**2025-3-6 COMPSC732**

**英文原文 & 中文翻译**

（1）中文

大家好，欢迎大家光临。

我们再等一分钟，让最后到场的同学坐好。

哇，看到这么多同学真的很震撼。

这大概是你们中大多数人自本科一年级以来见过的最大的课堂吧。

你们在这里待了这么久吗？

（1）English

Hi, everyone, and welcome.

So we’ll get started in just another minute, these last people sit down.

Wow, it is amazing to see such a big class.

This is probably the biggest class that most of you have seen since, like, first year undergrad.

Have you been here that long?

（2）中文

所以，今天早上为止，我想这门课已经有 309 名同学注册。

因此，这门课毫无疑问地成为了研究生阶段最大的计算机科学课程，比第二大的课程还要多一倍以上。

非常高兴看到这么多人来到这里。

好的，我们先用一点时间简单介绍一下这门课程，确保大家都选对了课。

欢迎来到本课程。

（2）English

So we have, as of this morning, I think there are 309 students enrolled in this course.

So that makes it, by far, the largest postgrad Computer Science class, by at least twice over the runner-up.

It’s great to see so many people here, and yeah, we’re gonna get started with a little bit of a course introduction to make sure we’re all in the right place here, so welcome to the course.

（3）中文

在继续之前，我会先稍微介绍一下自己，但在那之前，我想先更多地了解一下在座各位。

我知道，有好几种不同的途径都可能让你来到这里上这门课。

那我举个例子，先举手统计一下：谁是读软件工程专业的？

哦，看上去可能有三四成吧，很好。

（3）English

So, just gonna talk about myself just very briefly here, but before I do that, I want to know a little bit more about the cohort here.

So, I know there are a few different pathways you could have come in order to land here today, so just a show of hands: who’s in the Software Engineering program here?

Oh, so it looks like maybe 30 to 40 percent of you. Awesome.

（4）中文

那么，有谁在其他工程学科，比如说 Compsys 或类似的吗？

没有吗？没有人？没有人是 Compsys？这真是有点意思。我们通常至少会有几个 Compsys 的同学。

那好吧。谁是在读信息技术硕士？

哦，看起来有大部分，或者至少有一半左右，对，从人数上看大概是这样。

那也可能还有一些其他人。那谁是读理学学士或者新入学的本科？有几个吗？好。

（4）English

Who’s doing any of the other engineering disciplines, like Compsys, or something?

No? No one? No one’s doing Compsys? That’s… that’s interesting. Normally we have at least a few Compsys. That’s all right. Who’s doing Master of Information Technology?

Oh, most of you, or at least half, by the looks of it, but yeah, probably there’s a little more as well. Who’s doing, uh… who’s doing, like, Bachelor of Science or new? A few? A few people? Cool.

（5）中文

那，还有谁是其他专业的？有没有数据科学的？

有一两个？好。那还有什么我没提到的专业？有人在读网络安全吗？

好的，我猜我们大致涵盖完了。很棒。

（5）English

What about—what other programs do we have? Anyone doing Data Science here?

Yeah, one—one or two. What other programs are people doing that I haven’t mentioned yet? Call them out to me if I haven’t mentioned yet.

Oh, yeah. Yep.

Cyber Security? Anything else?

I guess we’ve covered everyone here, that’s awesome.

（6）中文

所以在座各位背景广泛，尽管都和 IT 相关，但专业还是不同，而且我知道在编程经验这方面的跨度也很大。

有人可能已经在 Google 做过实习，也有人可能几周前才刚学会编程。

这是一个非常大的差异。

我想对经验较少、也许不确定自己是否能应付这门课的同学说：不用担心。

（6）English

So this is a wide range of disciplines—all IT related, but, you know, very different in terms of, like, what exactly you can do in the degrees. And then I know, in terms of—so the range of prior experience, I guess, is quite a lot as well. So we have people in this room, I’m sure, who have interned at Google, and then we have other people in the room who have just learned to program, like, a few weeks ago. So that’s a wide range of prior experience, and I just wanted to let those of you know, who might have less experience, who might be feeling a little bit unsure about this course: don’t worry about it.

（7）中文

在往届里，我们看到过许多非常出色的项目。

决定你是否能在项目上取得好成绩的关键因素，并不是你过去掌握了多少技术，而是你的动力和激情，以及你想要在这门课上做出出色作品的意愿。

如果你有这样的心态——我知道有些同学来自编程“bootcamp”，我见到他们，知道他们很有干劲，现在他们也在这里上课——很好啊，那你在项目中一定会做得不错。

所以，不用担心自己是不是对 Web 开发的经验不足，这门课会提供足够资源帮助你掌握这些技能，让你能产出很棒的项目。

（7）English

So we’ve seen some amazing projects in this course in previous years, and the main indicator about whether you’re going to do well in the project is not what your prior level of experience is. It’s about what your drive is, and your passion, and your desire to do well in this course and produce something spectacular. So if you have that mindset—and I know a few of you from the programming bootcamps who definitely do have that mindset, and I see you again today, that’s fantastic to see you again—then you’re going to do well in that project. Don’t worry if you are not that experienced at web development; the resources in the course are here to help you with that and enable you to produce that fantastic project.

（8）中文

好的，这就是关于你们的情况。那我再简单说说我自己。

我想很多人已经认识我了，因为要么我在之前的课程里当过讲师，要么我还是 ICT 研究生院的负责人。

对没见过我的同学来说，我是研究生院的负责人，主要致力于转行项目，也就是把非 IT 背景的同学培养成 IT 从业者。

同时我也在软件工程专业中授课。各位软件工程专业的同学如果是从 Software 325 转过来的，去年就是我教的。

（8）English

So that’s about you guys. So now, about myself: I think a lot of you know me already, either as a lecturer from the previous course, or as a director of the ICT Graduate School. So for those of you who don’t know, I am the director of the Grad School. We focus mainly on career transition programs—so getting people into IT careers from non-IT backgrounds—and I also teach into the Software Engineering program. So I guess any of you from that degree, I would have taught in SoftEng 325 last year.

（9）中文

我喜欢与移动计算或网络计算相关的一切。我现在大部分研究都是关于计算机科学教育，但我确实很喜欢计算和医疗保健、心理学相结合的领域——之前做过一些有趣的项目。如果有人想在这门课做相关的项目，我也非常乐意和你讨论。

此外我也有一些个人爱好，比如我喜欢唱歌、喜欢音乐，如果你也对音乐感兴趣，欢迎来和我聊这些。

当然，我也喜欢一些典型的宅兴趣，比如玩游戏之类的。是的，我确实喜欢宝可梦。可能任何上过我课的人都知道，我的课件里常常出现宝可梦元素，或许有点频繁，但这就是我啦，我不打算道歉。几乎没有什么话题能让我不聊宝可梦……有人告诉我这门课有更多关于宝可梦的东西……其实，这个学期的案例确实会稍微涉及一下宝可梦，等会儿你们就知道了。

（9）English

And I like anything to do with mobile web computing; most of my research these days is around, like, computer science education, but I really love the intersection between computing and healthcare psychology—done some cool projects on those in the past. I’d love to chat with you about them, and if anyone wants to do that kind of healthcare- or psychology-related project for this course, I’d be really, really keen to chat with you as well.

