Please stand by for realtime captions. All right. We will get the session underway. Thank you. >> Okay. Good morning and welcome to this session. Can everyone hear me all right? So I'm Paul Sherlock, and this morning, I will be co-presenting this leveraging the curriculum catalog University wide strategy with my colleague, Richard Lamm. This morning, Richard and I will describe to you the outcomes of what we think has been a successful journey in first establishing a university wide curriculum catalog, and secondly, leveraging that catalog to increase academic efficiency and to important for us, close the gap between what's approved and what's taught. And in addition to the slides this morning, we have a video demonstration and with any luck, a live demonstration as well. Let's get started. In case you missed it on that first slide, Richard has created a website with some supplements for today's presentation and what we have to say is of interest of you, -- please have a look at the website. If you've got any questions, feel free to get in touch with us and our e-mail addresses on websites. Probably useful for us to start with a bit of organization or context about UniSA. UniSA's the largest university in the state we come from, in the South Australia. We have over 36,000 students, over 2400 staff, working -- and the regional -- region of South a study. We've got an annual revenue approaching half $1 billion, and we're one of the leading providers of international education in Australia. Importantly though in terms of this presentation, we teach 650 programs supported by 2500 courses. Across a wide variety of disciplines. We started this journey of the curriculum catalog in late 2008, it's fair to say the product -- project didn't get underway until the middle of 2009. And like most strategic interventions, the journey has not always been as smooth as we would have liked, there've been changes in direction, if you dead ends along the way, we've had to -- the usual resistance to change, and you'll sort of see why when we talk about some of the things we've achieved. And we've had to do the odd bit of cat herding as well, probably not too successfully. When we started off on this journey, there was essentially three key challenges that led us to develop and integrate our university wide curriculum catalog and I just want to spend a couple minutes on those challenges. The first challenge was that we had a manual replace and error prone approval process. It was pretty much a paper-based project does process. Which involved a number of people both academic and professional staff getting involved in the process to ensure the validation or amendment of the existing program course. Individual academic found the process itself difficult to navigate their way through because they didn't interact with the process very often, they were always doing updates to programs and courses. And there's legendary stories of programs approval committee members arriving for the tour, the approval -- the prime approval process with 1000 pages of amendments under their arm. To give you some indication of the areas that were possible, we at one point had a degree program successfully withdrawn, which was part of four other degrees. Probably doesn't happen on that basis I would hope, and we had different offerings of certain eating timetabled without it having been approved. This manual process and those electronic source of the process led to inconsistent information about the curriculum being provided to staff and to current and prospective students. And the inconsistent information combined with what was largely a disjointed process, mentioned that we unfortunately couldn't guarantee that what had been approved from a curriculum perspective was the same as what was being taught. I don't know about here in the US, but in Australia, in an environment characterized by an increasing focus on quality assurance and the overall student experience, this was something that was concerning us. So these three challenges together provided with -- provided us clear goals to aim for.

The first goal was to enhance the management of the cricket them by effectively systematizing the whole process and it's often the case when we say that that it was much easier to get this done. There was a lack of clarity around business roles, and that provided many opportunities for confusion. By way of an example, most people could recognize in the approval process what was a minor amendment to our course or program on the one hand and what was a major amendment to the program and what was difficult was when a series of minor amendments all operating together actually came -- took place to the major amendment to the course and then we went through a prior approval process. In terms of assessment items for example, we would have liked to have reduced the number of bearings to a relatively small number, examinations, assessment portfolios and the like for the best we can do in implementing a system was reduced the choices in that area down to about 25, and it still sort of working on that. Once again we've only got a manual consistency in terms of the way, it doesn't come at intervals. The second goal was that we wanted to be in position not just to manage the system administratively but to provide information and support for pedagogical design and review of our programs and courses. And with all of our curriculum information being on paper, we just weren't in a position to be able to do that. Thirdly, we wanted to encourage academics to participate in the approval process by reducing their workload in preparation time to do that. We wanted to streamline the process how they were involved professional support staff, and approval community members. We couldn't see any reason for example why those approval committee members couldn't take those thousand pages of amendments and do their approval work online. And Richards going to talk about this in more depth, we also want to make it easier for academics for the students. Fourthly, we were thinking to increase the overall accuracy of the information, we were presenting about the curriculum , as it related to prospective students both locally and internationally, and we wanted to achieve the greatest speed to market which is obviously important in the increasingly competitive environment we're facing within Australia and internationally.

