



Request for Proposal to Develop a Student Information System

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1. INTRODUCTION

According to Times Higher Education (THE) Young University Rankings, the University of Johannesburg (UJ) is ranked number one in Africa and South Africa amongst universities younger than 50 years old. To read more about our achievements and rankings, please follow the link below.



Figure 1 - UJ Ranking

UJ's mission is to "inspire its community to transform and serve humanity through innovation and the collaborative pursuit of knowledge." This mission is underpinned by four values: imagination, conversation, regeneration, and ethical foundation. The six strategic objectives provide a focused means for realising the university's Vision, Mission, and Values.

UJ's current strategic plan (*UJ Strategic Plan 2035*) is a living document that guides and frames its activities at all levels of the organisation. It provides the roadmap to achieving UJ's Vision to be an international University of choice, anchored in Africa, dynamically shaping the future.

The vision of the **Information and Communication Systems (ICS) department**, which is UJ's internal ICT Service Provider, is to be recognized as the pioneer in delivering ICT services among African Universities. This will be achieved by demonstrating and proving how ICS engages with the university functions, understands institutional objectives and technology needs, and delivers improved customer satisfaction, better service performance, and optimized ICT operations.

2. PURPOSE OF THE REQUEST

UJ is inviting prospective service providers for proposals to develop a Student Information System (SIS) for the university. The University utilises the ITS Integrator SIS to facilitate essential institutional processes throughout the student lifecycle. This includes managing student registration, maintaining student biographical data, and ensuring compliance with DHET statutory reporting requirements for students, space allocation, and post-doctoral fellows.

2.1. IMPORTANT CONSIDERATIONS

- a) This RFP focuses on identifying and evaluating the best-fit SIS development partner for the University of Johannesburg (UJ).
- b) UJ requires a clear and compelling justification throughout the proposal on why your development approach and platform are the most suitable choice for the university.
- c) Effective integration is essential. We are particularly interested in exploring options that enhance interoperability with the existing UJ technology stack, whether through middleware solutions or APIs.
- d) Project management, training, and change management are critical implementation components and should not be treated as secondary considerations. Please ensure that this is included in your response.
- e) We welcome innovative ideas and recommendations for improvement. Please feel free to include any relevant suggestions in your response.
- f) The development stack should be modern and open, ensuring sufficient developer resources.

2.2. ENTERPRISE ARCHITECTURE PRINCIPALS

The following principles should be modelled within your solution:

- a) A strong focus on customer and service excellence.
- b) Privacy and security must be embedded in the system's design.
- c) Ensuring business continuity within the core system and integrations.
- d) Full compliance with all relevant technology and higher education laws and regulations.
- e) Maximised use of automated integrations and open interfaces where possible.
- f) Business intelligence should be readily available, while data is secured and accessible only to the intended audience.
- g) Adherence to interoperability standards to facilitate secure integration with other systems.

2.3. NUMBER OF USERS

Our current SIS does not operate on a per-user-costing model. It serves two main user groups: administrative users who access the database for various back-office functions and a broader client community, including applicants, registered students, and alumni, who engage with the system for different purposes. The table below provides an estimated user count for each group, which should be carefully considered. UJ requires a clear indication of the user licenses needed for your solution and an explanation of how your system defines user types and structures pricing.

Table 1 - User Detail

User Type	Number of potential users
Administrative users	900
Applicants (2024)	415 479
Registered students (2024)	69 570
Active Alumni (2024)	188 291

3. PROCUREMENT APPROACH

UJ's procurement approach for the SIS follows a structured, phased strategy to ensure a successful long-term engagement. Given the strategic importance of this initiative, the university will identify and select the most appropriate SIS development partner based on development architecture, alignment with institutional needs, and compliance with regulatory requirements. The partner will be required to possess the expertise to develop, support deployment, integration, and long-term system optimisation. This approach ensures that the university secures the best development technology while also partnering with an implementation expert who can effectively manage the transition and provide ongoing support.

4. REQUIREMENTS

This section details the developed solution's functional requirements. Respondents will be allowed to demonstrate their ability to meet these requirements. Furthermore, specific business process owners will be engaged to evaluate and score the platform capabilities. The scoring matrix is detailed further in this document.

