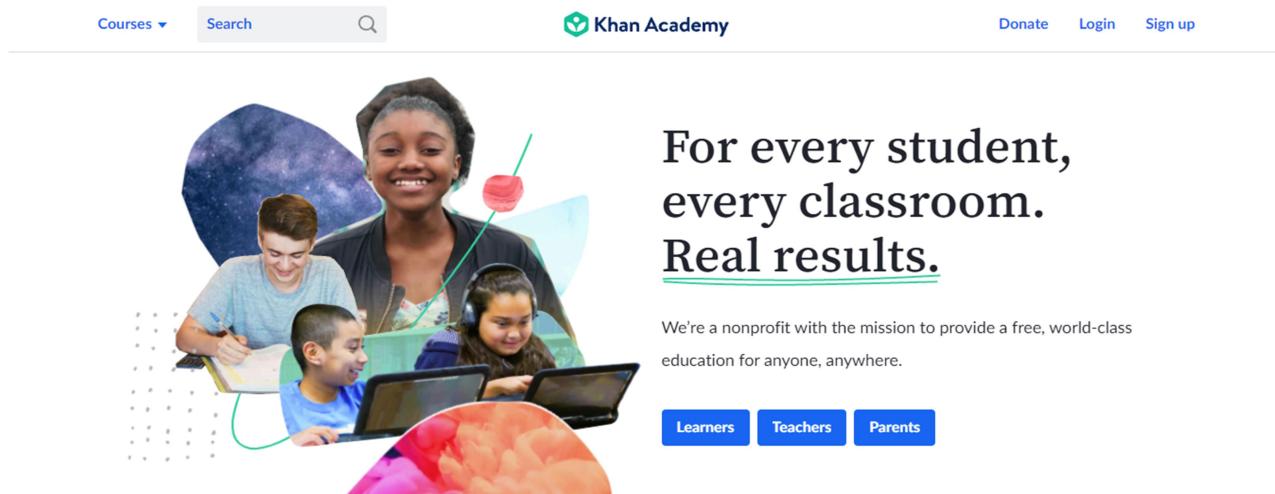


Figure 5: Khan Academy

VI. Alison

Alison [8] is a free online learning site that provides that offers certification on completing the course. Alison helps you to study, learn, and certify through online training. The site enables you to choose three types of courses certificate courses, diploma courses, and learning paths (creating self-learning experiences).

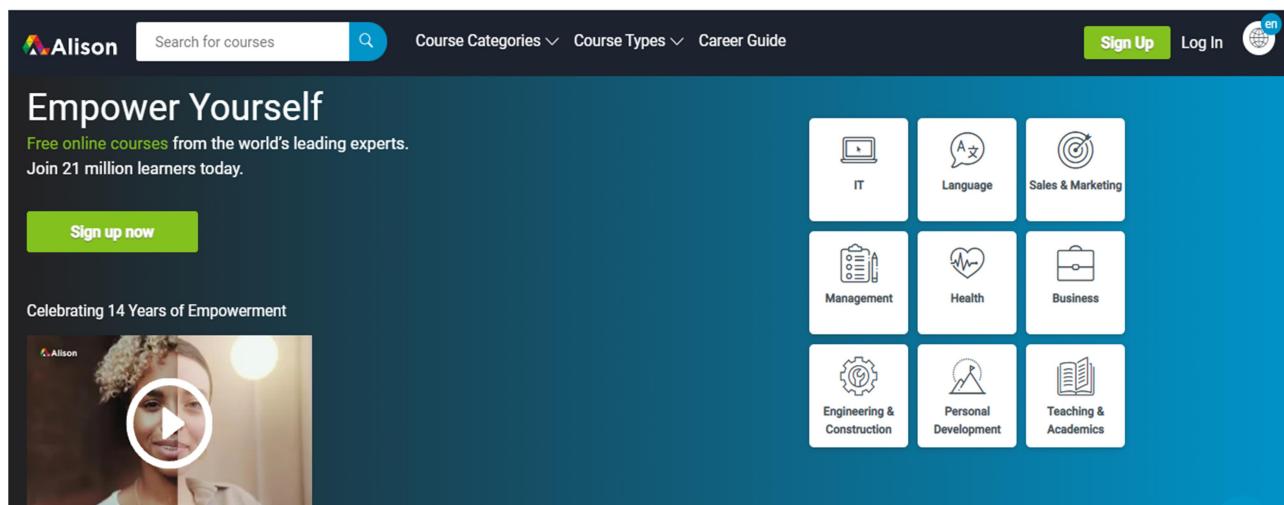


Figure 6: Alison

VII. Stanford Online

Stanford Online [9] is a study site that provides learning opportunities via free online degrees, online courses, e-learning, and more.