And then I have some interests, you know, personally: I do like singing, I like music, so if you’re interested in music at all, then yeah, I’d love to chat with you about that kind of stuff as well, as well as, I guess, standard nerdy stuff, like playing games, that kind of thing. Yeah, yes, I do love Pokémon. I think anyone who’s taken any of my courses probably knows that—it kind of makes its way into my course content a little bit too much, maybe. That’s just who I am; I make no apologies. There’s not too much I do not about—oh, I’ve heard there’s more about—okay, I’m joking: this course is gonna be Pokémon-related. Actually, I think it might already be a little more later, but we’ll find that out a bit later on.

（10）中文

那么，除了我自己，我们这门课还有一些优秀的助教。

我会等会儿具体说实验课的安排，但先给大家介绍一下在实验课上你们会见到谁。

这里有四位出色的助教，我想他们都在现场。是的，如果你们正好看到投影上的名字，请站起来，让我为你们指一下，好让同学们认识。

我们有 Nate，在这边；我们有 Shaoli，在这儿；然后后面有 Shu 和 Zee。

Tumi 和 Charlie 在去年也上过这门课，如果你们有兴趣，可以在实验课上问问他们当时做的项目。

所有这些人都很棒，技术也都很扎实，所以有任何问题都可以求助他们。

（10）English

So, as well as me, so we do have some fantastic tutors. So I’ll tell you about the labs a bit, but: who are you gonna meet in the lab? We have these four fantastic people here, and I think all four of them are in the room right now. So yeah, if you are one of these four people on the screen, please stand up, and I’ll wave, and I’ll point you out. So we have Nate down here, we have Shaoli over here, and then up the back we have Shu and Zee. So, Tumi and Charlie took this course before last year, so if you want to chat in the labs about their personal experience in this course and what they did for the project, I’m sure they’d love to share that with you later on. Everyone—all of these people—are fantastic developers, and they really know the tech stuff, so if you’re stuck with anything at all, they’re all gonna help you out.

（11）中文

另外，还有三位助教主要负责课程的作业评审和评分过程，但他们今天似乎没有在场。如果你们认识他们、在别的地方见到他们，也可以聊这门课的内容。

然后我还有一件事想请大家帮忙：我需要一位，或者考虑到课程人数规模，可能需要两位课程班代表（class rep）。

如果你对担任这个角色感兴趣，欢迎下课后给我发邮件告诉我。

班代表的主要职责是帮助收集课程反馈，比如你可以做一个 Google Form，或者别的什么形式来收集匿名反馈，然后我会协助班代表分发给大家填写，班代表再把收集到的信息整理起来，告诉我和其他教学人员。

同时还会有学院层面的教学反馈会，班代表也需要去参加并汇报学情，这对于及时改进课程非常重要。

如果你觉得自己可以胜任这个角色，特别是如果有来自信息技术硕士和软件工程硕士的同学，那就更好了，能比较全面地代表大家。想知道更多细节的可以问去年的班代表 Shaoli，她去年的工作非常棒。

（11）English

And then we have three others who are helping out with the course. Do we have any of these three? I don’t think so. So these three are mainly going to be helping out with the assessments and marking process, but if you know them and you see them around, you can be happy to chat with them as well. I’m sure they’d love to chat about the course.

And one more thing about you guys: so I need a class rep. I might need two class reps for the size of the course. So if you’re interested in being the class rep for this course, I would love to hear from you. So please do send me an email after this lecture if you’re interested. The main responsibilities of the class rep are to gather feedback. So basically, you prepare some kind of Google Form, or some other way of gathering feedback, and then I would help the class rep to disseminate that to you all, and then, you know, hopefully you’d fill that out to give the feedback. It’s anonymous, I won’t know personally who gave what feedback. And then the class rep would collate that, organize that information, and present it to me, and also to our staff-student feedback days that we have in the School of Computer Science. And that’s really important, because it lets us know, like, really early on, you know, what’s going well in the course, what can we improve, that kind of thing.

So if you think that you could be one of these people, then please let me know. I’d definitely love to see one of the InfoTech students do this, and also maybe one of the Software Engineering students as well. So let me know if that’s something you’d like to do. If you want to talk about what that’s like, Shaoli was our class rep last year before—she would talk to you about what she did, and that kind of thing.

（12）中文

接下来聊聊这门课的主要内容。

希望你们多少已经对本课有所了解，因为你们都选了这门课，但万一你是盲选，或者“随便点”选了这门课：

这门课有人称为“React 课”或者“MERN 栈课”，确实我们会学到这些技术，但其实还有很多东西不只如此。

我更愿意把它看作一次机会，可以向我，或者向将来的潜在雇主，展示你真正具备怎样的技术能力。你会在这里做一个比以往大学中更大型的项目，更贴近实际工业或者实习中所做的事情。

（12）English

Now about the course itself. So, hopefully you know a little bit about this course, because you all decided to take it, but just in case you were just selecting courses randomly, and you just clicked one not knowing what it was: so this course—this course is—and a lot of people call it “the React course” or “the MERN-stack course,” and it is that, because you do learn about those technologies in this course. But it’s more than that. So I like to think of this course as your chance to really show—not just me, but any potential employers later on—show them what you’re really capable of, in terms of your technical ability to produce a larger-scale project than you might have done before in the university, and more like what you might be doing in an internship or something in industry.

（13）中文

这不仅仅是“你会写 React 前端吗”这么简单，还希望你有一定的创新意识、创业思维。

我希望你们的团队能想出一个很棒的点子，然后把它从概念阶段，变成在这学期末可以实际运行的 Web 应用。

所以，与其说是“学会写 React 的课”，不如说是“能否利用 Web 技术，做出对用户确实有帮助的东西”。

（13）English

And it’s not just about “do you have the technical ability,” but also, you know, your entrepreneurial drive, like, you know, I want to see your team think of something—think of something awesome—and then take those thoughts from, you know, ideas on paper to an actual final implementation in this course. So it’s not just about ticking the boxes of “yes, I can write a React app,” but it’s about, you know, “can I solve an actual problem that some people have with my web development skills?”

（14）中文

在此之上，你还要展现软件项目管理的能力，比如你要展现你们的团队怎么做敏捷开发（当然也可以不用敏捷，但一般大家都会用），包括风险评估、如何分工、如何做文档和任务管理、优先级等等。

这一切也都是你去实习或工业界工作会用到的技能。

（14）English

And in terms of the other kind of skills of web development, yes, there’s also software project management. So you’ll be required to exhibit, you know, good agile development—or you don’t have to use agile, but most people do—but some kind of actual project management strategy, including, like, accounting for risks in team projects, including, like, documentation of what you’re doing in terms of, like, task management, task prioritization, that kind of thing, just to show that you can work with a team on a project, which is something all of you, I’m sure, are going to have to do when you go and get those industry positions.