4.1. ACADEMIC ADMINISTRATION

The Central Academic Administration (CAA) division is responsible for the student's academic and administrative life cycle, from a prospective student to an alumnus. It, therefore, encompasses all the administrative business processes that are required for the fulfilment of the student life cycle. The following are key priority tasks which must be engrained in the system.

4.1.1. Academic Structure

This refers to information which is used throughout the whole life cycle of the student and is critical to the management of applications, registration and certification. The academic structure is the backbone of academic administration. This is where qualifications are mapped out according to their South African Qualifications Authority (SAQA) number, National Qualifications Framework (NQF) and the stats credits.

Requirements for this system are as follows:

- a) Yearbook information with indication of period of studies, groups of modules, major and compulsory/elective modules.
- b) Qualification management (active, pipeline and discontinued qualifications)
- c) Manage quotas and yields at the qualification and module levels.
- d) Linking to the fees within a student finance system or fees within this system.
- e) Higher Education Management Information System (HEMIS)-related fields pertaining to SAQA, NQF and module credit information.
- f) Log files for changes made to the yearbook.
- g) Integration with third-party suppliers such as:
 - PowerHEDA – Management Reporting and enrolment management and validation of data quality about HEMIS and Valpac
 - Oracle BI – Management Reporting

4.1.2. Academic Application and Admission

This is the starting point of the student lifecycle and talks to the following:

4.1.2.1. Back-office data capturing

- a) Relevant data validations should be applied across data fields such as ID and mobile numbers.
- b) All biographical data should be accommodated, including, but not limited to:
 - Nationality
 - Biographical detail
 - Address and contact information
 - School results (current grade 12, NSC, IEB and all international variants.
 - Disabilities, etc.
- c) Loading of data from documents submitted, including, but not limited to:
 - ID/Passport
 - Degree certificate and transcripts
 - Previous studies

4.1.2.2. Online application module(s)

- a) There should be a distinction between new applicants and returning applicants when applying online. New applicants should complete a longer application, whereas returning applicants should only be required to either make changes to certain biographical details and add study choices or previous studies, etc.
- b) There should be a possibility of creating a short application module to accommodate short learning programme applicants.
- c) The online application modules should have necessary and relevant data validations done at various points to determine, e.g., whether to auto-fill certain fields, display certain additional information, or refer to other processes or modules to complete the application.
- d) For the online application modules, UJ should be able to configure:
 - non-HEMIS related fields to either be compulsory or not.
 - notes/headings/sub-headings
- e) The online application module should save data after each page category is completed, e.g., Biographic/Next of Kin/Matric Data. An applicant must be able to continue with an incomplete application at the point they last saved (last page completed).
- f) UJ should have access to complete and incomplete application data stored on the SIS.
- g) For online application modules, UJ should be able to add documentation related to the POPI Act, application agreements, and underage agreements.

4.1.2.3. Late Enquiries/applications (January)

- a) A separate module that can integrate with third parties e.g. HEDA ARS that allows:
 - UJ to open specific qualifications with spaces available via a separate admin portal.
 - User interface has a user verification process for security purposes.
 - User interface collects required minimum biographical detail from the applicant.
 - The applicant can submit an enquiry towards one of the qualifications that is still

available for which the applicant meets the minimum entrance requirements.

- UJ to retrieve the successfully submitted enquiries in a specific file format for further processing.
 - UJ will automatically email the applicant at different stages/touch points throughout the enquiry process. UJ should be able to customise the different messages.
 - Admin portal to display live statistics on enquiries received/rejected.
- b) The module should keep a record of enquiries made and not allow more than one enquiry to be submitted.
- c) As required, an applicant should enter the relevant biographic, academic, and communication information from a HEMIS reporting point of view. These related fields are of utmost importance. Data captured here is also reported to DHET, so it is important that we have all critical data elements captured and well maintained.

4.1.2.4. Admissions and selections

- a) Automated functionality, through integration with third parties, is needed to process admissions in bulk or individually.
- b) Admissions refer to all offerings, including Undergraduate /Postgraduate /Short Learning Programs (SLP) and e-learning cohorts, etc.
- c) Bulk updates that may fall outside the previously mentioned automated function are also needed.
- d) Must be able to force the creation of qualification applications in bulk, e.g., late enquiries.
- e) Must be able to override existing qualification codes in bulk, e.g., change qualification codes.
- f) Must be able to force create required documents (e-documents) from the SIS to the document management system, e.g. UJ Academic Transcripts.
- g) UJ must be able to manage its own application statuses. UJ makes concurrent selections, and we require the SIS to allow us to indicate which statuses must be automatically cancelled during registration when a student is admitted for multiple qualifications.