The platform offers certification after completing the program. You can enroll in courses to learn new skills, get a job, and to create a new future. It has a collection of free e-books, webinars, videos, etc. **Error! Reference source not found.**

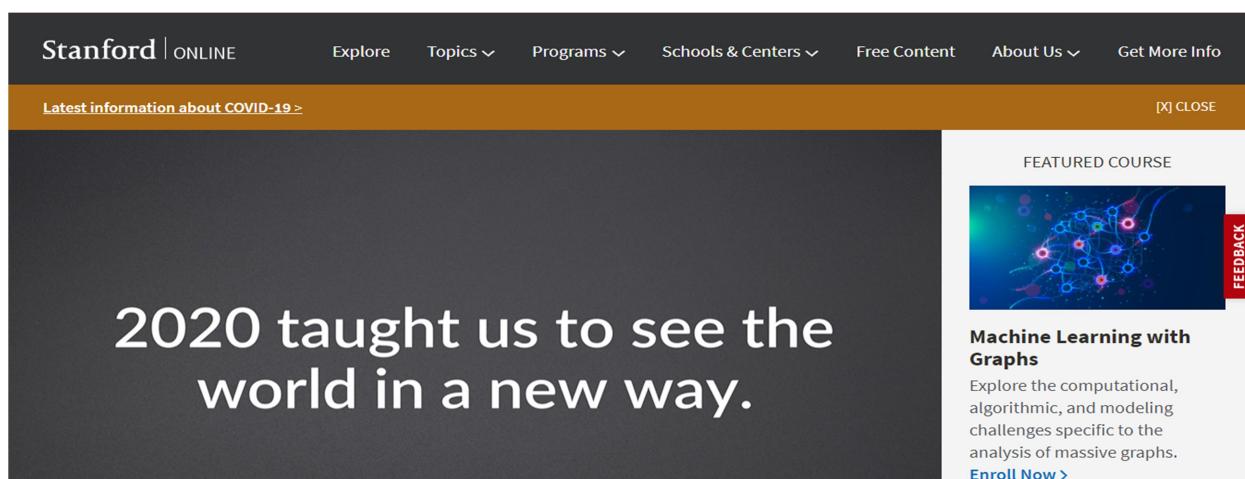


Figure 7: Stanford Online

VIII. Canvas Network

Canvas Network [10] is an online education site that offers various courses from the leading universities. The entry in this site is open for all the learners around the globe.

It has an easy enrollment process. You can also get certification for participation. You can access available material in this site once the course is started.



Figure 8: Canvas

IX. Swayam

SWAYAM [11] acronym that stands for "Study Webs of Active-Learning for Young Aspiring Minds" is an Indian platform.

According to SWAYAM there are 203 partnering institutes, 2,748 completed courses, 12,541,992 student enrollment, 915,538 exam registrations, and 654,664 successful certificates [12].