So all of these goals led us quickly to realization that need to treat curriculum data with the same importance that both student data and learning content. And to get the message across to the wider university, we refer to these three areas as who we teach being the students and the student data and the student administration system, how we teach, referring to the learning content and the learning management system, and the third phase, what we teach, meaning the curriculum data and the curriculum catalog. And recognizing the importance of the data lead us in the direction of developing a single core -- a single source, which is what we've done. And the final goal, perhaps the most important goal for us was that we needed to conceive of this curriculum catalog, is curriculum management system as part of the strategic and tightly integrated framework. And we've used that as being critical to being able to leverage the data as wanting having the data, we want to be able to leverage the data right across the university and to downstream processes. >> So like most universities, one of our guiding IT consorts is that we like to buy before we build -- concepts. Into thousand nine, it was at a conference, we were beginning to see what we needed to do, we started to talk to talk with the vendors in the education industry about what we were trying to achieve and unfortunately at that stage we were unable to find anyone who had this real requirement on that radar so in the absence of having the purchase option, we ended up doing in-house development. And in the next part of the presentation, I'm now going to give you more of a sense of how it works, how the program course management system works, and how it integrates to downstream process. In this part of the presentation you won't necessarily be able to read all the screens, in detail, but hopefully you'll get the same sense that some of these screens will give you the idea of what this system is actually capable of. So I'm going to start as they say on the left-hand side with program course management system, and I'll arrange in the overall framework where for it to be the single source of curriculum management data that I mentioned earlier, to provide for the first time University wide visibility for everyone, for all curriculum data and along with our other systems, that means that an academic at our institution can see all data about every student, all data about the content, and all data about now programs and courses. We wanted to drive the process and the academic process and efficiency gains that we were seeking, and we wanted to integrate these downstream teaching learning and marketing courses. And finally, we wanted it -- to provide external compliance orders. And we wanted to provide specific qualities that this process could be verified.

So how does all this work? As you can see from this slide, program data is entered into the system manually and that's somewhat manual and efficiency support David. And this is following whatever the relevant approval process is being attempted. And once that data is approved, the record is locked. Importantly, as soon as the record is approved, the information is immediately available for presentation to prospective students, either via our website or by marketing publications. This approved data is also able to generate a course outlines, which I'll show you a few minutes. Student management, timetable and Romans, and it feeds the learning management. Some outlets look at the system itself. This is the homepage, in terms of managing what we would call activity in the system. There's a section which is called my activities, and that's about the activities and the data that have been generated by this picture user. The section underneath shows all activities and the approval status and organizational levels. This for example could be at a school level, you want to see calling them activities and faculty level, collection of schools or University wide and clearly, there's organizational hearts of University that need University wide -- on the right-hand side of the screen, the system design and user of key dates associated with the approval process, which that information is helpful to them in a timely fashion.

I don't have time to demonstrate this morning, but within the system guide the academics for the entire process. And those are tailored to the activities being performed. And they have provided for things like new programs of courses and improvements to existing courses. Importantly in the system, the information is provided in context, so over the -- only the academic needs to manage the particular amendment has to be updated. So for example, if an academic wanted to change a textbook for a good course, then they would access the course amendment was her to. They would make a change to textbook and no other information would be required. What you see here is part of the approved record for our bachelor of commerce program. The top of this record provides access to a whole range of data about course duration, course accreditation, whether the course is -- the program is offered online, the location where it's offered, and appropriate funding details about whether it's government-funded or student funded. The program schedule tab you see here -- in fact, on the right -- at my on the program schedule tab? -- Am I on the program schedule tab? I think some of these are out of -- no, that's right. >> The academic can search from these programs or courses or they can publish new courses that are yet to be approved. The aim and content and structure text that you see in the middle of screen flow directly through the perspective of students to view. So that's something you'll see as we go through the presentation, the information that's gathered -- that's gathered during the approval process is what flows immediately through two of the student actually sees and tabs on the screen display information related to the top of application to the program, the language for sample, available electives and all details about majors, sub majors.