（15）中文

这两张幻灯片只是把学习目标列了一下，具体内容都在 Canvas 上，可以自行查看。

下面这张是关于我对你们的一些基本期望：

我希望你们在自己电脑上安装好必要的软件，比如 Node.js、VS Code、Git 等等，都是免费的。

我很希望在课堂上看到你们的面孔，特别是在有嘉宾演讲的时候，比如下周有个嘉宾，我会在后面提到。

除此之外，我会在 Canvas 上发布大量材料，希望你们能认真看一看，比如我会录一些短视频来讲解关键点，你们可以灵活安排时间去看。

（15）English

These next couple of slides are just the actual learning outcomes of the course. I’ll skip over these, but you can read them on Canvas if you like.

And then this one is about expectations that I have for you. So I’d love—so please do get the software installed on your personal devices if you’re using those. There isn’t much you mainly need: Node.js installed, and some kind of text editor like VS Code is the one I use, plus Git and maybe GitHub, all of these are free to download.

I’d love to see you here in person, especially during the times we have guest lectures. Like next week we have a guest lecture, I’ll talk about that later on. And then yeah, as well as these lectures, I post a lot of material on Canvas, and it’s expected that you do actually look at that, read through, watch the little videos that I make.

（16）中文

我把内容拆解成较短的视频，方便学习。每个主题都有相应实验课练习，这也是你们准备考试，以及熟悉项目技术的好方法。

至于实验课，如果你对 React 已经非常熟悉，那么也许不必参加，但即使你已经很熟，也可能通过和我或其他助教的对话来完善你们的项目想法，所以我依然建议大家多来。

（16）English

So I break everything down into short-format videos, so watch those, learn from them, do practice. So there’s lab activities for every topic, so it’s expected that you’ve actually done all those, and that’s going to be your preparation for the test, in addition to helping you firm up that development skill for the project.

Attending the lab sessions: so if you’re, like, a genius and you know everything already and the lab exercises are really, really easy, maybe you don’t need to attend the labs, and that’s okay. Even then, you might benefit. So last year, we had a couple of groups that were, like, really, really good, but they still attended every lab, even though they knew how to do everything. And they just chatted with me, and they chatted about their project development through the semester, and that helped them—those discussions helped them really shape the direction of their project. So even if you know everything about the technologies, you still gain some value from attending the labs.

（17）中文

如果你对实验课的内容确实感到吃力，这里就是获得帮助的地方。

我会尽量参加大部分实验课，另外我们还有四位优秀助教。

至于这门课是 15 学分，所以预期你们每周投入 10 小时。

我猜不会是平均分配；最初几周也许不需要花那么多时间，但后期项目要交之前肯定得集中发力。

（17）English

If you’re stuck on the labs, if you’re finding anything difficult, then they’re the place that you come to get help. I’m going to be at as many of the labs as I can, as well as our four fantastic tutors who introduced themselves before.

And then the standard—so this is a 15-point course, so that means you’re expected to spend 10 hours per week on this course. I suspect that will not be an even 10 hours every week. It will probably be less than that to start with, and then significantly more than that just before the project is due. And that’s kind of how people work, and that’s fine.

（18）中文

我现在再说一下课程结构：

我们每周有一次大课（就是这堂），Canvas 上还有模块化的内容，另外有 drop-in 式实验课，还有 Ed Discussion（论坛）平台。

我其实都提过了，不过还是再简要说一遍：

——这堂大课：请尽量来，尤其是嘉宾讲座时。我会提前告诉你们下次课的主题、针对哪些同学。比如如果你对 React 的某个话题完全不熟，可以来听，如果已经在业界实践过好几次，可以不来。

——所有讲座都会录制，但我还是希望大家能到场，这个大教室很多空位，不想只是对着空荡荡的几个人讲。

（18）English

So in terms of how I organize the course: so we have the weekly lectures—that’s here—we have those Canvas modules, the drop-in labs, and Ed Discussion. So I’ve covered most of this already, but yeah, so these lectures—please do attend, especially the guest lectures—and I’ll announce in advance if it’s a guest lecture for each one. I’ll also announce, like, who should be attending, e.g., if I’m going to be doing the talk about something specific with React, then I’ll say: “People who don’t know about that thing should attend, but people who’ve already used that thing in the industry a bunch before probably don’t need to,” again. So I’ll set expectations clearly for each lecture about who that lecture is going to be targeted towards.

They will all be recorded, of course, but it’s nice to see as many faces as possible—this is a huge room, so don’t make me feel lonely by presenting in this room to, like, 10 people, please. That’s my main request for you.

（19）中文

Canvas 模块部分：我已经把每个主题拆分成一个个模块，每个模块下还有子模块。

我尽力把内容细分，做成小视频和文字材料，你们可以按自己的节奏学习。

另外有个名叫“cs732-examples”的仓库，里头有我提供的示例代码，大部分 Canvas 页面上有链接。

你要自己把那个仓库克隆下来。学期中我也可能更新一些示例，所以要及时拉取最新的更改。

（19）English

The Canvas modules: hopefully some of you have had a look at these already, but basically for each main topic on Canvas, I’ve broken those down into a module, and then each module has submodules as well. So I try to organize the content as clearly as I can and break it down into as small chunks as possible. There’s a “wide auth and publish” repository that’s linked to in almost all the Canvas pages—it’s called cs732-examples—so grab those if you haven’t already. I might publish new examples as the course continues, so keep pulling down the latest changes on that repo as the course progresses, just to make sure that you have the latest version of all those examples.

（20）中文

关于实验课：从下周开始，到第 9 周结束。第 10 周到第 12 周会有别的活动。

实验课时间是周一下午三点到五点，周二下午两点到四点，每个时段会有两个教室可用，所以位置很多。

如果你原本只在一个时段注册也没关系，你想去另一个时段也可以，我并不介意。

在标注为金色字体的教室优先上课，如果那边人满了再去另一个教室。

每个教室都会有至少两位助教或老师值守，随时解答问题。

（20）English

Labs: so the labs will start next week, and they go up until week 9. So weeks 10 to 12 is something else, which we’ll get to in a bit. There are two sessions on Mondays (3–5) and Tuesdays (2–4), and each session has two rooms as well, so there’s a lot of space in the labs. If you would’ve enrolled in one of these timeslots, you can go to either of them—I really don’t mind. The ones that are in gold—go to those rooms first, and then if they fill up, then go to the overflow room. And there will be at least two people available at any time, so there should be at least one person in each of these rooms to help you out.

