# STUDENT RECORD SYSTEM CONSULTATION REPORT





University of
South Australia

# University of South Australia – STEM Group: 51198-10

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**About this document**

This document has been developed by the Dr. ITILwho (51198-10) to assist university of South Australia in upgrading their Student Record System which align with the concepts of ITSM and the ITIL Framework.

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**Who should use this document?**

This document should be used by:
- UniSA STEM members, staff, partner, and contractors.

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**Document owner**

The document owner is Dr. ITILwho (51198-10)

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**Related documents**

This document should be used in conjunction with:

| Document Name |
|---|
| ITIL 4 foundation courses |
| ITSM |

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**Summary of Changes**

| Version | Date | Author | Description of change |
|---|---|---|---|
| 0.1 | 18/10/2022 | ITILwho | Initial documentation creation |
| 1.0 | 25/10/2022 | ITILwho | Update to current state |
| 1.1 | 1/11/2022 | ITILwho | Working on Individual Sections |
| 2.0 | 9/11/2022 | ITILwho | Finalised all parts of the document and ready for submission. |

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**Reviewers**

This document was reviewed by:

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**Approvals**

The owner of this document is responsible for obtaining all approvals

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**Distribution**

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# Table of Contents

## Introduction

This report is a proposition to UniSA STEM of a service-based infrastructure that will support the upscale of their current Student Record System. The current system has been active with no changes to its source code for over 20 years, therefore, it is currently presenting with many issues. We are a team of 9 ITIL consultants striving to ensure that the system's services become more secure and robust.

## Purpose

The intent of this document is to deliver a suggestion of improvements to the STEM department of the University of South Australia. This will give the team a better perspective along with a variety of choices for their Student Record System (SRS) implementation. As a team we will propose to you, strategies that will help with proper deployment and regular maintenance of the Student Record System. The report will demonstrate a variety of practices, which have been applied under the guidance of ITIL methodologies.

STEM of University of South Australia has requested our team to deliver a systematic plan for proper deployment of the SRS. With their requirements kept in mind we have complied a resilient IT service solution that exceeds the demands placed by the university's models. All of this is delivered in a cost-effective manner and ensures that all the proposed solutions are future proof and scalable to facilitate the constantly changing environment at the University.

The report incorporates some elements of the current system while providing other options for improvement in effectiveness and efficiency. This is done to ensure that a stable integration of the new services. Having both old and new elements will allow the University to keep their system functioning during the implementation which will be a great benefit for many of their stakeholders.

## Executive Summary

The University of South Australia (UniSA) is a tertiary education hub for both international and local students. As a large organisation the university seeks to further streamline their pre-existing processes and services so that their workflow integration is better incorporated between the faculty and students. To best achieve this the STEM department of the university has hired a team of consultants who specialize in business management with the implementation of the ITIL framework. The role of this team is to guide them through this process and provide them valuable advice that can provide both value on investments as well as return on investments. The vision that UniSA STEM is trying to realize consists of integrating an accounting system for proper pattern analysis, an upgrade in the online system with improvements to the security, integration of the enrolment process within the online services and a collation of data for constructing Frequently asked Questions.

Currently, the Student Record System (SRS) has limited functionality which is flawed in its execution. SRS provides an enrolment platform for the student but unenrolling or changing classes is much more complicated than it must be, payments for the University are not being processes correctly due to an external accounting system, there is no data store which can collate for FAQs, handling simple issues such as printing student ID has become a hassle and the general navigation and workflow for a student is extremely unergonomic. There are major discrepancies between the operation of the current SRS and its vision for the future, however the team of consultants are geared provide significant rectification of the issues by bridging the gap between the current SRS and the one envisioned by UniSA STEM. There are several gaps been identified between the future state and current state. Hence a gap analysis was carried out and the following gaps were obtained:

- A documented training process which will be used for all existing and newly hired staff. Will be delivered in a non-technical format to ensure proper understanding between all hierarchy of service providers.
- Localised enrolment process within each student account for desired enrolling and unenrolling.
- The functionality to track and identify business patterns and resource usage.

The first call to action that needs to be made is the engagement of key stakeholders who will be closely involved in the modelling of an online Moodle system which will host the other services and provide better navigation ergonomics. Once a solid model has been established the team will use this as their foundation and contract a team of developers to create an intuitive and user-friendly web application. After the proto-typing and testing the system it will be delivered to UniSA as a means to solve their issues and can be deployed for faculty and stakeholder interaction. Post deployment upgrades to the system will be delivered and implemented during its timed schedule maintenance. This will keep the system up and running and minimise its unexpected downtime to promote better student interaction ergonomics.