4.1.2.5. Document management

- a) Must be able to deal with a large volume of application documentation received. On average, between 1.5 million and 2 million documents per year.
- b) Use OCR technology to:
- Identify duplicate documentation submitted already processed,
 - write data back from a document into SIS,
 - update fields, e.g. document seen based on a document submitted.
- c) Manual indexing and management (deleting, etc.) of documents received.
- d) Documents are joined automatically per applicant using the student number as a unique identifier.
- e) UJ Staff retrieve application information (with all supporting documentation attached) based on specific search filters.
- f) Accommodate specific documentation rules for specific applications/qualification types etc.
- g) Storing of supporting documentation submitted by applicants, such as:

- ID or passport documents
 - Must be able to bulk upload data into the SMS based on feedback from third-party suppliers.
- Degree certificates
- Academic transcript etc.
- h) Communication via E-mail/SMS. The setup of personalised letters, with the inclusion of data from the system, is of crucial importance. Scheduling of communication with students via specific data fields, i.e. admissions statuses, academic year, block code, etc.
- i) Facility to match candidates and upload NSC/IEB/SACAI/ISC, etc., results yearly.
- j) Dashboard for students and administrative staff with relevant reporting and statistics on applications and admissions.
- k) Manage application cycles for different application types, as different qualifications have different periods in which they can apply.
- l) Log files for any changes made.
- m) Internal Document Storage and Retrieval (DSR) system or integration with an external DSR for all internal letters generated and documentation supplied by the applicant.
- n) Integration with third-party suppliers such as:
 - PowerHeda – for Management Reporting and Academic Rating System (ARS)
 - Academic Partners – External Applications
 - Oracle BI – Management Reporting
 - Web Chatbot displaying personal information if a dashboard is not available
 - Perceptive Content
 - Sym-bio-sys for chatbot and WhatsApp

4.1.3. Academic Registration

- a) Enabling Qualification and Module registration online for students and in the back office for administrative staff.
- b) Registrations can be for programmes offered in a contact and/or Online (carousel) models.
- c) Application and approval processes w.r.t the cancellation of qualifications and modules.
- d) Application and approval processes w.r.t allocation of module credits/ module exemptions.
- e) Distance education must be feasible, and away-centre information/registration/ examinations must be managed via this platform.
- f) Communication via E-mail/SMS or WhatsApp. The setup of personalised letters, with the inclusion of data from the system, is of crucial importance. Automation of communication with students via specific requirements, i.e. registered, registration requirements etc.
- g) Dashboard for students and administrative staff with relevant reporting and analysis on registration processes.
- h) Activation of registration period (cycle) for different registration types as different qualifications have different periods in which they register.
 - a. Back-office registration period cycle
 - b. Online registration period cycles
- i) Capability to do facial recognition of an admitted student who is to register
 - a. Indicate on system that facial verification has succeeded, and student can proceed

to register.

- j) Log files for changes made to the student record.
- k) Internal Document Storage and Retrieval (DSR) system or integration with an external DSR for all letters and documentation supplied by the student.
- l) Integration with third-party suppliers such as:
 - PowerHeda – for Management Reporting and Academic Rating System (ARS) and internal systems regarding enrolment planning quotas and yields.
 - Academic Partners – Registration feedback on applicants from this partner.
 - Oracle/Power BI – Management Reporting
 - Sym-bio-sys for chatbot and WhatsApp displaying personal information if a dashboard is not available
 - Access Control System (Impro)
 - a. Issuing of Digital student card
 - Facial recognition: DOVS

4.1.4. Timetable Subsystem

The setup of a class- and examination timetable, plus the integration with a 3rd party timetable system that could do the following:

