Introduction to Modern Application and Development
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Lecture – 01
Introduction to the Course

Hi everybody. Welcome to the Introduction to Modern Application Development course.

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Why should you take this course?

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This course has been very carefully titled Introduction to Modern Application Development.

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And at the end of this course, you will be able to actually understand what web and application development today is and what it will be tomorrow. You will not have to

learn yourselves, you will not have hazy or an incomplete understanding, but you will actually have an end-to-end understanding from first principles about what is going on with web and with apps in general.

You will be able to use that knowledge to actually build an app. And through this course, you will build your own app; even if you not done any programming before, just by typing out of few lines, you will be able to go through the entire experience of what app development is. So, those of you who are programmers the features that you add in the app or limited by your own imagination; you will be able to use this theoretical and practical knowledge, and this will actually help you tangibly get a job or an internship that is at the end this course.

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But thing that I have personally most excited about at the end of this course is that may be some of you will go out and build your own applications for problems that you yourselves have seen and that will be the best thing about taking this course.

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If you do not take this course, I do not mean to scare you, but if you do not take this course then you might put yourself at the risk of losing out. All businesses today are moving towards an increased amount of IT, where moving towards modern applications, they are moving towards the cloud.

And these are not just startups, these are also traditional companies, banks, manufacturing companies, companies that have made bicycles, companies that make tiers, companies that sell shampoo, all of them are going to move towards an increase amount of IT. And you work in these companies, how will you speak the right language, how will you communicate to the technical team, how will you understand the power of what IT can do for you and your organization.

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Please do go through this entire course. This course will start out very simple. This week we will just introduce you to the concepts of what the Webapp is, how over that works. But the complexity will gradually increase and we will cover more and more advance topics. These, all the lectures are structured as very, very short videos. Do watch them in your free time, there all going to be between 10 to 20 minutes long. Try to complete your simple and (Refer Time: 02:44) type assignments and do follow all the programming exercises, that is it.

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Let me introduce you to the instructors of this course.

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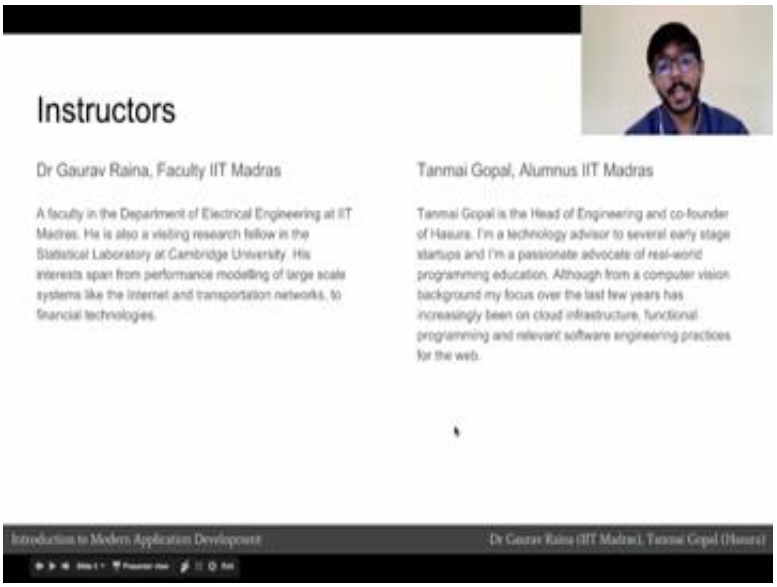

Hi, I am Tanmai Gopal and along with Dr. Gaurav Raina, we are both the instructors for this course. Dr. Gaurav Raina is a faculty at IIT Madras from the Electrical Engineering Department, and he is being working with networks and teaching networks in a (Refer

Time: 03:08), so the last few years in IIT Madras. I am alumnus from IIT madras, I graduate from computer science department, and I have been the industry for several years now.

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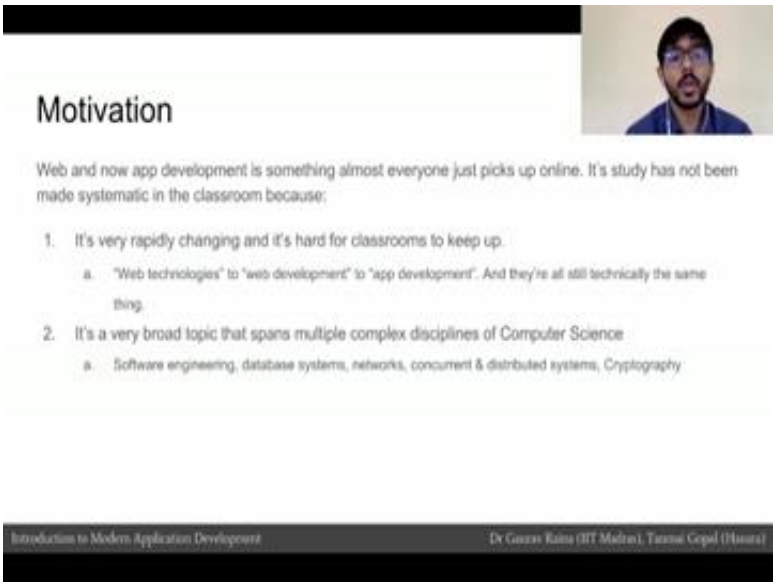