Along with the scheduled maintenance the system will be monitored and continue to improve with the help of data store collation and business pattern analysis. This will promote its performance, customer satisfaction and security. In addition to all this the document will provide some recommendations of strategies such as Service Portfolio management and Demand management which will properly address the gaps identified by the gap analysis. Whilst addressing the shortcomings of the current SRS the consultants will also be implementing SVC practices such as continual improvement, infrastructure and platform management and incident management.

## Vision

The vision that STEM has for the Student Record System involves a proper integration of multiple services within an ergonomic workflow. This will secure a large market proportion, promote business longevity and university livelihood. The strategies that will be deployed will ensure that the stakeholders of the system are utilizing the system to its fullest potential and are also provided with opportunities to derive more value to the current consumer by assessing its current use and future potential.

### Service Selection

This report's puts emphasis on upgrading the Moodle platform for a service resolution that is catered to the staff and stakeholders at UniSA. This upgrade will allow the platform to become safer with multiple upgrades in its account security. It will be designed for ease of use and will promote better workflow ergonomics.

Two other solutions will be proposed alongside the upgrade to Moodle; however, they will be integrated inside of the revised Moodle platform. Moodle will be hosting a streamlined enrolment system along with an internally integrated accounting system for reliable interactions and approvals of their requests.

### Outcomes
- Well-designed web platform which maximises the business value and bring back efficiency into the staff and stakeholder workflow.
- Easier staff onboarding with a new user-friendly interface that is self-explanatory and has a linear progression in terms of navigation for integrated services.
- Better invoice data collection from student tuition and utility payments.
- FAQ development with data collation from of student queries placed through moodle.
- Better business analysis with of granular time frames with the help of enrolment and unenrolment data collation.
- Reduction in staff resources with an integrated enrolment system based on individual student accounts.
- Catered enrolment criteria information for each student based on their moodle accounts.
- Improvements in account security leading to less data leakage and more peace of mind for all involved stakeholders

## Outputs

The outputs that the Student Record System will produce will be dependent on the upgrade of its web-based component. With this upgrade the SRS will be able to securely process multiple services through the integration hosted by their Moodle revamp.

- Significant increase in user and customer satisfaction delivered by the upgrade of their web-based Moodle solution, with increased account and login security.
  - This will be observed by reducing the staff dependency for small things such as changing the password and contacting the IT department for uncertainty on account security or even breach of data. With continuous development and increasing of a data store collation, Moodle will be upgraded and relaunched with major security improvements including as a two-factor authentication and an email alert for suspicious activity.

- Better allocation of human resources, as less staff will be required during the busy periods of semester enrolments.
  - After Moodle has been redesigned with a more user-friendly approach the SRS will be able to incorporate additional services inside it. One of the major services will be enrolling and unenrolling into courses for the desired study period. The security features will give the student peace of mind that their enrolments won't be hampered with and thus allow them to pick their classes based around their own schedules. The SRS will provide basic documentation on what the criteria needs to be for a student to qualify for their desired enrolment status, however enrolling and unenrolling will be managed by the SRS. This also implies that the student will face the consequence of being unenrolled automatically if they have failed to meet the enrolment criteria by the end of the study period. Doing this will allow save the staff from manually checking the student's credits and academic history as all of this will be handled programmatically.

- Financial and accounting practices will become more consistent and have better integration through the SRS.
  - This will enable the University to better understand their business and identify emerging trends in their patterns. With the revised accounting system, SRS will be able to integrate accounting based on each student's individual financial debt status. This will be done in a timely order where the SRS will generate internal invoices for the student based on their semester-based utility and tuition fees. This will provide the university better graphing of their semester wise revenue generation for better allocation of their teaching faculty.

## Where Are We Now? (Current State)

The current state of the student records system is flawed and has several issues which is impacting the university in terms of staff time, wasting resources and waste of assets. The university currently has issue with student enrolment and unenrolment process. Students can enrol at the beginning but are not able unenroll later if they decide to change their course or there is a change in their study plan. This problem frustrates students as they must ask for permission in permission and then later modified by the IT staff. There are several resources wasted because designated staff are assigned to handle all the in-person requests that are made for enrolment changes this is the current process of the student enrolment and unenrolment process.