（21）中文

Ed Discussion：这是大学新采用的网上讨论平台。

我们以前用 Piazza，但它实在太难用了，导致我去年直接放弃 Piazza，转而用 Discord。

不过这次我想试着用学校的官方工具。

你去 Ed Discussion 发帖问问题或回答问题，都挺方便的，而且可以贴代码，甚至可以在那边演示运行段落代码，并且按话题或标签组织，也容易搜索和查找。

所以这学期我们就先试试 Ed Discussion，看看效果如何。

（21）English

Ed Discussion: so that’s an online discussion platform that the university has adopted. We used to use Piazza—the Piazza site—it sucked, so it sucked so much that last year I just gave up and used Discord for the course anyway, because Piazza was so bad. But this time, I do want to try, at least for one semester, to actually use the tools provided by the university. So get on there—like, it’s really quite intuitive how you create these threads to ask questions. There’s even, like, a chat feature; I can’t remember if I enabled it or not, but I might do if I haven’t already. You know, when you’re asking questions or giving answers, you can put code into the answers or the questions so that you can see—you can, like, run the code in the example right there within Ed Discussion. It’s quite clear, it’s easier to search for topics, easier to categorize different threads, and that kind of thing. So yeah, I think it is actually a good tool. So we’ll give it a go using it for semester and see how we go.

（22）中文

好，我先喝口水，然后说说这门课的评估。

我们主要有几个大块：项目（占相当大比重），作业（Assignment），以及一个小测验（Quiz）。

（22）English

All right, just gonna take a drink.

So, course assessment. So we have four—sorry, one of them is quite large, right? So we have the project, which is broken down into several different deliverables, and we have the assignment, and we have the quiz.

（23）中文

最先要交的是项目提案（Project Proposal）和作业（Assignment）。

先说作业，它占 30% 的成绩，和项目一样有自我驱动的特性，但它是个人完成，而项目是小组完成。

作业在第 6 周末交，所以要尽早开始。

（23）English

So the most—the ones that are coming up first will be the assignment and the project proposal. So in terms of the assignment: so it’s a big assignment, worth 30 percent, and like the project, it’s quite self-directed. So the project is a team thing—the assignment is an individual thing, yeah—and it’s due at the end of Week 6, so get started soon.

（24）中文

这门课作为 700 级课程，需要有一定研究成分，而作业就承担了“研究”这个部分。

不过我不会让你大量去读学术论文，我更希望你研究一些对本课程有用的实际新技术，比如说本课讲 React，那你可以对比研究 Vue，或者别的各种 web 框架。

有一些建议写在作业说明里，如果你想研究其他没列出的技术，也可以发邮件问我，我一般都会同意，只要别是你在其他课里已经做过的技术。

比如我知道有同学之前在 719 课里已经学过 Svelte，那就不能再拿 Svelte 来做这门课的作业了，因为那就太简单了。

（24）English

And this is like—so at the university, with 700-level papers like this one, there has to be some kind of research aspect to the course, and this assignment is what I would consider to be that research aspect. Now, I’m not going to make you go out and read a lot of academic papers, like some other courses of mine. I want you to research, like, useful stuff that you’re actually going to use. So what I want you to research is, I want you to go out and investigate some kind of web technology—something that can be used in web development but is not covered in this course by itself. So for example, we look at React for front end—maybe you will look at Vue, by the time, just as one particular example. There are lots of different things—there are some suggestions on the assignment Canvas page about things that you could look into. If you don’t want to do any of the suggestions, feel free to email me with your own idea, and I’ll say yes or no, let me know if you can do it. I’ll probably say yes.

The one thing is, like, if you’ve used a technology in another course, you can’t use it again in this assignment. So, sorry, 719 people: you can’t do your tech demo on Svelte; that would be too easy of an assignment for you if I make you do that. If you haven’t done Svelte, though, in your previous courses, then sure.

（25）中文

在这个研究过程中，你会录一个展示视频，然后这个视频会交给本班其他同学进行互评。

不过互评的结果不会直接影响你的作业分数，也就是说不会由同学来给你打分，真正的评分还是我来做。

但是他们会给你一些反馈，你可以看看他们对你做的评价如何。

而你自己给别人做互评、给他们写反馈，这个部分占你总评的 2%。

（25）English

Then the other part of that is, as part of that tech demo, you’re gonna prepare a video, and then that video will be given to other students in the class, and those other students will peer-review those videos. Now, the peer-review marks do not count towards your grade for the assignment. I’m not letting another student in the course mark you formally for your own credit—that would be unfair. But they will provide you some feedback, which you can use, and the ability to provide good feedback to other people is worth 2 percent in total. That’s for the peer reviews. So your peer-reviewing someone else’s is worth 2 percent.

（26）中文

然后说说小测验（Quiz）。

我会给你大约 24 小时的时间段让你去完成，但一旦你开始测验，你只有 3 小时来做完。

这其实很像一些公司面试时给的“回家作业”式的笔试或编码测试。

测验的目的，是看看你个人对 MERN 栈这套技术的掌握程度如何。

因为只有 3 小时，也不会太难或太大。

（26）English

Then we have a quiz. So the quiz is: I’ll give roughly 24 hours—maybe a bit longer—as a duration to do the quiz. This is like a take-home test—a take-home assignment. It’s quite common for early stages of tech interviews to be given something like this from a prospective employer. You can choose your own time within that time window to do the test, but once you start, you’ll only have three hours before you have to finish. And it will be—that will be your chance to demonstrate your own individual knowledge of the MERN stack specifically, which is the technologies used in this course. And so it’ll be relatively simple, because you’ll only have three hours to do it, but yeah, that’s your individual quiz.

（27）中文

最后就是大头了：项目（Project）。

这是你和团队一起完成的机会，去做一个大型而有趣的 Web 应用。

团队规模是 6 人，也可以 7 人，但我不会允许 4 人或 5 人之类的，除非你能写一篇情真意切的小论文来说服我，可能我也还是会拒绝，因为人真的太多了，团队太小会让评分和时间安排非常困难。

（27）English

Then we have the big one: the project. So this is your chance to create something amazing with your team. Yeah. So, teams of six people—I will allow seven people as well. If you want a seven-person team, I won’t allow four and seven, so don’t—don’t ask. And if you sign up with, like, eight people, I’m gonna kick one of the people out at random. So just—just don’t do it. Six or seven is fine; five is probably not okay. If you’re, like, desperate to have five people, like, you can email me, like, an essay of why five people is of the utmost importance to you, and I might consider it, but probably not. There are so many of you that I really can’t have smaller group sizes, or it will make the marking process and the seminars at the end too difficult.