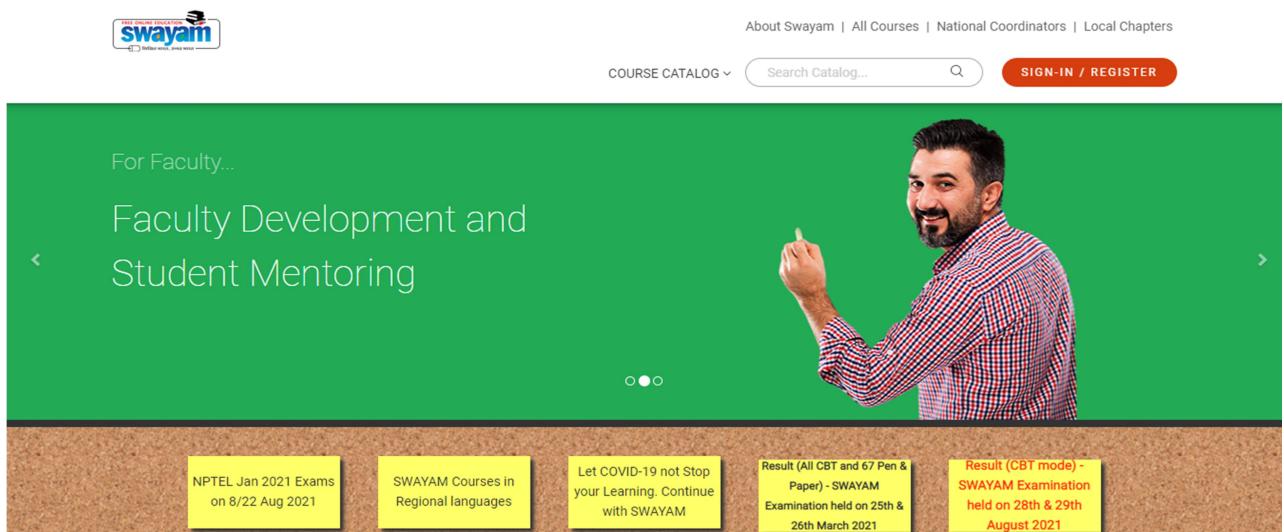


Figure 9: Swayam

1.8 Proposed Methodology

For developing any software, we have to adopt any Software Development Life Cycle (SDLC). Here, we will use Waterfall Model for our project whose phases are shown in figure.