In addition, there is slow and unergonomic Moodle system. The entire Moodle system needs to be upgraded hence the display together with all the functions related to the Moodle system. The most important thing to upgrade is the security of the entire system. There are flaw in the security system that makes it very vulnerable to cyber-attacks. The current state of the Moodle system is unsecure and unergonomic. The university neither has a proper secure login system hence all the student personal data is very vulnerable to cyber-attacks.

The system does not consist of a proper working integrated accounting system that helps to identify business patterns which can be later used to create strategies by extracting extremely useful data that gives the university a significant advantage over its competitors. The current accounting system which is outsourced to external partners or institutions is creating several issues for students and the finance department. The student may pay their fees on time but due to problems caused by using an external accounting and payment system it may not reflect on the student's records, hence affecting their studies. This frustrates students and creates a bad reputation of the university in the education sector.

This also wastes finance departments time as they must figure out manually whether student has paid their fees or not. This also implies that the resources available are not used to it full potential, hence wasting resources.

GAP Analysis

| Current | Vision | What's Missing? |
|---|---|---|
| **Improper Staff Training.** | Consistent and Efficient on onboarding and timely training. | A documented training process which will be used for all existing and newly hired staff. Will be delivered in a non-technical format to ensure proper understanding between all hierarchy of service providers. |
| **Slow and Unergonomic online system.** | Upgraded Moodle platform with linear progression of integrated service navigation. | An online platform with excellent account security for ease of navigation and quick service information. |
| **Enrolment system glitches and workflow difficulties.** | Improved enrolment and unenrolment processes based on induvial student accounts. | Localised enrolment process within each student account for desired enrolling and unenrolling. |
| **Lack of data collation for simple FAQ queries.** | FAQs integrated inside of Moodle for quick resolution of simple tasks. | A general FAQ section that allows students to find solutions to the problems and staff to update. |
| **Payment issues caused by external accounting services.** | Integrated payments into SRS for each student to manage their own accounting. | A proper accounting system integrated with the student record system to make payment easier. |
| **No payment data collation for business and resource allocation.** | Regular data collation and trend analysis for each semester. | The functionality to track and identify business patterns and resource usage. |

## Where Do We Want to Be? (Future State)

Implementation of the revised Moodle solution with and integrated enrolment system and an optimised accounting system are the targets that the developers must aim for by the end of a 10-week process. Dividing these 10 weeks into cyclical processes means that the first 3 weeks are spent designing and refining an ergonomic and efficient Moodle solution. After that has been finalized the integration of the enrolment system should be the next step, followed by the optimization of payment transactions and refinements to the accounting system. Once the design has been solidified the rest of the weeks will be dedicated to developing an MVP that can be delivered at the end of the 10 weeks. During this time the system should be at a mature enough level to satisfy the relevant processes that are shaped by business knowledge and be documented and standardised.

Post the 10-week development phase the STEM team should continue consultation with us for an academic study period. During this time, we will monitor the system for improvements to governance and management processes and create a feedback loop which will promote continuous development. To ensure that the development is driven by relevant business requirements, SRS should engage its key stakeholders and outline the requirements before the developers begin planning for the system.

## Plan

| Service | Stakeholders | IT Technology | Value Streams |
|---|---|---|---|
| Moodle platform With integrated enrolment | UniSA STEM, IT Team, Students, Teaching Staff, Library Staff, | User friendly online platform for students, secure account authorization | - Student logs into moodle with their account and verify their account through 2FA<br>- Student accesses the enrolment system to change their enrolment status<br>- System takes the request, completes the changes and returns a confirmation<br>- Student has changed their enrolment successfully |
| Integrated accounting system | UniSA STEM, Students, Finance Staff, External/Third-Party finance providers (UniSA webpay, POST billpay, BPAY) | Servers, data stores, online payment method | - Student logs in their account<br>- student accesses the finances page – Accounting system receives the request and returns student's possible payment methods and how much they can pay<br>- student enters their payment details into the online payment method<br>- Accounting system sends details to payment service<br>- accounting system notifies student that payment was successful |
| FAQs | UniSA STEM, Students, Teaching Staff, | Data stores for FAQs, user friendly web page for access. | - Students review the FAQ pages to see if there are answers to their problems.<br>- If they do not find a solution, they ask campus central.<br>- For instance, if a student has a query about enrolment process, they can check the FAQ if the solution is there rather than sending an email to campus central and waiting for the response. |

## Improve

Improvements that will be implemented during the incremental changes to the current stage of the system.