- a) Identify potential registration clashes for students with offered qualifications and modules, then go through an iterative process (in the background) to assign (the optimal) a C/P/T Group to the student that is non-clashing and not full for each module (taking all other modules already registered for into consideration).
- b) Validate quotas and yields on different groups (i.e. Class Groups, Tutorial Groups, Practical Groups and other possible groups, e.g. workshops/online teaching, etc.) – also taking “equivalent modules” into consideration (adding total students for all equivalents when validating).
- c) Student communication via e-mail/SMS or WhatsApp. Set up of personalised letters with data from the system is of crucial importance. Automation of communication with students for specific scenarios, e.g., to inform them of changes in timetables, etc., is required.
- d) Integration with an Internal Document Storage and Retrieval (DSR) system to obtain academic structure and timetable data from the Student Information System when populating an eForm for changes to existing timetables.
- e) Dashboard for students, lecturing staff and administrative staff with relevant reporting on all timetables. Dashboard for timetable reporting (for analysis of timetable resources, etc).
- f) Activation of timetable periods for published documents per timetable cycle for different timetables.
- g) Logfiles for changes made to the academic structure, lecturing- and exam timetables, and student class/practical/tutorial group records.
- h) Integration with CELCAT Scheduling/Timetabling system with the functionality to auto-upload lecturing timetables (per campus) daily.
- i) Does your system interface with 3rd parties? Do you have such a system as part of the core system or can you integrate with the following systems:
- h) Timetabling Optimisation and Database System – CELCAT

- i) A DSR such as Perceptive Content
- j) An MIS System (such as HEDA)
- k) Oracle – Staff Info (& Student Finances)
- l) Oracle BI – Management Reporting
- m) Archibus Facility Management System
- n) Web Chatbot displaying personal information if a dashboard is not available

4.1.5. Assessment Subsystem

This part of the SIS is of critical importance to the administering of assessments. This subsystem must be able to assist the university in the following:

- a) setting up calculation criteria for assessments,
- b) application of sick/additional examinations,
- c) capturing of task marks, assessment marks and
- d) the calculation of final marks according to the calculation criteria setup.
- e) Security access levels per Module, Department and Faculty for different functions.
- f) Processes to manage the release of marks in a controlled and secured manner.
- g) Communication via E-mail/SMS or WhatsApp. The setup of personalized letters with inclusion of data from the system, is of crucial importance. Automation of communication with students via specific requirements. i.e. release of marks, allocation of additional examinations etc.
- h) Dashboard for students and administrators w.r.t marks being published and analysis of the assessment process.
- i) Logfiles for changes made to the student record.
- j) Integration with third party suppliers such as
 - Moodle (LMS) and
 - a DSR such as Perceptive Content.
 - If marks cannot be managed, then interface with our internal Management of Marks (MAMS) system
 - Oracle BI – Management Reporting
 - Microsoft PowerBI

4.1.6. Graduation subsystem

This part of the system is used to manage the graduation processes for graduates and need to include the following:

- a) Graduation information must allow for the allocation of a result indicating that the student can graduate.
- b) Ceremony Information must allow for the generation and allocation of graduation dates and times.
- c) Generating of seating cards should be configurable according to the venue where the ceremony will take place.
- d) Generating of multiple Ceremony Programs should be configurable according to the qualifications allocated to it.
- e) Communication via E-mail/SMS or WhatsApp:

- The setup and encryption of personalized letters, with the inclusion of data from the system, is of crucial importance.
 - Automation of communication with students via specific requirements. i.e. Ceremony information, etc.
- f) Generation of graduation tickets per graduation ceremony for presenting at the actual ceremony.
- g) Dashboard for students and administrators w.r.t graduation information published.
- h) Integration with third-party suppliers such as:
- Digital Certificates,
 - Sym-bio-sys for chatbot and WhatsApp displaying personal information if a dashboard is not available

4.1.7. Alumni Subsystem

- a) Alumni database management facilitates the management of the alumni data. The platform should be able to handle data updates and uploads. This platform should be a secure, centralized platform for comprehensive alumni data, including personal details, academic records, career trajectories, and engagement history. It should also be able to allow the alumni office to segment the data along several different touch points for targeted communications and event invitations. This platform should handle all kinds of personalisation for communications. It should be able to streamline event planning, registration, and post-event follow-up engagements, enabling efficient management of alumni gatherings and networking opportunities. It enables targeted fundraising campaigns by identifying potential donors and tracking donation history. It provides robust data analytics and reporting capabilities, enabling the Alumni Office to track key performance indicators and measure the impact of alumni engagement initiatives. Processing of financial transactions for services acquired.
- b) Link to the alumni's academic and work history.
- c) Dashboard to allow alumni to update their information and administrators to update it.
- d) Integration with third-party suppliers such as:
- Graduway
 - Rocket Mailer,
 - Oracle BI – Management Reporting,
- e) Microsoft PowerBI.
- f) Alumni Bulk Updates and Mapping
- g) Membership Management System
- h) Alumni Virtual Card integration
- i) Bulk email system capabilities

4.1.8. Statutory Reporting Compliance (HEMIS)

This subsystem is a statutory requirement from the Department of Higher Education and Training (DHET).