Figure 10: Water Fall

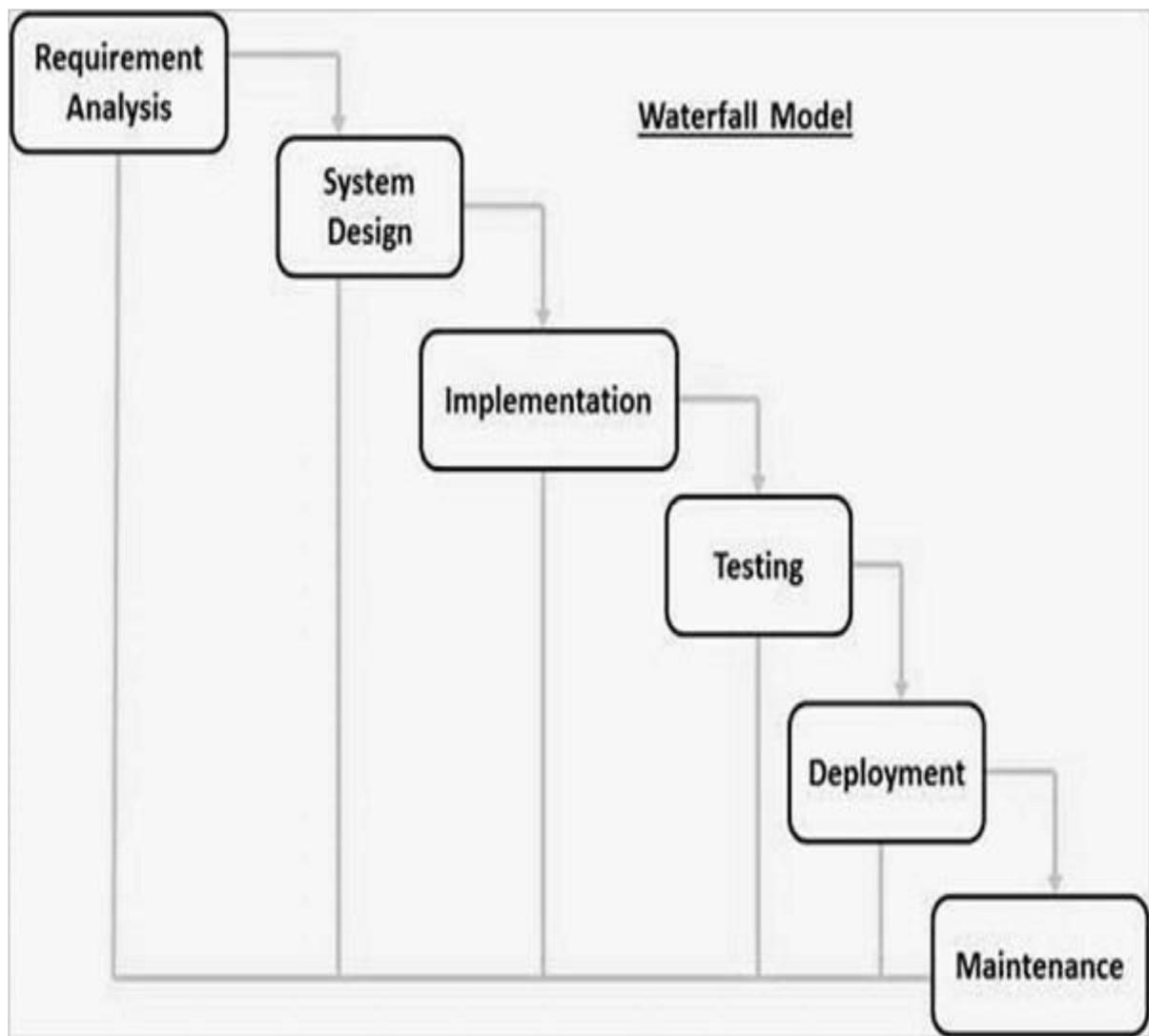


Figure 10: Water Fall

Phases Details:

The detailed description of water fall model is shown in figure. **Figure 11: Phase Details**

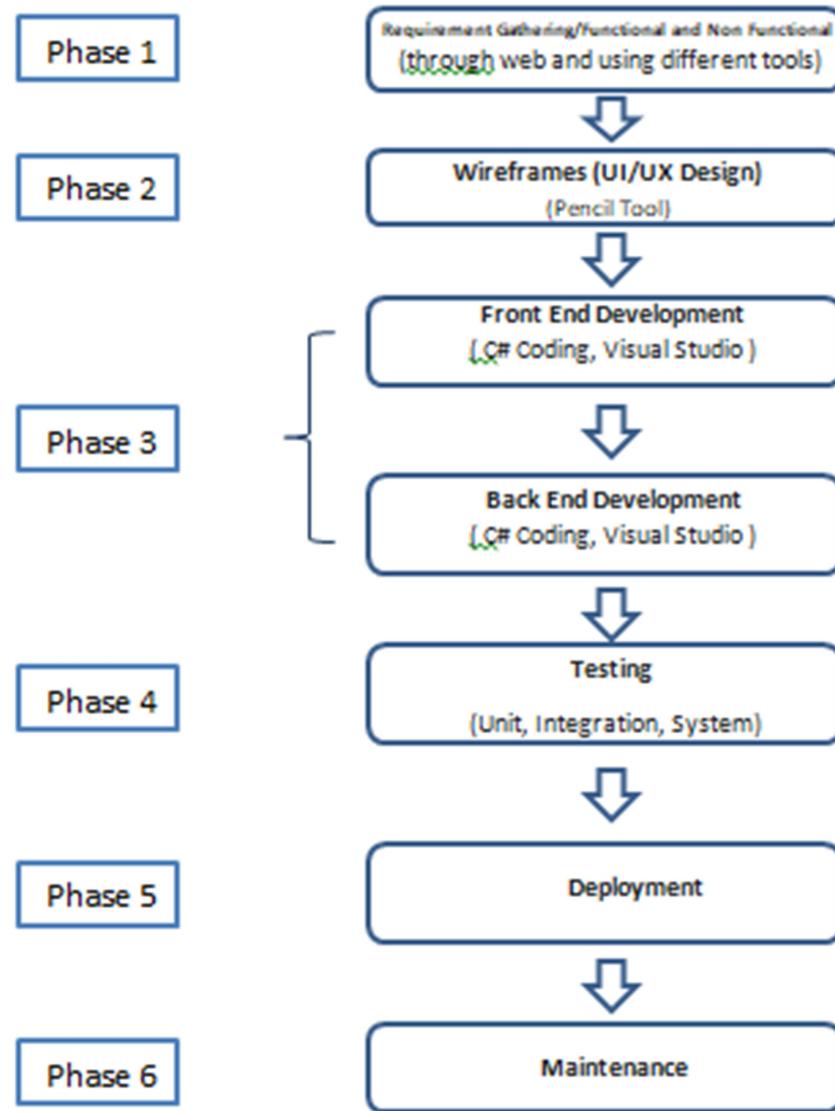


Figure 11: Phase Details

So, above is the complete methodology for our project. Moreover, documentation will be done in parallel (side by side) after every step.