- An interactive and ergonomic Moodle design that is easy to understand and promotes workflow with its linear search layout. This will address the current issues of a slow and unappealing Moodle interaction that does not assure account security. This improvement will also facilitate the account security that will allow the users to confidentially access their data form a range of devices. Increased workflow will be a major outcome of this upgrade as the stakeholders will be able to interact with this service outside of the University without fearing data leakage.

- Stress free and reliable enrolments will be made possible at the end of the development cycle. Currently the students must go through a lot of hassle when they want to customise their class schedules according to their lifestyle. However, once the enrolment process is integrated with Moodle all students will be able to manage their own timetable. This will save the University's resources as the student will only contact the faculty for rare edge cases in their learning schedule. To further benefit from this feedback the staff will log the issue and update their FAQ data collation to optimise more linear issue resolutions.

- Quick and efficient business transactions along with fee payments will the new standard of the new SRS. At the moment, the university is struggling with the accounting system and its processes. They pose a challenge to the university business Moodle as they are handled by a third party. This means that they're always in a great level of uncertainty that troubles the users mind plants a seed of mistrust towards the university. All of this will be addressed with an integrated accounting system that will allow the stakeholders to make quick and reliable payments through secure services. The collation of these payments will be compiled and analysed for better identification of emerging and repeating business patterns. This intern will benefit STEM's resource management as they will be able to analyse and dictate when and how many resources, they must have at their disposal depending on the enrolment and fee payment rate.

## Engage

With the improvements stated above, several stakeholders will need to be consulted, this includes the students, teaching staff, IT team, finance staff and of course UniSA STEM. The IT team and UniSA STEM will need to manage the external website hosting services and payment services. Students will be consulted based on their satisfaction with the system, determined by the ease of use.

In order to have suitable service outcomes, an agreement between UniSA STEM and the service providers needs to be made, with the consultation of the implementation team of the new system. This means that contracts are necessary for the success of the improvements.

There will also be a requirement for new IT systems to be supplied for the improved services.
- New servers and data stores for the new accounting and enrolment system as well as the FAQs
- Web hosting services to access the FAQs
- Online payment methods

After applying the services nominated, the customer satisfaction of Pizza Domain should increase by 10%, since the online ordering system should create a sense of assurance and greatly improve order management capabilities as well as reduce delivery time

## KPIs

| Quantity | Targets |
|---|---|
| User Satisfaction | Once the services have been implemented the user satisfaction whilst using the SRS is bound to increase tremendously. The consultants have proposed an increase in satisfaction rates by 30% which will be verified by user experience surveys at the end of each increment. This should facilitate faster navigation on Moodle, easier enrolments and more secure payments. |
| Workflow Optimisation | Workflow should see a 45% increase with the new efficient and reliable systems. |
| Payment reliability | Transactions will be processed 60% faster which will promote agile business decision making. Along with this we will also reduce the downtime of the payments service by 80% compared to the current state. |
| Issue Resolution Time | With the introduction of an internal FAQ section for both students and staff, known problems should be solvable within a reasonable time. |
| Resource Optimisation | Once the resource allocation target is achieved, the university will allocate less staff per service hence saving them $20,000Aud per service. |