- a) HEMIS reporting in a specific format (.ascii) for registered and graduated students is mandatory.

- b) Changes to the DHET requirement must always be adhered to and maintained, as funding is dependent on this reporting requirement.
- c) Integration with third-party suppliers, such as Archibus, for the space inventory needed to report to the DHET.
- d) Integration with third-party suppliers such as VALPAC for the reporting to the DHET is compulsory.

4.2. RESIDENCE ADMINISTRATION

The Student Affairs division is responsible for the resident administrative life cycle of the student, from application to registration within a resident. These processes include the following:

4.2.1. Application system for all resident students

- a) The system must integrate between different subsystems:
 - SEC/Online Academic and Residence Application system—To view applications received and the outcome of academic and residence status.
 - Student Finances – To view statements of registered students and determine if fees were charged correctly and, in the case of cancellations, whether the correct fees were credited to students' accounts.
 - Academic Structure – To view the outcome of academic application statuses.

4.2.2. General requirement on resident applications

- a) Activation of application periods for different application types, as different qualifications have different periods during which they can apply.
- b) An applicant should enter the relevant resident information as required according to the elements such as New Resident applications, Returning Resident applications and gap year Resident applications.
- c) UJ Website/System Dashboard for students should be able to view:
 - Residence statuses and,
 - Academic admissions
- d) The ability to:
 - Send out emails (bulk),
 - Send out SMSs,
 - Send out letters,
 - View Student accounts,
 - View study records.
- e) General biographical information of students.
- f) Configurable requirements for admission of the resident application are needed, which should cater to different settings per Campus, Residence, Academic Faculty, Qualification Groups, Gender, Academic offerings, graduation type (UG/PG), and applicant age.
- g) The residence selection program to check if a student meets the residence selection requirements and do an automated admission individually or in bulk.
- h) Requirements to change the status/campus on the system – either per student or in bulk per residence or status code.

- i) Must be able to print reports on applications received and processed per status, campus, residence, etc.
- j) Different kinds of reports:
 - Reports per status codes – admitted, rejected, etc.
 - Reports on letters sent out.
- k) Log files for changes made to the student residence record.
- l) Integration with third-party suppliers, such as:
 - a DSR such as Perceptive Content
 - Oracle BI – Management Reporting
 - Microsoft PowerBI

4.2.3. Placement / Room Allocation

- a) A functionality to either:
 - automate room allocation within the system or,
 - interface with an external system/program and allocate the room in bulk.
- b) Keeps record of where the students are placed and vacant rooms.
- c) Linked with cancellation on when the students cancel the room.
- d) Acceptance and reporting on inventory items available in the room are also needed.

4.2.4. Students ONLINE residence registration

- a) Students must be able to register for residence online and only for the room they were placed in during the admission phase.
- b) Students must sign the Residence Agreement online and be able to retrieve and print the document after registration.
- c) Students must be able to complete the “move-in” form online on the day they move in.
- d) Back-office support if a student is not able to register or there is a system problem.
- e) There are Different registration requirements for Undergraduate and Postgraduate students. For example, Undergraduate students can only register online if they are academically registered for 2 modules per semester. However, this rule does not apply to postgraduates.
- f) Students can complete the “room checklist/inventory” online. Assets in rooms/residences are to be computerised.
- g) Access control activation to the residence/rooms—either a student moving into or cancelling a residence.
- h) In-house system for students to report:
 - Any problems in the residence/rooms (Maintenance, WiFi, Security or OHS Related),
 - Update biographical information.
- i) Residence fees must be charged automatically once a student registers for his/her room.
- j) Users must be able to transfer students between rooms and campuses. The fees must be debited and credited correctly according to a set of user-defined cancellation/billing requirements.
- k) Users must be able to cancel a student on the system and the fees must be credited automatically on student accounts (according to the daily billing system).