This tab, which is the program marketing details, includes an language requirements, academic admission requirements, by country. And importantly whether the program is open to international or domestic students. Disciplines like here derives the selection of the marketing image on a webpage and therefore, all programs from the same discipline are marketed in a similar way and we'll show you that in a moment. The other information that is in here, under the Web -- appears on the webpage under the heading what does it take to study the program? What will I study and who will employ me? It has a real marketing purpose. Neck -- technically, the market is not part of the approval process and can be changed later, but it's gathered in front, so it provides now huge efficiencies between the data we've got in the system and the rework that was previously going on in a manual setting between the approval process and the central marketing theme. That's a massive efficiency towards the goal of significant cost savings where we would in the past produce the coast -- in the course brochures.

This screen relates to the amendment of a program, in this case it's just simply a new elective being added to an existing program. On the left you might be able to see that the menu that's being offered is short in the other screen, and that's because the user is only offered access to the information for this particular amendment. The consultation tab records details of both internal and external consultation that's being undertaken with the wide variety of bodies, could be accreditation boards or other. And this information is critical. Once they get to the approval process or approval committee, they can actually access that tab and see what communication and what has occurred before they decide whether or not to make the approval. It allows them to make an informed decision. >> [Indiscernible -- low audio] left-hand corner or the administrator in the school can set the approval process of they can say, this is ready to go to the next stage, the system would automatically detect where there's information missing as part of that point, the approval process for different types of amendments is hardcoded into the system, so it has to follow that route, so the course can be changed depending on policy and process changes. This particular screen as you might be able to see near the top has got approval signoff document nation to be added, so therefore this amendment has been approved in the organization. And that information will be available there.

It's probably worth me just wanting out the ribbon at the top of the screen, the ribbon includes a status button and the document icon. The status button takes you directly to the approval page, which in this case is this page. But the document icon takes you to an approval of the program record. So if we were using the system right now, and we would hit the document icon, we would get this, which is the webpage. So the academic is actually [Indiscernible -- poor audio] amendment in this case, a program amendment at any point can get a preview of how the information is around the names and objectives and instructions of the course will look when it hits the web for the student. The academic can therefore sort of check that and by providing this immediate preview, it reinforces for the academic the link between the course approval and information that they are actually providing, what will actually look like to professionals -- to students. If we leave programs now and move on to courses, the screen gives you an idea of some of the broad details. The system completely integrates programs and courses and allows us to provide and manage all of the information associated with those 150 programs in 2500 courses.

The details on this screen shows things like which school owns the course, whether it's an elective, how it's graded, field of education, so I'm. Those [Indiscernible -- poor audio]

objectives for each course are linked individually to each of the seven UniSA qualities. So in this -- the example, the second objective, demonstrate Australian health issues, you can see here that as far as the academic is concerned, is contributing to six of the seven qualities. That's another part of this business process reengineering we had to do, because we discovered in the introduction of the system that some courses had as many as 50 objectives, which was ridiculous in a course of 13 weeks. When we get some academics were making seven -- they could have [Indiscernible -- poor audio] but the interesting -- interesting part of this is we now -- within the system, linking those course objectives to the qualities. And if you fall that thought for a minute, when you get to this piece, this piece shows what are the assessment details of the course, and you can see in this particular case, it's a combination of continuous assessment with group assignment, individual assignment, and finally a 1500 word portfolio. But note also on the right-hand side the types are linked in the most common objectives of the course as well. So therefore, the combination of this data and this data means that effectively within the system, we have linked to the objectives to graduate qualities and we've linked the graduate qualities to the assessment. Therefore, I'm sure those of you in the audience who are interested in compliance pieces [Indiscernible -- low audio] -- you've got a snapshot of the program and information. The program is available to international students, and you'll get -- in terms of that you will get things like English language, literacy, that's required. And then we can drill down quite easily in that particular program to all of the course structure and elected structure [No audio content] -- see where that course is also in any other program, any of our 650 programs that we offer. So that information is available on the web. >> So I'm now going to hand over to Richard, and Richard is going to talk a little bit more about how we leverage -- now that we've got that single course repository data about curriculum and detail, how we use that in the downstream processes.