## How Do we Get There? (Transition Strategy)

For the system to get to where it is envisioned, it must be transitioned incrementally as the SRS is still in use. It cannot be taken down because the university is reliant on the current system and there are no available alternatives while it is restructured with improved features. It would cause further confusion among the university cohort using a proxy system, therefore, justifies why an incremental transition approach is advised.
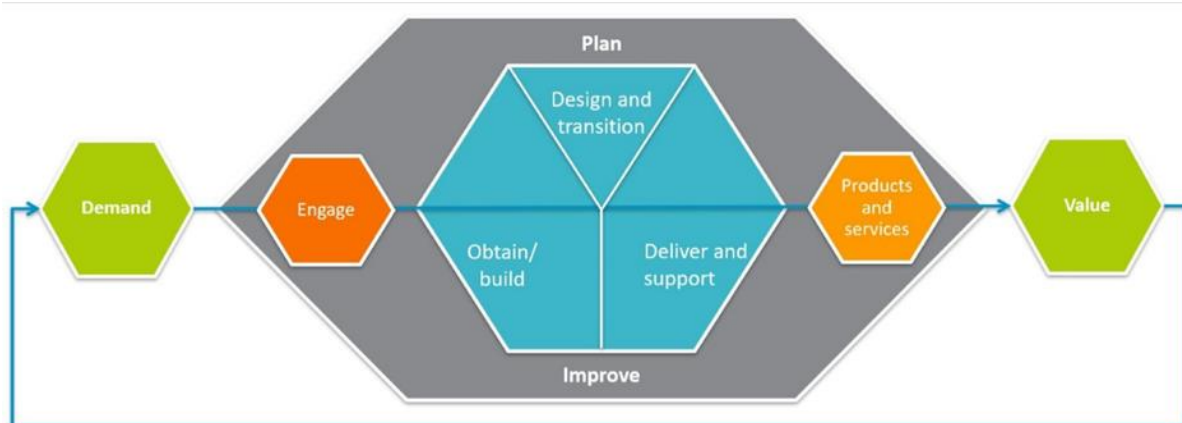


*Figure 1: Service Value Chain (https://www.bmc.com/blogs/itil-service-value-chain/)*

With the use of a Service Value Chain (SVC), we can apply the services which we will be improving. It will help outline the key processes required in creating value in response to demand, as a result of the creation and delivery of products and services.

Overviews of Service Value Chain:

| Activity | Description |
|---|---|
| **Plan** | To enhance and improve user and customers satisfaction through the improvement of the university's web-based Moodle solution, in addition to increased account and security management. |
| **Improve** | Upgrading the web-based application usability and account/security management. |
| **Engage** | Students, Staff, IT Team, Server Manager, Dean/Coordinators, and Board of Directors will all be interacting with the system. Third -Party Partners/Suppliers will assist with processes and technology needed such as database management and servers. |
| **Design and Transition** | This service will help meet user and customer expectations as it is designed to improve the usability of the web-based application which is currently stated as slow and unergonomic. Upgrades to account and security systems will also provide them with better management of their accounts.<br><br>Overall improvement of the SRS will have anticipated downtime; as stated in section 6, a total of 10 weeks will be needed in total. 3 weeks will be used for planning for the 3 services and the remaining 7 weeks will be used for coding and implementation. |
| **Obtain/Build** | The upgrade will mostly be built in house, such as coding of the web-based Moodle solution and improved account security. However, it will require the assistance of third-party suppliers such as Cisco and Oracle to deal with the servers and database management. |
| **Deliver and Support** | Constant user support will be provided by the IT team, who will be trained accordingly along with the appropriate documentation procedures. Any planned future upgrades will consist of small updates to sections of the system, ensuring the downtime is kept minimal. This process will also help mitigate potential mistakes and bugs that accompany larger system upgrades. |

| Activity | Description |
|---|---|
| **Plan** | To further develop the SRS to improve allocation of human resources, allowing for effective and cost-efficient methods for tasks that can be automated. |
| **Improve** | Developing the SRS to allow for automation of student enrolments and services. |
| **Engage** | Students, Staff, IT Team, Server Manager, Dean/Coordinators, and Board of Directors. No third-party partners will be used allocated to assist in the development of this service as this is an internal concern of the system. |
| **Design and Transition** | This service should meet user and customer expectations as the service would allow for the university to allocate resources elsewhere. It allows for students to manage their own enrolments without having to go through time consuming processes requesting for help during peak study period enrolments.<br><br>This improvement of the SRS can have longer periods of downtime as it is not in use every day such as the online web moodle. There are enrol-by deadlines set for students by the university, therefore we can analyse and determine a schedule for when the service roll out could be applied. |
| **Obtain/Build** | No third-party providers will be required as this service will be built in house. It will however require student data for the enrolment criteria programming. |
| **Deliver and Support** | User support will be provided by the IT team, who will be trained accordingly along with the appropriate documentation procedures. |