4.2.5. Cancellation system

- a) An Automated cancellation process between a student's Academic registration and residence registration should be possible. (Cancellation and academic acceptance Notification between Faculties, Placement Officers, and the Student Discipline office.)
- b) Automated cancellations—Students must be able to cancel their residence online, but it must be linked with the daily billing system. The student must not be allowed to continue with the cancellation if all the setup is not done correctly.

4.2.6. Set-Up option that Sends Reminders to Registered Students

- a) To re-apply for accommodation and closing dates.
- b) To remind students that their fees must be paid in time when they re-apply.
- c) When a student de-registers at the University/Faculty, a pop-up indicator must be immediately on the residence side (or a daily report must be generated to be sent to the Placements Officer).

4.2.7. Generated Reports

- a) Cancellation Report.
- b) Must be able to print reports on occupied rooms, Occupancy Report per Residence, Campus and all residences.
- c) Demographics Report: Report on the students in residence based on level of study, race, and nationality (similar to BI Reports).
- d) Students who are not registered for studies but staying in residence.
- e) Number of registered subjects registered per student (indicating total 1st semester, 2nd semester and year modules)
- f) Must be able to print reports on registered students per campus, residence, etc.
- g) Sending out bulk emails to students. We struggle with international numbers or students whose phone numbers are not correct on the system.
- h) A Report that indicates which rooms (room number) are not occupied—open spaces in residences—instead of comparing lists via lookup or manually.
- i) If changes on a student application were made, e.g. change status or residence or campus, etc., it must be updated immediately on a report. Should not wait 30 minutes or an hour to update (currently the process with BI Reports).
- j) “Scalability” of the system, i.e. handling the large volumes of traffic during peak processing times, i.e. registration

4.2.8. Process Integration: Must integrate with

- a) Online registrations – Can only register for a residence once the student is academically registered.
- b) Academic structures.
- c) Student Enrolment Centre (SEC).
- d) Student Finances.
- e) Space—If a new residence is built, Space must set up the system correctly, including rooms. Even if a room is changed from a double to a single, Space will also have to change the system because fees are loaded according to double rooms and single rooms.

- f) Biographical information of the student.
- g) Protection Services.

4.3. STUDENT FINANCE/DEBTORS/BANK RECONCILIATIONS

The system must be able to extract dependable Management Information and an array of financial reports. It must also be integrated with different subsystems, such as Student Finance, Bursaries, Counter, and Cashbook.

4.3.1. Student accounts

- a) The system:
 - can e-mail student account information directly from the system,
 - can SMS account information to students directly from the system,
 - provides functionality for students to apply online via ULink/iEnabler,
 - can do age analysis on student accounts according to predefined payment agreements,
 - can differentiate between different types of debt, e.g. Tuition fees, residence fees, etc,
 - should allow for restricted access for specific functionality per user.
- b) Online applications for AOD (Acknowledgment of debt) and Refunds.
- c) Management information and reporting.
- d) Calculate interest according to preset payment agreements.

4.3.2. Student receipts

- a) The system caters for the following payments:
 - Credit Card and debit cards in real-time,
 - Online e-payments.
- b) Audit trail and log files.
- c) The system can automatically block and unblock students based on pre-set rules.

4.3.3. Refunds and Payments

- a) The system allows for an online refund application process.
- b) It also allows approval of refund applications.

4.3.4. Fees

- a) The system allows for the fee structure to be set up per academic year and various other criteria for different kinds of debts, e.g. Registration fees, Levies, Tuition and Residence fees.

4.3.5. Journals

- a) The system allows for journals to be processed individually and in bulk.
- b) The system allows for the approval of individual journals.
- c) Log files and audit trails.
- d) Inter account transfer journals.

4.3.6. Posting to General Ledger (GL)

- a) The system can interface with Oracle GL in batches.
- b) The system can perform verification of batches before posting.

- c) The system allows for the capturing of GL journals.

4.3.7. Cashbook

- a) Electronic downloading and processing of bank statements.
b) Electronic bank reconciliation functionality.