1.9 Tools and Techniques

<ul style="list-style-type: none">• C#• Visual Studio• Pencil Tool• MS Word• MS Excel• MS PowerPoint• MS Project• MS Visio	(Programming language) (IDE For writing code) (For building Wireframes) (For Documentation) (For data Analysis) (For Story Boards) (For building Gantt Charts) (For UML diagrams)
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1.10 Team Members Individual Tasks / Work Division

Table 2: Work Division

TEAM MEMBER NAME	TASKS
Noor Shahid + Uzair Gull	Documentation
Noor Shahid + Uzair Gull	Requirement Gathering
Noor Shahid + Uzair Gull	Wireframe (UI/UX design)
Noor Shahid + Uzair Gull	Use Cases
Noor Shahid + Uzair Gull	Front End Development
Noor Shahid + Uzair Gull	Back End Development
Noor Shahid + Uzair Gull	Testing

1.11 Data Gathering Approach

We will gather image and picture related data from following websites:

- Pixabay [13]
- Unsplash [14]
- Pinterest [15]

We will gather UI/UX design related data from the following websites:

- | | |
|---------------------------|-----------------------|
| 1) Digiskill [1] | 2) Udemy [2] |
| 2) Udacity [3] | 4) edX [4] |
| 3) 5) Khan Academy [5] | 6) Alison [6] |
| 4) 7) Stanford Online [7] | 8) Canvas Network [8] |
| 5) 9) Swayam [9] | |

Will search about how an online learning platform looks like.

Then implement our portal by adding or removing features according to it.

1.12 Timeline/Gantt Chart

ID	TASK NAME	DURATION	START DATE	END DATE
1	Documentation	23 Days	20 – Oct – 2021	27 – Nov – 2021
2	Requirement Gathering	6 Days	20 – Oct – 2021	25 – Oct – 2021
3	Use Cases	8 Days	06 – Nov – 2021	13 – Nov – 2021
4	Wireframe (UI/UX design)	6 Days	14 – Nov – 2021	19 – Nov – 2021
5	Front End Development	7 Days	25 – Nov – 2021	01 – Dec – 2021
6	Back End Development	7 Days	02 – Dec – 2021	08 – Dec – 2021
7	Testing	5 Days	08 – Dec – 2021	12 – Dec – 2021
8	Maintenance	5 Days	13 – Dec – 2021	17 – Dec – 2021

Table 3: Timeline

ID	TASK NAME	20 – 10-2021	25-10-2021	13-11-2021	25-11-2021	8-12-2021	12-12-2021	15-12-2021
1	Documentation							
2	Requirement Gathering							
3	Wireframe (UI/UX design)							
4	Use Cases							
5	Front End Development							
6	Back End Development							
7	Testing							
9	Maintenance							

Table 4: Gantt Chart

1.13 References

- [1] DigiSkills: <https://en.wikipedia.org/wiki/DigiSkills.pk> , 23-10,2021
- [2] Table Reference: https://en.wikipedia.org/wiki/List_of_MOOC_providers , 23-10-2021
- [3] Coursera: <https://www.coursera.org/> 23-10-2021
- [4] Udemy: <https://www.udemy.com/> , 23-10-2021
- [5] Udacity: <https://www.udacity.com/> , 23-10-2021
- [6] edX: <https://www.edx.org/> ,23-10-2021
- [7] Khan Academy: <https://www.khanacademy.org/> ,23-10-2021
- [8] Alison: <https://alison.com/> ,23-10-2021
- [9] Stanford Online: <https://online.stanford.edu/> ,23-10-2021
- [10] Canvas Network: <https://www.canvas.net/> ,23-10-2021
- [10] Swayam: <https://swayam.gov.in/> ,23-10-2021
- [12] Fact: <https://en.wikipedia.org/wiki/SWAYAM> ,23-10-2021