| Activity | Description |
|---|---|
| **Plan** | The improvement of financial and accounting services integrated through the Student Record System. |
| **Improve** | Upgrade of financial and accounting services. |
| **Engage** | Students, Staff, IT Team, Server Manager, Dean/Coordinators, and Board of Directors. Third-party partners responsible for the current system will only be required to assist with the integration as the system will still be reliant on the use of external services until this service is completed.<br><br>Third-party services for database management and collation will be requested to assist with identifying business patterns and resource usages. |
| **Design and Transition** | An improved finance system will meet user and customer expectations since it enhances the usability of the system. Payment issues will no longer be a concern for most students. UniSA will be able to better their understanding as a business through the analysis and identification of trends and patterns.<br><br>Regarding the downtime transition for this service, the approach would be like the service previously. The university have census deadlines for which students must have sorted their finances else their enrolments would be cancelled. Therefore, we can analyse and determine a rollout schedule for the service to be integrated. |
| **Obtain/Build** | This service will be built in house as appropriate. |
| **Deliver and Support** | IT and Finance staff will manage user support services. They will also be trained accordingly with the appropriate documentation procedures. |

PIEDOD Heatmap:

| ITIL Practice | P | I | E | D | O | D |
|---|---|---|---|---|---|---|
| Information security management | 3 | 3 | 3 | 3 | 3 | 3 |
| Relationship management | 3 | 3 | 3 | 3 | 3 | 3 |
| Supplier management | 2 | 2 | 3 | 3 | 3 | 3 |
| IT asset management | 3 | 2 | 2 | 3 | 3 | 3 |
| Monitoring and event management | 1 | 2 | 2 | 3 | 2 | 3 |
| Release management | 2 | 1 | 1 | 3 | 3 | 2 |
| Service configuration management | 2 | 2 | 2 | 3 | 3 | 3 |
| Deployment management | 1 | 2 | 1 | 3 | 3 | 0 |
| Continual improvement | 3 | 3 | 3 | 3 | 3 | 3 |
| Change enablement | 3 | 3 | 3 | 3 | 3 | 3 |
| Incident management | 1 | 2 | 3 | 3 | 3 | 3 |
| Problem management | 2 | 3 | 2 | 2 | 2 | 3 |
| Service request management | 1 | 2 | 3 | 3 | 3 | 3 |
| Service desk | 1 | 3 | 3 | 3 | 2 | 3 |
| Service level management | 3 | 3 | 3 | 3 | 3 | 3 |

## Design and Transition

The services proposed in this document would help meet the customer expectations by addressing the issues provided by UniSA and resolving them through improvements to the SRS. Firstly, it provides users with an improved moodle that has usability updates along with better developed account and security management features. This results in a more efficient Moodle that lets users interact through ergonomic web-based learning environments with minimal complications. Secondly, it will address the issues of human resource usage and potential automation. the tasks that can be automated will be automated, which would enhance UniSA staff departments responsiveness of tasks. Resource automation will further allow staff to manage their tasks efficiently during peak business seasons and would save UniSA employee costs in return. Lastly, accounting and financial services will be integrated with SRS. Which would allow UniSA to adapt using analysed business trends. Moreover, integration would benefit. SRS integration with accounting services will further allow UniSA to understand the financial statuses of students based on their student debt that they owe. Additionally, students will be able to pay their university fees through the SRS with minimal complications as well as being able to see online invoices for each semester.

The implementation of these services will have anticipated downtime and a total of 10 weeks will be required for planning and implementation (1 week of planning for each of the services, 7 weeks for coding and implementation). Therefore, a continuous delivery roll-out plan is recommended. In order to determine an appropriate downtime transition for the services, we must evaluate when the SRS is at minimal usage and base it off there. For example, periods after exams, census dates, and enroll-by deadlines are necessary considerations. Furthermore, before the roll-out of services occurs, there must be notifications sent out to all users informing them of the pending SRS downtime to allow for the introduction of the new services. During the downtime, constant updates should be provided to users regarding progress and changes.

## Obtain and/or Build

As consultants we have recommend that STEM designs a custom online Moodle service. This will allow them to cater the web applications design and authority to their needs. Since there were already remnants of an online website prior to our intervention, we can assume that the university has a registered domain under their name which they can utilize. With these steps it is ensured that the result of this development process will be a unique website which will set a standard for further service integration and encapsulation. Developing the website should be done with the help of a team of web developers from within the university. This will be the best approach as the developers will be dealing with a lot of sensitive data and it won't be wise to outsource this to a different company.

When an MVP has been achieved for Moodle, the developers will integrate an enrolment system within the web application. Having a team from the university will benefit them here as they will need to access the existing student record database to integrate their enrolment details within their personal accounts. While this is under development the university should emphasise the security of the online application by practicing information security management. In order to achieve greater account security, the web application can use an off the shelf commercial service to provide two factor authentication for individuals.