Okay. Thank you. I am normally allowed to wander around in my presentations but I will be constrained here. I will wave my arms a lot to indicate where you should looking. I will reiterate what all has said. He's gone through the course management system. That has -- that is all information about courses and units in it. If we just focus on the course side, the downstream systems, all of the course information is now being put into PC units on the left-hand, and has been approved. That information will flow through to the course outline. I'm not sure what you might call it what we used to call of the course information booklet but what it is in Australia, it's a legislative document -- we give two and roll student that says, this is what we'll be doing, here's the teaching and learning arrangements, is your assessment, the course calendar, the prerequisites of course, everything like that. They keeping with them. Is very important because if anything never just from what it says in that statement, then they have a right to appeal and say hang on a minute, you changed the assessment. It clearly says here it was going to be 1500 word essay, and you changed it to a 3000 word essay at the due date. So it's a very important document. What we're finding previously with the old course information booklet, as was a Word template. It was every year by a teaching unit and the academics were going to good just between you and me, they were just going in last year, changing a few things and send that out, they wouldn't even up the template often and they could change at any time. So the courses been approved , it's a 40% waiting for specific assignment, then they changed to 60% in the word document which is not what was originally approved and potentially not what was originally sold to the student. So what the events we've got now is everything up is approved in the course management system, and then the academic has no choice but to utilize what they have actually got approved in the course outline system. I'll go through the other downstream systems as well after that. The course outline had some distinct functions to achieve. It uses approved data. Like we just mentioned, it's using that program of course management system that was approved. They cannot deviate. They've got very little choice of where they can put free text in. There's a few spots where they can put free text in the assessment descriptions and so forth that most of the information is coming from various corporate systems, mostly corporate and management systems. Is very streamlined. I will show you what it looks like. Very easy. All that populate most of the information, they can go through, they just follow a wizard, basically, check some flags and go through on a very sequential process, very easy to do, once I've done it once, the very first time on that course offering, they can copy and reuse it. So that information is reuse, not only is all the information being reused in that course management system, it's being reused within the course outline. So again just to reiterate, done it once, next study period or even within that same study period or semester, you can copy so I look through the city West, I can also do it for the external city West, copy, one click, done. It doesn't take a long time to prepare this course outlines anymore. Very simple. And the moment they're done any to a process has been taken, they can publish course outline, and it will immediately appear in our management system. The output is read-only. So the problem of course with a Word document, there was a previous intent to doing system and the output was a Word document. In a three hole system to generate a Word document, which they could then go and edit. Now, that was a bit of a problem because again they can deviate will from what was proves our output here, our number-one method is a webpage. Second, is a PDF. Again, sure, they could probably edit the PDF, but it's a lot harder for them to. The students have a link in the learning management system directly to the webpage, which would show that discrepancy. The other part about this system is we know who's done a course outline. We can easily generate a report and say, you know, we can see every course and whether it's a course outline. If they haven't, we can knock on the door, and so what are you doing? You are using that old document.

The integration. We have integrated downstream with our learning management system tools to describe in more detail in a moment, but when you go to create some assessment in our learning management system, you cannot create a summary assessment just on the fly. Oh, I think I like this another 5% weighted assessment. You must stick to what was approved in the course management system and there's more information at in the course outline such as due dates. You add those details. Once they are approved, that's it. You can't deviate the learning management system unless you go right back up to course manage the system, you get an amendment which then flows downstream so you can just suddenly decide to change the due date. Can do an extension but you can't change the waiting assessments. -- The waiting of assessments. -- weighting .

We are bringing an HR data specifically around the academics. The administrative staff who are associated with the course and I will show you what screen looks like. Essentially, it's the context information. The school data, who in the school can you contact or where the office is, who do you actually contact? That information is pulled through, generating the course outline and we also bring input from the student management system, bring timetable information and so forth coming from that. The output is as I mentioned to the learning management system as well as the PDF, and where -- as well as printing, we've got a one click process where if they want to print 600 copies of the document to hand out in lectures which is still our policy at UniSA, we still have to -- unless you are fully online we have to still hand out a printed course outline by the end of the week, we have a one click process which says how many copies do I want? And that's it, off to document services and it will be printed and delivered.

So I've actually got a video here in a want to go to the whole thing but why one show, hopefully you will appreciate the power of what we've done here. How easy it is to actually generate and then what actually is produced automatically. So I will just flip to the video, and I'll just get that to full screen. So this is the screen. And hopefully you can appreciate from a conceptual -- a contextual point of view, all of the course offerings that are available to them. And on the right, I'll click the action button, which will start the process up. Some of click that button, with a choice to create a brand-new one, or to actually copy appraisals. In the video I talked about earlier, we create a new one. Pulling all of that, HR data, time setting information and then -- it says the yeah, you've created it. You need to have a learning management system course here. And we say yeah, that's fine. We've got one. Say next. And what this shows, it's a -- it changes a red flag into a green tick. We don't have a welcome, we don't have court teaching staff. The prerequisites, co-requisites, course content, teaching learning arrangements, textbooks, all of these online, the assessments without the due date, the descriptions, all are completed. Academic integrity, submission of return assistance, it's all done. Is generated live and done. So here's one spot where would you enter text. You enter it once, copy it next time. We use the editor. It prevents words being -- we won't get any corruption by words coming in. It's a very clean input. Again, one-stop, you've done it once, it is save. Course teaching staff, very simple process. They basically got a list of all the people that can change the role because sometimes what we have in our student management system doesn't exactly correlate to what they want to tell the students , and they want to be known as the -- known as lecturer for example. There's a few other sections. Openly that gives you an idea, very simple. If you don't know how to use a course outline once, it will take about 10 minutes to the first time. Second time, even faster. So I will flip back to the slideshow.