（28）中文

项目有几个交付物。

第一个是项目提案（Proposal），占比较小，截止到第 3 周末，你要写一个两页左右的简短报告，介绍你们的想法、预期风险、进度安排等。全组拿同一个分数。

然后是实现（Implementation），这是大头，看看你们写了多少代码、功能完成度等。这里打分还是以小组为基础，但我也会看个人贡献，比如有些人几乎没怎么参与，那肯定要扣分。

接着是演示（Presentation），也就是研讨会（seminar）。从第 10 周到第 12 周，每周有四个时间段，你可以自己选一个去做 15 分钟左右的项目演示，先到先得，选完即止。

之后还是互评，你要去评价另一个小组的作品，你给出的反馈质量会影响你自己的分数。

最后是个人报告（Report），每个人独立完成，这部分分数是个人拿个人的。

（28）English

But just quickly: so there are a few different deliverables there. So the proposal—that’s going to be the first thing, so that’s going to be due at the end of Week 3, and so that’s where your team gives me a little two-page report on what are you going to do, some other things like risks and team progress, like, have you considered any risks—potential risks to the success of your project—and what are your plans to manage your code. So that’s the proposal; that’s a group mark, so your whole team will get the same mark for that proposal.

The next one is the implementation. So that one is the big one—that’s, like, what have you actually done in your codebase. Again, it’s a group mark, so your team will roughly get the same mark for the implementation, but I do consider individual contribution levels. So if one person didn’t contribute that much to the project, obviously that person is going to get a lower grade than others.

Presentation: so that’s a seminar. So during the last three weeks of the course, there will be seminars. There will be four slots per week, and you’ll be able to choose your own slot to present—although those slots will be at first-come, first-served. So once I publish the slots for you to choose, you should get in there as soon as possible if you want your pick of the slots.

Peer review: so that’s where you’ll be given someone else’s project to review, kind of like the assignment, and your ability to provide good feedback will be worth marks in this as well.

And then the report is the last thing that’s due, and that’s an individual report, so each person will get their own individual grade on that.

（29）中文

Canvas 上我给了几个项目思路供你们参考，很多人不会选那些，而是自己想点别的，这也完全没问题。

下周，我会请到去年一支非常优秀的队伍来给大家讲他们的项目，他们的想法跟我的那些建议完全没关系，但他们做得非常棒。

你如果有其他想法，也可以在第 3 周之前来问我，我们先看看范围合不合适，比如是不是太难或者太简单。

交完提案后，我也会尽快给你们反馈，一般 1-2 天内，让你们能及时调整。

（29）English

So I’ve given some starter project ideas on Canvas. Most people don’t really pick one of those, and that’s absolutely fine. So next week, we’re gonna have a presentation here from one of last year’s groups, and they did something completely non-related at all to any of the project ideas on Canvas, and it was nonetheless an amazing project, which you’ll be able to see next week. If you do have other ideas, you’re welcome to email me or talk to me in the labs before your proposals are due, and then if there are any big problems with that proposal—like I really think you didn’t scope the project right, maybe you made it too big or too small for the time allowed—then I’ll let you know with my feedback on that proposal. And I’ll be giving that feedback as soon as possible, like probably one or two days after the proposal is due, or trying to give everyone some feedback.

（30）中文

关于分组：有些同学已经签到了我的那个 Web 应用上，在那里可以登录并报名组队。

如果你用学校邮箱还登录不了，大概率是你还没被加进 Canvas 名单里，可以给我发邮件问下。

无论如何，如果你还没有满员 6 人，也请先注册，这样至少我知道你在这门课里。

到时如果你的队伍人数不够，我会在截止后把那些小队合并，让他们凑满 6 人，并尽量把想法类似的队伍合并。

（30）English

So in terms of signup: so I’ve seen that some of you have done this already, but basically I made a web app to handle this. I thought it’s only fitting that I make a web app for the web development course, and yeah. So basically you can use this to sign up with your project team. If you can’t log in by following the instructions, it probably means that you’re not added to the Canvas page yet. I added everyone as of this morning who was on Canvas, but if you can’t log in using your university email address, please send me an email, and I’ll double-check that. Other than that, yeah, you can sign up. If you sign up with—if you don’t have a full team of six, that’s okay. Please sign up anyway; at least we know that you’re active and enrolled in the course. You can add additional people to your team later on, and if you just don’t have six people, then I, at the end, will combine the smaller groups into larger groups. And there’s a space in there where you can write a really brief idea of what you want to do, and I’ll try and combine groups that have kind of similar-ish ideas as well.

（31）中文

右边那张截图就是当我确定所有队伍后会显示的界面，这会发生在下周结束之后。

Canvas 上有个“Team Signup”作业形式的占位，截止到下周末。然后我会在第 3 周初（周一）最终定下所有队伍，到时就不再更改。

如果你对组队有强烈诉求，或者想跟某些人组一队，就得在那之前搞定。

（31）English

And the screenshot on the right here is what you’ll see after I’ve confirmed all the groups, which will be after the end of next week. So there’s a team signup assignment on Canvas, which is due at the end of next week, and then early Week 3—like Monday of Week 3—I will finalize all the groups. And once I’ve done—once I have finalized all the groups, there will be no changes at that point. So if you want—if you want a say in your group, if you want specific people, please do use this tool online to sign up and send me an email if there are any issues.

（32）中文

然后是抄袭和学术诚信问题。只要大家别弄虚作假就好，我相信你们不会在这里复制代码骗分什么的。

另外，有人说 ChatGPT 等 AI 工具可不可以用？答案是：如果你能让 AI 帮你把整个作业都做好，那好啊，你可能也得担心拿不到好成绩，因为 AI 写的东西并没有想象得那么好。

尤其是用 AI 来写报告，往往会写得很糟，我看过很多例子，分数会很低。

（32）English

Okay, next thing: plagiarism. Just don’t do it. You’re not going to plagiarize, right? No one’s going to copy, right? Okay, we’re good.

And then, in terms of “GMei,” it’s bad, you’re not allowed to use it. No, I’m kidding. Like, if you can figure out—if you can figure out how to make AI do your entire assignment for you, then go for it, like, more power to you. I suggest—I suggest that you, uh, you get a shit grade for your assignment if you make your— if you make AI do your assignment for you, especially the video part. I don’t want to hear any AI-generated voices—that’s, like, instant zero.

（33）中文

关于测验，由于它是开卷的，你大概率会用到类似 GitHub Copilot 之类的 AI 工具，这在情理之中，所以不必隐瞒。

你做完会有个地方可以写你用了哪些 AI 帮助，这也合乎我们对于这门课的预期。

项目里也是一样，你可以用 AI 帮忙写代码，但是记得和队友沟通好，别让 AI 写出来的东西和别人的代码严重冲突，自己又无法修改。

最后在个人报告和测验里，你都可以说明自己是怎么用 AI 工具的。

（33）English

For the test, it might be—I think it’s pretty much expected that, for a take-home open-book test, you’re going to use, like, something like Copilot to help you finish packages. It’s, like, dis-expected, so don’t hide it—just use it, embrace it, and tell me how you use it. There’ll be a section where you can write about how you used it. That will all be built into the quiz criteria—it’s the expectation that you could use AI to help you code. Same with the project. Oh, yeah, I should say this is only for writing code—don’t—don’t get AI to write a report for you. Again, if you try, I will know, and you’ll get a bad mark, not because you used AI, but because AI writes shit reports. Like, trust me, I’ve marked many—AI sucks at writing.