4.3.8. General Requirements (Student Funding)

- a) The number of students who apply for funding per year is approximately 100,000. The number of funding awarded to students is approximately 30,000 and for bursaries is approximately 10,000 per year. The system is able to handle these numbers.
- b) The system:
- integrates student accounts and student bursaries/loans.
 - allows for verification of previously uploaded supporting documents.
 - allows for the sending of individualised SMSs and emails.
 - allows for the provision of extensive Management Information and Reporting.
 - allows for interactive updates of criteria (parameters) for bursaries. This includes bulk and individual allocations.
 - allows for the scanning of supporting documents.
 - should allow for the uploading of documents through ULink/iEnabler.
 - allows for restricted access for specific functionality per user.
 - allows an interface with Smartcard vendors.
 - does a preliminary selection per pre-determined set-up when a student applies for financial assistance.

4.3.9. Loans/Bursaries management

- a) Log files and audit trails.

4.3.10. Integration to 3rd party systems (API's)

- a) Perceptive Content
b) Academic Partners
c) Banks
d) Paygate
e) uLink - the institutional student portal, which connects students to all E-services at UJ.
f) Innopac
g) HEMIS and Management reporting i.e. HEDA – Higher Education Data Analyser
h) Oracle EBS
i) Oracle BI Reporting
j) Microsoft PowerBI
k) Flywire (Payment gateway for international students)
l) Student Allowance Disbursements (e.g. Fundi and eMbizo)
m) Swordfish (Debt Collection Tool)
n) FNB Host-to-Host (Secure payment tape transmission)

4.4. INTEGRATION TO 3RD PARTY SYSTEMS

The system will need to integrate with the following 3rd party systems:

- a) Access Control System – Impro Systems,
- b) Document Storage Solution with Routing implemented - Perceptive Content,
- c) Receipt of applications into the SIS for Academic Partners,
- d) Payment portals and cashbook services from most major Banks,
- e) Learning Management System – Moodle,
- f) Marks Management System – **Homegrown** system called MAMS,
- g) Examination Paper Systems – **Homegrown** system called SAPSS,
- h) Application for Sick Examinations – **Homegrown** system,
- i) Academic Appeals System – **Homegrown** system (F7),
- j) Institutional student portal, which connects students to all E-services at UJ. – **Homegrown** platform called U-link,
- k) Library Management System – Sierra,
- l) HEMIS reporting – VALPAC,
- m) Management Information Reporting and Higher Education Data Analyzer - PowerHEDA and Oracle BI Reporting Systems, Microsoft PowerBI
- n) Online Election System – ITS Voting System,
- o) Online Late Enquiry system – ITS MOBI late enquiry System,
- p) Timetabling Optimization and Databases System – CELCAT,
- q) Certification system (printing and publishing of graduate certifications) - Digital Certificate
- r) Staff System and Financial System (GL specific) - Oracle EBS,
- s) Facility Management System – Archibus,
- t) Academic Rating System – ARS system (PowerHEDA),
- u) Sim-Bio-Sys Chatbot system.

4.5. TECHNOLOGY AND IMPLEMENTATION

- a) The developed SIS for UJ must be highly scalable to handle peak loads, particularly during registration and application periods, ensuring optimal performance for over 400,000 applicants and nearly 70,000 registered students. For additional information, refer to Section 7 on Scale Information.
- b) The system should support cloud-based and on-premises deployment models, allowing UJ to select an option that aligns with its existing infrastructure, security policies, and long-term IT strategy.
- c) The data migration capabilities must include a structured methodology to ensure seamless transfer of student records, biographical data, and historical transactions from the current ITS Integrator system, leveraging automation, validation tools, and error-handling mechanisms.
- d) To ensure business continuity, the system must feature robust backup and disaster recovery (DR) solutions, including real-time data replication, automated failover, and recovery testing, with a defined recovery time objective (RTO) and recovery point objective (RPO) that meets UJ's operational needs.
- e) The system development lifecycle should follow a phased approach, encompassing project initiation, requirements gathering, system design and configuration, data migration, testing

(including User Acceptance Testing and Disaster Recovery), deployment, user training, and post-implementation support. This approach should minimise disruption to UJ's academic and administrative operations while promoting seamless adoption and optimal system performance.

4.6. USER INTERFACE (UI) AND USER EXPERIENCE (UX)

- a) UJ requires a modern SIS that prioritises ease of use, ensuring an intuitive and user-friendly experience for students, staff, and backend administrators.
- b) The system must provide seamless accessibility, allowing users to engage with academic, financial, and administrative functionalities across multiple devices and platforms.
- c) Mobile responsiveness is critical, enabling students to manage applications, registrations, financial transactions, and communication “on the go”.
- d) Additionally, the SIS should incorporate advanced dashboard analytics, offering real-time insights into student performance, enrolment trends, and administrative efficiency.
- e) A well-designed student and administrator interface should foster streamlined navigation, personalised user experiences, and seamless integration with UJ's existing digital ecosystem, as detailed in Section 4.4, ensuring an efficient and modernised student management experience.