Once these systems are up and online it should be a simple task of collating data and storing it for an FAQs section that is encapsulated within Moodle. This will be updated regularly as more enquiries are generated. Developers can automate a pattern recognition system to combine and categorise these quires for a staff member to review and then update their custom FAQ section.

A custom API should be established with the collaboration of the finance team and developers. With the help of this API the university can set aside a team to come up with a separate webpage that will allow students to pay for their fees and auto generate their invoices for keeping record. This webpage should be designed in a manner that it is accessible from handheld devices and desktop computers. This will allow a grater workflow and on the go transactions. Once there is a proper system put into place for transactions the developers will integrate the access point within Moodle this will make a one stop interactive web application that promote efficient workflow. As the university has a lot of sensitive data and personal records it is best for them to custom design their services wherever possible. However, there

20 of 25

are multiple cases where COTS should be considered as the reduce development time and save the university's resources.


## What Action Will We Take?

As a team of consultants, we have devised a plan with the guidance of several ITIL activities. With the help of these activities, we set to improve on the existing systems and procedure by either replacing them or upgrading them to fit the core requirements of STEM.

Monitoring and event management will be used to track the performance of the system, it will allow us to determine the performance of the system, determining when the system requires an update or if there are problems. It also provides a method to gather the business information, that being enrolment rates, success/fail rates and invoice data, for analysis.

Change enablement practices will be put in place to deploy the system in and its increments in a smooth and stable manner. During the development of the new services the team will ensure that fractals of the old processes have been incorporated within the workflow. This will allow the university to change their major systems with little to no disruption. A continuous delivery will help enable this plan by releasing major changes during less busy study periods and having prescheduled down times of maintenance.

Continual Improvement, with suggestions and feedback from the system users, students and staff, and the system performance information provided by monitoring and event management, possible improvements can be realised. So, the system can be made to run smoother and efficient minimising the possibility of resource waste.

Incident management will be a key catalyst in the success of the revises Student Record System. With the help of these incidents the university will collate data and have it stored for analysis. This will also enable the university to properly log all issues that arise doing the roll out of the new services. If an issue does arise the university will quickly make a documented entry and send it off to the team of developers under the IT faculty and have them assess the issue while the roll back to a more stable version of the system.

Information Security management is a forefront of the newly revised Moodle solution. This new release of Moodle will not only feature a better more ergonomic layout which is user friendly, but also host a range of security enhancements that will allow the stakeholders to confidentially interact with the service. An example of the new security enhancement is the two-factor authentication system where the user is required to register another medium of communication for Moodle to contact them when they try to log in or when Moodle determines that there is suspicious activity going on with the account.

The newly revised Moodle solution will be hosted on the local university campus servers to provide a stable build and minimal maintenance and downtime. This step will allow the university to have full access and control on how they investigate and interact with sections of the web application. Further establishing the deployment of Moodle the university should have backups of the data so that there is an ease of roll back in case of any unforeseen circumstances.

A stable Moodle build will also ensure that the enrolments are being made with a peace of mind as any data that the student passes through Moodle is accessed only by the university. This also means that the newly integrated accounting solution will be able to draw on the university's enrolment data store for better trend analysis. With the help of this analysis the STEM team will be able to better allocate staff resources when during study periods to better cater for the new and repeating batches of students. They will also be able to realise how much they will be making that quarter based on the number of enrolments made for a particular field of study.

The following is a list of the people and organisations involved in the support and delivery of the SRS.
- UniSA STEM, the owners of the system
- IT Team, the group that provides technical support and will also maintain the system
- Finance Staff, monitor and use the accounting system
- Students, the users of the system and who will provide feedback of their experiences with it

## RACI MATRIX

|  | UNISA STEM | STUDENT | IT TEAM | FINANCE STAFF |
|---|---|---|---|---|
| **Upgraded enrolment system** | C | I | R/A |  |
| **Integrate accounting system** | I |  | R/A | C |
| **Enable Account security** | C | I | R/A |  |
| **Update login system** | C | I | R/A |  |
| **Roll out updates** | C | I | R/A |  |
| **Maintenance** | C | I | R/A |  |
| **FAQ data collation** | C | A | R | I |

## How Do We Know We Got There?

Portfolio management will help keep track of all the services you have in the works. Portfolio management aims to make sure that every service is in line with your service management strategy and business goals. You can more efficiently provide service demands with specific business value if you monitor your services from start to end.