Even if English is not your second language—like, I’d rather you didn’t write your whole report in another language and then translate the whole thing, but even—that is better than just using AI from the start, right?

For this group project, I think it’s really important that you agree with your team about how your team is going to use AI, right? So I’ve seen it in the past where one person in a group project has gone and used AI to come up with some code, and then it turns out that code is completely incompatible with the rest of the team’s codebase, and then when asked to fix it, they have no idea how, because they didn’t write it themselves. Then that can create huge issues within a team project, right? So you need to be open and clear with your team about how the whole team is going to use AI. That’s very welcome to actually use it, and then there will be space in the test and in your final report to comment on how you used it, whether that is a good experience or a bad experience or whatever it might be.

（34）中文

好了，前面扔了那么多信息，如果现在大家有问题，可以随时提问。

（现场沉默）

哦，有同学问：“是不是不一定要在同一个实验班的同学才能组成一个项目小组？”

对的，你完全可以和其他时段，或者其他专业的同学组队，比如软件工程和计算机科学的可以组一队，没问题。

（34）English

Okay, so that’s a lot of the information I’ve just thrown at you, so now, if there are any questions that you have for me at this point, let me know.

(Stunned silence.) Oh, here we go, just—

“You don’t have to be the same scheduled lab to be in the same team, right?”

That’s correct. So you don’t have to be in the same scheduled lab to be in the same team. That’s correct. Also, if you’re a Software Engineer, and you want to work with your Compsci friend, it’s fine too. So you don’t—you don’t have to be in the same lab, you don’t have to be in the same degree—like, anyone in the school can have anybody within your— (inaudible).

（35）中文

“那实验课是否强制参加？”

不强制。只要你能搞定就行。但如果你发现对实验练习不熟，还是建议去实验课，助教可以手把手指导。

同时，如果你完全懂了，也可以来实验课和我们讨论项目想法。

“那实验课作业是否要提交？”

不用正式提交到某个地方，我这边能在 GitHub Classroom 看到你的练习记录，但不会像 325 那样正式评分。

（35）English

“I did mention this, but is attendance compulsory?” The lab’s not compulsory. I recommend going if either you’re struggling with the lab exercises, which means you probably need some assistance from the tutors, or if you have questions to ask us about your project as it’s going on, if you want any clarifications.

“For the lab exercises, are we submitting those somewhere, or are they just for our own—?”

Well, technically, I can see them because they’re on GitHub Classroom, but it’s not like a formal submission like there was for 325 last year.

（36）中文

好的，没有别的问题的话，当然你们也可以随时通过 Ed Discussion 或邮件问我。

我们现在会再继续一些内容，但先稍微休息两分钟，然后再讲。

在这之前，WDCC（Web Development & Consulting Club）有人想给大家打个广告。

（36）English

Any other questions? Obviously, any questions at any point, you can send me a message on Ed Discussion or post something on Ed Discussion, and we’ll be happy to answer.

So we do have more, but for now, we’re about to take a short break before getting into the next part of the lecture here, so before that, we have a message from our sponsors at WDCC, which is one of the student clubs here.

（37）中文（Nate 发言）

“大家好，我是 Nate，也是这门课的助教，同时我还参与了 WDCC。既然你们选了这门课，我想你们对 Web 开发感兴趣吧。

在这门课下半学期，你们会做一个项目，组成 6 人左右的小组，一起做一个 Web 应用，这个很酷，我建议大家尽早找组员，因为有组织有规划会让你们更有收获。

如果你想做更多、想交更多朋友、想给真实客户做网站，我们 WDCC 可以帮到你。我们会组织一些真正的客户项目，有的客户是校内俱乐部、有的是大学官方、有的来自校外企业，他们需要网站，就会来找我们，然后由你们来接下这个项目，用你们学到的技术来做真实的东西。

我自己去年也参加了，非常好玩，认识了不少人，也能把你在这里学到的所有东西实际用起来，同时还能给简历加分。比如去年给 UASC 做的项目，让他们通过网站报名赚到了一千多刀，可见影响还是很实际的。

如果感兴趣，欢迎下周一下午 6 点到 8 点来图书馆地下室参加我们的项目启动之夜，不用压力太大，来看看有没有感兴趣的项目，现场会介绍十几个项目。即使你经验不算多，我们也会有工作坊帮你进步。你可以关注我们的 Instagram、TikTok 或 Discord 获取信息。谢谢大家！”

（37）English (Nate speaking)

“Hey, hey, I’m Nate, a tutor in this course, and also part of WDCC. Since you’re in this course, I assume you’re into web dev, right? Yeah. In the second half of this course, you’ll do a project, as Andrew mentioned, where you get together in teams of six, and you sit down and, like, build a web application. Again, that’s really cool, and I recommend getting a group together, like, early on, because it’s amazingly good for making friends.

If you want to do that kind of thing and you’re interested in this concept of, like, making websites, you know, for fun and for, like, real-life clients, I recommend you come along to our Projects Launch Night for WDCC.

WDCC runs these projects where we grab, like, real-life clients—stuff like other clubs in the uni, or the university itself, or external clients—where they come to us and say, ‘Hey, we would like a website, please, for whatever reason. Here are requirements.’ And then you guys can sign up and work together in a team to help make this website for them. You basically apply the skills you’ve learned in this course, and as someone who has done it myself, like last year in the A project, I can really vouch—it’s extremely fun, you make a lot of friends, you learn all these skills, you put all these skills to practical use, and of course, this is great for your CV if that kind of stuff excites you.

You know, working in a team with others and making a great project together that makes real impact. For instance, UASC—that team, the portal that they made last year, helps UASC make, like, over a thousand dollars in signups. So if you want to make a real impact like that, you can come along to our Projects Launch Night. The information here is the ad, again, next Monday from 6 PM to 8 PM in the library basement. Come along and just, like, check it out—there’s no pressure to, like, sign up. Just come along, get information, you can see the 16 to 14 teams that we’re spinning up this year. It’s amazing.

And even if you don’t have— I mean, you’re doing this course, so I assume you have some experience as you go through, but even if you don’t have experience yet, I can re— we run workshops as well, where we, like— I recommend checking our Instagram for information, and our TikToks, Discord for information, and of course, the dev-post joint up here. That’s all.”

（38）中文

讲得非常好，谢谢 Nate。

那我们先休息个两分钟，然后我会让 Nate 发给我一个最新的报名信息链接，我会放到 Canvas 上供大家查看。

所以大家两分钟后回来。

（38）English

“Thanks! Thanks. So we’ll have a couple of minutes’ break, and then I’ll get back to it. I’ll get Nate to send me an up-to-date version with the pinned message actually included, and I’ll post it on Canvas. So we’ll get started again in, like, two minutes.”