So as I showed you, here's probably a clip -- a bit clearer version. It's like it's checked out, something like SharePoint are in a content management system, in the top right, you've got a preview. You've got media preview, generate a webpage and show you what's in there. They can see like Paul demonstrated the course management system, at any point you can actually preview and see what that information looks like. It's a matter of making it all green text. Once they're all green ticks, you can publish it.

This is the assessments screen. I will hop for one second away from the microphone -- [Indiscernible -- low audio]

So this is the bits of information we need to enter. Now, they can change that date at any point in the course outline, but to make it visible to the student, the need to republish it. To republish it, we'll notify the student that these course outline has been modified. The can suddenly change anything like the due date. They cannot change the waiting, that would go to the start of the system without going through the proper amendment process. So I'll just hop live as well -- I'm just going to bring up the real webpage, it will load. So -- this is actually real course outline, live at the moment. So this is the web version of it. Very simple document. Welcome message as I mentioned, course teaching staff, school contact details, they got a myriad of choices of what to put in their, school website, postal address, all of that information is now coming from the course management systems, so everything is coming from our program of course management. You can see here the assessments now has been completed, is waiting, due on 24 August, submission is online, this is what assessment number one is, so forth. Hopefully you can appreciate how easy that was and how the bad -- the Bible data we have, not only the relationships and course objectives and assessments but we can tell whether they are using this and we know what has been approved is hopefully what will be taught.

So I will quickly go through, the other thing is it will automatically -- automatically gender -- generate a calendar, populate the due dates for assessments and allows you to add additional columns columns and notes. Essentially can get a print friendly one as well.

All right. I'll just show you what the learning management system integration looks like. As I mentioned, it auto populates. When you are creating a standard assessment in the learning management system, it automatically populates the necessary information. So here's the screen that demonstrates what that step is like. He wanted some assessment, here's the four choices that have been approved and had some additional information in the course outline. Purchase patient, SA, 10, 20, 30, 40. This activity are doing in the learning management system, which went as a correlate to? They say none of them. Well, you shouldn't be doing it as an assessment. So they have to go back and get an amendment. Hopefully that makes sense. They choose that and then that's all recorded in the system and of course, it all tallies up properly, the waiting is cackling with the learning management system and it's a very simple process, and will flow through to our result entry application, and also have the option of going through Excel, those us who like to work off-line, they can completely stay within our learning management system if they so desire. Now, I've got a screen quickly about gradebook.

This shows you the marks return for a student. Generate originality reports. And one shot, the academic can see, the originality, they can enter marks and see the final grade. From here, we have a system called result entry were is where the final moderation is done. The results from our learning management system, it does final moderation, and the grades for our student management system. So input from either Excel or from our learning management system and go through our student management system. So this is what result entry looks like, just zoomed in a little bit, you can see each of those assignment, the SA, 15%. Exam 45%, that has come through program and course management system all the way back downstream, those are the assessments that have gone through, all the marks have been entered into the learning management system, which have come through the result entry. They can't actually do a great -- they can do a great over right here if they so choose. Assuming they don't, the final marks and grades is saved into our student management system.

Final output of our student management system is obviously not just student records but -- the student wants to see their final grade. So here's a screenshot of our student portal. You'll notice there that they've got say for example the current course. Hopefully you can read that okay. Study period two, post component engineering. You'll see that little icon, relative standing and their results. High distinction and relative standing. Now, what this does, we've built this system so the student can say what grade they got compared to others. If they click on that for example, they will get a chart, the going to credit, okay, I'm in the middle -- not too bad. Benchmarked against others. So hopefully, we've depicted the whole lifecycle all the way through from the program of course management system, manual data entry, output, course outline, more information, learning management system, et cetera.