Gaurav and I work on several projects both in and outside IIT. And the reason we came up with this course is the realization that web and now application development on the web or on the cloud is something almost everybody picks up online. Its study has not really been made systematic in the classroom, because of two main reasons. The first reason is that the entire space is amazingly, rapidly changing and it is very hard for classrooms to keep up with the exact technologies the industry is using today, what is going to use in the next few years also.

For example, in the classroom, the course is related to this particular field, course is related to this particular topic are often called by technology courses. And that term where technology has evolved towards term web development which is sort of the more industry oriented, programming oriented version of the topic, and that today has become app development. Now technical these are all powered by the same technologies, but it is hard for us to learn app development in classrooms just (Refer Time: 04:31).

The second reason why the study of web development or app development is hard in the classroom is because it is very broad topic and it spans multiple complex disciplines of computer science. It spans areas of software engineering, data base systems, concurrent and distributed systems, networks and cryptography. When we talk about web development today or application development, we underline technology behind that has been worked has been worked on for several decades by some of the most (Refer Time: 05:01) people in the field, and it is hard to convince all of that into a quick yet systematic introduction.

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So, our aim is to solve the exactly those problems. The first thing that we will do is we will talk about web and application development as it is today and as it would be in the next few years. We will go over fundamental concepts in such a way that you will understand this space even as it revolves over the next few years in even decades.

We will also simplify and bring to get the fundamentals from all of these different fields, so that we have a thorough understanding of a development from first principles. We will also hit the dirt and put on knowledge to the test by actually building an application via programming exercises.

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This course is intended for both kinds' people - programmers and people who will in the future become developers are encouraged to take this course. And if you are a developer today or you will be a developer then this course will help you understand the fundamentals and give you the right starting point so going into most specialization.

If you are a non-programmer, and your career pass might not involve development, you might still be working in a company which is technology enabled which has IT, which is leveraging apps, web apps or mobile apps and so you as well it is important to understand the fundamentals of how application development and the apps work. So, you can speak the right language to the technical members of your team.

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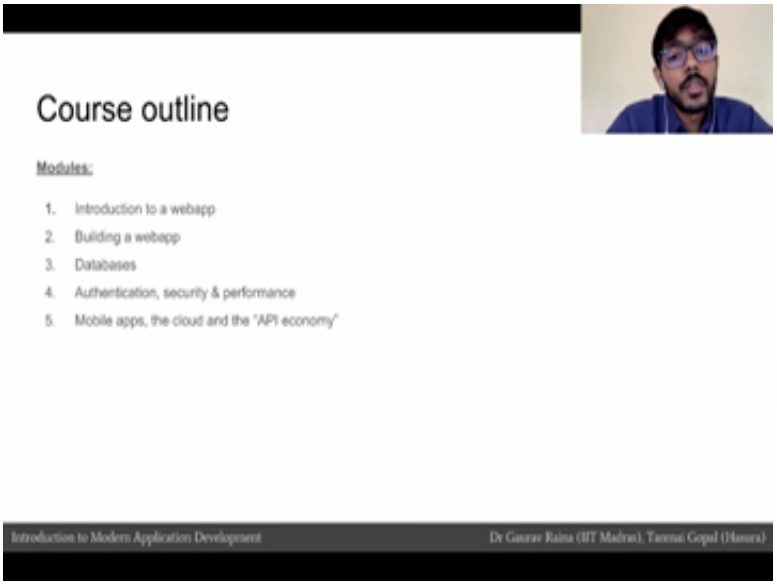

This course will cover 5 main topics. We will first introduce you to the concept of webapp and what it is. We will then go ahead and build webapp. We will talk about databases in the third week.

In the fourth week, we will come to authentication, security and performance on the web. And the fifth week, we talk about mobile apps, the cloud and what is now call the "API economy" and how all of these things technically related to what we just understood.

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The course is a 5-week course. In every week, we will be covering approximately 2.5 hours of video lectures. There will be one MCQ type assignment every week. There will be practical assignments through the 5 weeks; these will not be great however. There will also at the end of the course, we have a final MCQ type examination, which you can register for on the NPTEL website.