（39）中文（台下有人说话）

“就是相当于是，比如说每个项目需要一个毕业展，然后你可以报名去学习，然后可能会有一些——哎。”

（39）English

“就是相当于是, 比如说每个项目需要一个毕业展，然后你可以报名去学习，然后可能会有一些—哎.”

(原文中这部分中文话音模糊，未作进一步英文解释，仅保留原文。)

（40）中文

好，我们刚刚做完课程简介了。现在我们要进入 React 的部分，这门课最主要的一个主题，很多人叫它 “React 课”。

Web 开发经历了很长的发展历程。你们知道这个图片是什么吗？有谁知道我屏幕上展示的是什么？

如果知道，举手一下。我会用一个小测验的方式来互动。

（40）English

So we just did a course introduction. Now we have to produce React, which is one of the main topics of this course—it’s one of the things people say: it’s the “React course.” So, yeah.

So web development has come a long way. Who knows—who knows what this is? Just—just out of interest, put your hand up if you know what I’m showing on this screen right now. Any thoughts? Any guesses as to what this is? I’m gonna test your knowledge a little bit more, by the way, by way of a little quiz, engage with the quiz—there will be prizes, because if you’re from 325, remember this. So I’m gonna—I’m gonna get started here. If you, if you missed the QR code, don’t worry, you can still go to menti.com and use the code, and that’s gonna be visible on all the slides here.

（41）中文

我展示的这个东西，其实是世界上第一个 Web 服务器。

这是历史上第一台计算机用来向其他计算机提供网页的服务器，由 Tim Berners-Lee 制作。

它建于某一年，你们知道是哪一年吗？

对了，是 1990 年，而不是 1989 或 1991。

这台机器的出现标志了互联网的开端。

（41）English

All right, so let’s—so that—this thing right here, this is the first web server ever made. So this is the first computer that ever served up a website to another computer. It was literally the beginning of the internet. So it was created by a very important, famous person, who is Tim Berners-Lee, and it was created in a year—and I wonder if you can tell me what year that was. When did that first—when did the first web server come online, three years ago, right? So the answer is 1990. I know, I feel like all three of these dates are older than most of you right now, but it’s not—it’s not that old that—this is older than me, and this is—this is newer than me, which means I was—I was alive when it was invented. Most of you probably weren’t.

（42）中文

之后网页也在不断发展。最开始只是静态 HTML，可能有些链接而已。后来出现了一些平台允许用户自己建主页，比如 GeoCities。

那个时代的网页看起来非常“猎奇”，五颜六色、各种闪动的 GIF。

然后，为了避免互联网到处充斥这种“花花绿绿但功能单一”的网页，就需要更多技术来让网页更美观、更交互，比如 CSS 出现、JavaScript 出现，以及后来在服务端的 PHP 等等。

（42）English

So, you know, things progressed. Things progressed a little bit. Originally websites were just, like, static content, just HTML, maybe some links to other sites, and eventually there was this concept of, like, a user-created website. And there were a few different platforms around those kind of early 1990s era that it’s kind of people started to make their own, you know, websites, and they kind of look like this kind of thing here.

So this is—this is kind of, like, the next step forward. This is, like, user-generated. Oh my God, look at these horrific pages. Does anyone know what this was called? These websites, like, a particular company would host these websites for you—do we know what that was called? That is my next question. Oh yeah—oh, here we go—someone said MySpace. I think some of you were alive when MySpace was around, right, and probably some MySpace sites looked like that, but these examples were from GeoCities, which was, like, an earlier version. So you could go online and sign up for your own little space, and you could just shove whatever random HTML you wanted on here. Those horrific things here were the result of that.

And then, you know, it started to become apparent that, you know, in order to prevent— in order to prevent this kind of thing from becoming the norm on the internet, there needed to be a little bit more than just, like, HTML, right? So there are these other technologies—there’s CSS, which is, as you hopefully know, CSS is, like, a styling language, essentially, where you describe the presentation of a website, as opposed to HTML just describing the content. And then there’s JavaScript, which allows actually some interactivity, so you can do real interactive sites that respond to user input. Later on there was PHP, which was the first kind of server-side scripting as well.

（43）中文

继续往后，移动互联网成为主流，尤其是 2007 年第一代 iPhone 的发布，加上 2008/2009 年 AWS 等云平台兴起，大大改变了 Web 开发的生态，让更多人能在云端部署后端，随时为智能手机提供服务。

于是，不知不觉，移动端浏览网页已经超过桌面端了，你们知道是哪一年吗？

就是 2016 年。自那以后，大多数人上网都是用手机。

（43）English

Now, the next kind of major milestone was this thing here—I’m sure you all know this lovely person here and what he’s holding up. So this was the first iPhone—this was unveiled in 2007. I’m sure most of you were actually alive with when this happened. Please tell me some of you are not younger than this; otherwise I’m gonna cry. So 2007 was when the first iPhone was created, and similar kind of time, AWS was the first big cloud platform, around 2008, 2009, which really allowed people to build their backend infrastructure as well without, you know, needing to own your own specific hardware or rent something out in a data center. So that was another big paradigm shift. And these days, I don’t know about the majority of backend being on the cloud, but if it’s not, it’s quite a big percentage. And definitely the majority—like, smartphones are now by far the most used way of accessing the web by a significant margin. Do we know when smartphones overtook desktops as the primary way of accessing the web? That was 2016.

（44）中文

再然后，就是各种前端框架层出不穷，比如 Angular、React、Vue、Svelte……

它们的出现，使得我们无需从零写各种数据绑定、状态管理逻辑，能专注于业务本身，而且社区庞大，资源丰富。

React 诞生于 2013 年，目前仍然是行业中最常用的前端框架之一。

在这门课里，我们会重点用 React，也会学到一些 Node.js、Express、MongoDB（即所谓的 “MERN” 栈）。

（44）English

And then of course, the, I guess, the most recent—well, now, the more way of developing websites is these big frameworks—React, Angular, Vue, Svelte, etc. So you can definitely still build websites with, you know, just HTML, CSS, and JavaScript, and actually a lot of people do that still. But there are these frameworks that have come about because, you know, people have realized that there are a lot of things that you wanna do for all kinds of medium- to large-scale websites, and these frameworks help you, you know, develop sites without having to worry about a lot of the boilerplate or repeated tasks.

Things like state management—how do you deal with all the data that’s being displayed? How do you modify that data in response to user interaction and make sure that your user interface remains up to date with the actual data sources? How do you access external data, like data hosted on other servers, without having to consistently refresh your browser page? How do you do all these kinds of things? And these different frameworks sort of qualify that. Each one of these works in— I mean, there’s a different syntax, but they all work in very similar ways, and you’ll find if you’ve— if you’ve done one of these before, or any big web framework, but you haven’t done React yet, you’ll find that the knowledge that you have from your other framework is going to transfer quite nicely. A lot of the concepts, like state management, component-based architecture, those kinds of things, that’s gonna apply to all of these.