So that's our end to end process. So the goal of our personal learning environment, starting with all of these projects, we wanted one version. We believe we've got it. Was approved is what's taught. They can't deviate now. And if they do, we'll be able to generate reports and find out how and why they did it. I don't know what action we will actually do if we find out. We will be able to tell.

Reduce workload, hopefully paper and manual word documents for course outlines of all those types of things, it's all stored electronically and hopefully reduce the workload for academics. And all is it -- it integrates, joins together. And we've made sure that it does integrate and there's no deviation from that. That is all. We would love questions. Now again, that's the URL if you didn't catch it earlier if you want to go to our site , and we've got an abstract and all the information about these systems in samples and so forth. So we're welcoming any questions, up would like again to both thank you for your attendance today, and please fill out the evaluation as well. We'd appreciate any comments or feedback. So thank you.

[Applause]

[Indiscernible -- low audio]

It's a web application with a database at the backend. So essentially, there's a few components to it. There's the screens that Paul was focusing on very much about the administrative and the approval process, getting the information in there but we also have a system to generate the output for the public, for prospective students, which from those simple pages that Paul demonstrated as well. Sweden put an output screen does well. Does that --

Speak the --

[Indiscernible -- low audio]

We use an Oracle database at the backend.

[Indiscernible -- low audio]

About 18 months. That's not necessarily all coding, that's design and requirements and so forth. That's an important part of it. We need to make sure this and meets requirements and academic needs and so forth. >>

[Indiscernible -- low audio]

And sort of in a sense, that's what this system is facilitating. Depending on what the amendment is, obviously traverses the past the organization depending on how small or large it is, some things -- the academic can still approved, some things have to go to school board, some have to go to the faculty board and some note to the University wide committee and all this information, it all stays in exactly -- exactly -- and it can be operated by all those committees. Depending on what the amendment is.

And it's all tract of course.

-- tracked.

One here and then one of the back.

[Indiscernible -- low audio]

The old course outlines were just word documents. All that information is being put back into the new course outline. Not just the course outline.

And that the back?

[Indiscernible -- low audio]

And that was one of the difficulties with academic engagement with the process initially. They didn't actually know -- they didn't necessarily know what the approval process was for a particular amendment that they were attempting to do and now they don't need to know that, the system takes care of that for them.

[Indiscernible -- low audio]

And as we said before, they only have to enter the information -- change the information that they want to change as far as the amendment so the record is always there. So prior to the system going in place, it's almost like at your place, but in fact to reconstruct what has been approved as either a course or program, you would have had to go back to the original approval and then lay it on all of the manual paperwork around -- so it wouldn't actually really tell what was approved. Where is now, anybody can get in the system and what's being approved in the creek elements that make sense.

I see application in the United States for this in terms of not only curriculum but also putting that together there's also new legislation and rulemaking that requires a lack of -- against a type of misrepresentation and full disclosure and requirements, so there's a certain recent rulemaking with the Department of Education that this would have a direct impact, so congratulations. This was an outstanding work -- it lets you know that these reporting requirements are definitely opportunity structured and important thing for making sure that our students know exactly what is involved in the program.

We certainly got a -- thank you for that comment. We certainly got a new compliance rating coming in Australia, and this system is going to mean that we will be able to show in a pedagogical sense as I was talking about before, however thing links together and justifies what we're saying about that Tigger program.

-- About that particular program.

[Indiscernible -- low audio]

Well, we actually have a course evaluation instrument and the teaching process that happens --

[Indiscernible -- low audio] >> It's probably a bit premature yet. This has only been just implemented in the last six months so we're probably not going to sit outcomes of this for a while longer. We haven't actually done a course evaluation or student evaluation of teaching yet on any of these, so it's too,. Hopefully maybe we can get some papers out, could sort of justify --

It's a really good question. It's something that we're looking at in terms of now being able to look at in a sense what the course and or program are attempting to achieve in terms of skill sets and sort of gradual qualities. But now our per -- our pedagogical sense being able to actually go back through that process and say in fact, you know, in terms of the course design you said those activities and what you were covering, we're developing those skills, but are they really -- this is of course also going to be very useful for our continuous cycle of accreditation for professional qualifications, if that makes sense.

[Indiscernible -- low audio] >>

Well, interestingly, we had an enormous sort of -- I might call it data conversion challenge because there was no data to convert, the data all had to be reentered.