This would help in ticking the KPI's that have been met since we will be looking at the services from start to finish and evaluating the performance of each service to see if they meet the business vision and mission. It will also know whether the KPI issue resolution time and resource allocation has been met or not.

Service request management is the other practise that would assist in knowing if we got there. Since the stakeholders are contacting to ask for routine services. The type of questions from the stakeholders will help the organization know if they have reached their desired goal. For instance, if they ask how to unenroll using the new service this states that the new service was very well implemented.

Moreover, if there are requests for activating multifactor authentication on their account this ensure that security was properly implemented.

In addition, the organisation can put up a survey for the students asking them question related to the new version of the moodle. These would provide them with feedback and check the positives feedback to see if the KPI – User satisfaction has been met if not then the organisation has not reached there, and the goal has not been achieved.

Improve is one of the activities to use that will help us know where we have reached. This is because if we keep on improving after every roll out of all the services then we know that we have not achieved the goal of the company hence its requiring improvements. Once we meet all the services, we might not have to keep on improving currently which means that we have reached the future state.

However, the organization might need to keep on improving in the future because of new technologies. This will help the organization to keep up to date rather than having no upgrades for a very long period as it has happened earlier.

## How Do We Keep It Going?

After the new SRS has been deployed it will become essential for STEM to ensure that there are measures put into place which will guarantee continual improvement. Along with this they should also establish protocols and procedures to execute in case of emergency failure. Once the consultants have been let go it becomes essential for STEM to replace us by consulting back to the Individuals who were Responsible and Accountable (refer to RACI matrix) for each desired service.

In order to keep the process going STEM can implement a couple of service strategies which will ensure that the current system is kept up to date. First one being Service Portfolio Management, this service will ensure that any changes that the university sanctions are appropriate and will easily integrate with the existing system.  The integration of the new service will go through a four-step plan.

1. Definition
   - Desired outcome for the proposed service will be defined these can be new additions or changes in the current services.
2. Analysis
   - The impact of the respected service on the existing services in the portfolio will be measured and the resources required will be investigated.
3. Approval
   - Formal proposal will be articulated and submitted for sanction.
4. Deployment
   - Services will be chartered, communication decisions will be made, and resources will be allocated for successful service deployment.

Secondly STEM can also implement Demand Management which will go hand in hand with Service Portfolio Management and ensure that the new addition of services have a purpose behind them. Demand Management will allow the university accurate understanding and adaptation so that they can avoid inadequate or excessive service capacity. Both of these can impact costs of project and customer satisfaction.

The plan for review that the implemented services are executed according to the business vision and that they satisfy their respected issues.

| Action | Reason |
|---|---|
| **Construct surveys for Moodle** | To ensure that each aspect of Moodle is fulfilling the KPI for increased workflow. These can be implemented with each increment to gauge the difference between the current state and future release. |
| **Have user satisfaction reports for enrolments** | These will help determine if the output for quick and efficient student enrolment has been met. These satisfaction scores will allow them to see whether the students are able to best utilize this new system or if it needs adjustments. These reports should be analysed with each study period. |
| **Generate monthly issues submission report** | This will allow the university to check if their data store is being properly collated and will help them by visually demonstrating the drop in staff involvement for basic issue resolution. |
| **Analyse issues on monthly basis and check if they are going down** | Monthly analysis of the issues will provide the university with perspective on the major workflow blockages. These should be categorised and prioritised before resolving. This will help in visualising the specific areas where the most students are having troubles. |
| **Analyse satisfaction reports and check they are going up** | Analysis of the satisfaction report will quickly indicate if the new SRS changes are properly integrating with the workflow of the stakeholders. If there are any declines in the reports STEM can put a flag on the concern and have a team work on the solution while they roll back to a more stable version. |

As the new system is used more and more the STEM team can evaluate the fulfilment of the output. This can be done by having the onboarding staff compare their experience and ease of interaction with the existing faculty members. This discussion will draw a clear line of difference between all the gaps that were between the old and new SRS. Along with this they can also get the student involved in realising the success of the improved SRS services by analysing their enrolment related service tickets. There are multiple SVC practises that can be put into place for better alignment of the business vision. However, the main ones that were considered throughout the document were continual improvement, infrastructure and platform management and incident management. Having these as our guidelines we were able to construct and deliver a robust solution to the issues that the University of South Australia was facing.