（45）中文

简单说一下 React：它虽然很早诞生（2012/2013 年）但仍然在行业中最流行，因为生态巨大，社区庞大，各种 NPM 包能满足你可能想到的各种需求，搜索量和问答都非常多，也比较有利于初学者快速上手。

还有个衍生框架 Next.js 也非常火，但本课中会以基础的 React 为主，当然你学完之后再去学 Next.js 也不难。

（45）English

So React is quite old now, as we just saw—so 2012, 2013—so it’s like 13 years since the first public release, but it’s still by far the most popular in terms of, like, the number of people who use it in industry. So either React or something like Next.js that’s based on React overall is the most popular, and the skills you learn here are going to be transferable to any of the others anyway. There’s a huge community behind React, so there are so many libraries for React that, like, if I just need, like, a random UI element that does something, I can almost guarantee I’ll find something within npm that I could use to develop the support. It’s also pretty common and pretty easy to get your questions answered on Stack Overflow. And yeah, a vast open-source ecosystem.

（46）中文

这节课剩下的时间里，我想给大家演示一个 React 小例子，看如何快速搭建一个应用并做一些简单操作。

我会先用纯 React，再结合 Vite 这个工具链，让你看看上手多么简单。

（接下来是代码演示的描述）

（46）English

So for the remainder of this lecture, I’m going to just do a real quick app, just to show you how you can get something up and running, and, you know, something that’s non-trivial. So I’m going to be using the technologies—I’m just going to be using vanilla React and the toolchain that we introduced in the course.

(以下为演示过程的描述，此处省略实际代码详细重复，只翻译讲述内容。)

（47）中文

（代码演示，省略了大部分细节，这里只描述主线）

我先装好 Node.js、VS Code，然后在终端里用 npm create vite@latest 之类的命令创建一个 React 项目，比如叫 “live-demo”，选择 React + JavaScript 或 TypeScript，都可以。

然后进入项目文件夹，npm install 装依赖，npm run dev 就能启动一个本地服务器，自动给你做好了基本的 React 代码结构，有个 App.jsx，里头有一些示例。

我把示例都删了，只留一个最简单的页面，确保一切正常启动。

（47）English

(The speaker proceeds to show a quick React app demo. Much of the code detail is skipped here; we only translate the speaker’s commentary.)

I’m going to create a new React app using Vite, for instance by running npm create vite@latest in the terminal, name the project “live-demo,” choose React + JavaScript or TypeScript, etc. Then I go into that folder, install dependencies, run npm run dev to start a local development server, which sets up a basic React code structure—there’s an App.jsx with some sample content. I remove the sample, keep it minimal, and verify it’s running properly.

（48）中文

然后我演示如何建一个新的组件，比如叫 Greeting.jsx，里面写一个简单的函数组件，用 export default 导出。

在 App.jsx 里导入并使用 <Greeting /> 这个组件，就能在页面上看到一行输出，比如 “你好，世界”。

这就是最基本的组件用法。

（48）English

Then I show how to create a new component, say Greeting.jsx, define a simple functional component, export default. In App.jsx, import and use <Greeting />, and we see a line in the browser, maybe “Hello, world.” That’s the basic usage of components.

（49）中文

接着，我们可以给这个 Greeting 组件加一个属性，比如 <Greeting greeting={someData} />，在组件内用解构把 props 取出来显示，就能传不同数据给组件。

然后稍微演示一下如何用 CSS modules 给组件做局部样式，比如 .flag { width: 200px } 之类，把旗帜图片限制一下大小。

（49）English

Then we can give this Greeting component a prop, like <Greeting greeting={someData} />, destructure the props inside to display it, so we can pass different data to the same component. Then I do a quick demo of using CSS modules for scoped styling, like .flag { width: 200px }, to size a flag image, etc.

（50）中文

之后，我演示用 Fetch 调用一个后端 API 拿到问候语，并把结果更新到组件的状态里。

一开始如果直接用变量，会发现 UI 不会刷新，因为在 React 中要用 useState 这个 Hook 来管理状态，比如 const [greeting, setGreeting] = useState(null)，然后调用 setGreeting 才能触发 UI 更新。

要注意不要在函数组件每次渲染时都立刻调用 Fetch，否则会造成死循环，一般要用 useEffect，并在依赖数组写空数组来让它只在第一次渲染后执行一次。

（50）English

Next, I show how to fetch from a backend API to get a greeting, and store the result in component state. If we just use a normal variable, the UI won’t refresh, because in React we must use useState for state management, for example const [greeting, setGreeting] = useState(null), then call setGreeting to trigger a UI update. Also, we don’t want to call fetch every time the function renders or we get an infinite loop, so we use useEffect with an empty dependency array so it runs only on the first render.

（51）中文

最后做一点简单的样式，把按钮、文本居中一下，用 CSS 或者类似 Material UI（MUI）这样的库都可以。

代码我会放在示例仓库里给你们参考，也会在 Canvas 的 Module 1 里有更详细的分步骤教学。

这就是 React 上手的一个快速示例，希望能让你们感受一下用它做简单页面是多么方便。

（51）English

Finally, I apply some styling, center the button and text, either with plain CSS or a UI library like Material UI. I’ll put the code in the sample repo for your reference, and there’s more step-by-step guidance in Module 1 on Canvas. That’s a quick introduction to React, so hopefully you see how easy it is to get a simple page up and running.

（52）中文

好了，差不多就演示到这。

如果你觉得眼花缭乱或者跟不上，别慌，可以去 Canvas Module 1 慢慢看那些小视频和文档，一步步练习。

也欢迎在实验课来问问题。

好的，那今天的课程就到这里。见到这么多人真的很开心。如果你有需要，课后可以到讲台前来找我或助教讨论。

下周四上课时，有两件事要做：

首先，会有去年的一支超强队伍来分享他们是怎么做出一个好项目的。

然后，如果你还没找到队伍或想物色队友，我会组织一些活动来帮助你匹配到合适的小伙伴。

（52）English

I think we’ll finish up the demo there. So all the content from this quick demo—this intro to React, just to show you how quick it is to get something up and running—I break this stuff down into smaller pieces in Module 1 on Canvas, so if you’re, like, super confused about it, go through the Module 1 material, or the small videos for each individual section. And other than that, I will finish up the lecture here. Great to see so many people as well—I will meet you just—before we go, let’s stop the stream. Come and comment if you need a hand or anything. Please do come along.

And in next Thursday’s session, we have two things. Firstly, we’re gonna have a guest lecture from one of last year’s teams, taking a good day experience, project—because of really valuable advice. And then, secondly, for those of you who might not have a team or are forming it, I’ll be running a bit of an exercise to help you find some team members, find some projects. So there will be two things for next week.