It was a data entry challenge. And in that process, we cleaned up entire curriculum across the entire university and we did that over a period of eight or nine months. To do it, we had to get some champions in the various faculties and the champions we got word that Dean's and our structure, the deans of teaching and learning each faculty. So they are not be Dean's running the faculty, they are the Dean's that are looking at the teaching and learning outcomes. They were really keen on getting this system implemented because it was going to make their lives a lot easier as well. So we had to leverage them -- they actually drove the gathering and cleanup of data. I don't want to say too much about it. We found some terrific things when we actually started looking at that in terms of what people thought had been approved, so all of that was cleaned up at the same time we couldn't just have people randomly making changes to the program and course structures and so on because at least that was the approved record that we had. So things could just be simply changed. But the Dean's teaching and learning from that process. We had individual academic champions, we engaged the professional staff and faculty around the work that they would do on the system, and you can see we've had to engage with the marketing full in each faculty as well because they have to provide that marketing component and record you know, which is focused on the student you know, and what will I learn, who will employ me and so on? That wasn't happening before either. So we had to do that all of over a period over about 12 months.

[Indiscernible -- low audio]

Well, back in 2008 we came to a course in Orlando and the looked at every vendor and it did exactly what wanted. We probably could commission them to do it but we were help Ransom anyway by them in the technology they've used. We've got the skills in-house to develop it, we've got a very strong software development team, so that's a logical choice for us. To be frank, when we were talking about vendors, I don't think they understood what we're trying to do. Depending on who you talk to, they would say that Cassidy in the student system, but it really isn't. All we get in the student system is generally an outline description of the course. If you talk to the learning management vendors, they would say, well, we do a little bit of managing what's happening in the course, and they do but it's mostly focused on the content. So nobody -- we couldn't find anybody who actually had on their radar the management of the curriculum./Why we were using this terminology was in our university, that's about what we teach. So in other words, it's sort of like running an engineering organization but you know, that's producing products but you don't actually have a way of managing what those products are and how they work together what the end customer is actually buying. And so we've positioned at three-legged -- a three-legged stool. That's the most relief people is the curriculum data is almost as important as learning content as is important as the student data, and that's why we put all three of them together. We feel a system which is a single source of truth for curriculum data. But we couldn't see that I was out there anywhere.

It may exist, but [Indiscernible -- low audio] [Indiscernible -- low audio]

Yeah. We're really excited about being able to do some of that sort of pedagogical wrapping work. And what's been really interesting in our university is who owns the system. And we initially started to think that it would be best owned by what we call our student and academic services, so they do the academic policy work, and they have a strong interest about the timetabling for some, so they were initially identified as the owners of the system. But we changed that to have the system owned by the center for excellence in teaching and learning. We actually want the system now , all of the reporting that's out of it to be used for curriculum mapping and developing an ongoing review and evaluation. We don't want it really to be used -- not use as much on the in -- administrative, but we knew if we located at in the other part of the University of be driven from that perspective, so you're exactly right, we think it enables people to be able to do the curriculum review.

There was probably a development team that had about nine developers, and there was a huge management team, and a team of data entry, so probably up to about 20, 25 people. And the course outline team was four or five people with that one learning management system team, about three or four, so I mean, that was the whole component, about 25 --

[Indiscernible -- low audio]

The only one was the result entry in student management system at the end, we didn't but the first -- I'm back -- so the first three were all down in 18 months time period so we converted from an in-house learning management system. We built the course outline, we ran backwards. We should've gone to the course meant the system, outline, we worked backwards. At elements first. Then course outline, then course mention a system. My team did outline, and another team did PCMS, no end of grief, I can tell you. We were working backwards. Had to make a lot of modifications, what it's working really well.

And on top of that, we built a third system which we didn't talk about today at the same time, which is to manage professional placement. Would that be the right terminology? In terms of say, teachers, administrators officials and so on to be able to go out and do their profession practicum, placement, on site, we build a system that managed that component as well --

And in the portfolio as well?

We've done a lot in 18 months. It's been a busy period.

But in the broad sense of what we've seen here, we've seen about 2 1/2 million dollars in the development of the program and course management system, course outline, et cetera.

But we know is have a view when we're doing these things that we want to reuse that data, we want to have one source of truth and we want to reuse it across every process, it's only in one place and store wants. -- stored once. Any final questions?

Thank you all, great questions. Thank you.

[Applause] >>

[event concluded]