4.7. SECURITY AND COMPLIANCE

- a) For UJ, compliance with data protection laws, security, and access control is critical.
- b) The system must adhere to the POPIA and GDPR (for international students) to secure the processing, storage, and transmission of student and administrative data.
- c) This includes explicit consent mechanisms, data minimisation, and the right to access and delete personal data.
- d) Role-based access control (RBAC) must be implemented to enforce user-specific permissions, ensuring that only authorised personnel can access sensitive student records, financial data, and academic records.
- e) The SIS should also incorporate audit trails that log all user activities, modifications, and access attempts, providing accountability and compliance with institutional and regulatory standards.
- f) To mitigate cybersecurity threats, the system must incorporate multi-layered security measures, including multi-factor authentication (MFA) and regular security patches.
- g) Additionally, real-time monitoring and automated alerts should be included to detect and respond to potential threats swiftly.
- h) All tenderers should complete the attached mandatory **Security and Access Control Checklist**.
- i) Tenderers who do not score full allocation of marks for this section must indicate how shortcomings will be remedied.

5. PROJECT DELIVERY AND SUPPORT

5.1. IMPLEMENTATION METHODOLOGY

Please provide an overview of your implementation methodology, approach, tools and how you will interact with UJ throughout the implementation period. Provide your typical project team structure, including a summary of role descriptions. Please also include the commitment to oversight and involvement throughout the entire process from senior management and director level.

Please provide consulting hours and costs that will be included in each phase of the implementation as follows:

- a) Project initiation
- b) Requirements analysis (Software and Hardware)
- c) Planning
- d) Construction (Full technology stack)
- e) Data migration
- f) Testing (Live and Technical Recovery Plan (TRP))
- g) Deployment (Live and DR)
- h) Quality control
- i) Training
- j) Go-live support
- k) Post implementation review
- l) Project closing and handover
- m) Other (specify)

5.2. TESTING APPROACH

- a) Please provide information on your testing approach, including internal testing and UAT
- b) Do you provide detailed test cases and plans? If so, please provide examples
- c) Please explain your requirements from UJ for the testing phases
- d) Please ensure that you sufficiently budget and plan for the testing phases
- e) Internal (implementor) testing should be signed off before any user testing is started
- f) Supply an example of a possible TRP for the DR environment

5.3. DATA MIGRATION APPROACH

- a) Please provide information on your data migration approach, including roles and responsibilities between client and yourself.
- b) What is your recommended approach with data reviews, clean-up, standardisation and mapping to your SIS?
- c) Please explain what tools you use for the data migration
- d) Please explain your requirements from UJ for the data migration phase

5.4. CHANGE MANAGEMENT APPROACH

- a) UJ has been using the current SIS for more than 30 years. It formed the way we think and the way we do things. Implementing a different platform can cause a lot of uncertainty and fear amongst the users. It is critical that the change management component of this

implementation is dealt with in a professional manner.

- b) Please provide your take on change management and the use of a third party to drive this.
- c) Would you prefer UJ to appoint an independent change management consulting company to take responsibility for this function?
- d) If not, please provide the details of your internal change management team, their qualifications, and credentials.

5.5. LOCAL SUPPORT (SOUTH AFRICA)

Please elaborate on your support team(s) and explain where they are situated and how your support structure and response times work.

5.6. ONGOING SUPPORT (PARTNER ECOSYSTEM)

Please elaborate on your partner ecosystem and how you leverage strategic partners to support your solution and provide just-in-time support.

5.7. IMPLEMENTATION TIME FRAMES

Please specify:

- a) Estimated lead time required to implement the system from signing contracts through to project closure and signoff
- b) Estimated time required to complete the implementation
- c) Estimated time between version upgrades
- d) Please provide an example of a typical, high-level, project plan for this type of implementation
- e) Indicate the time delay in creating/cutover to DR

5.8. CORE IMPLEMENTATION TEAM AVAILABILITY

The core implementation team needs to be on site during the implementation for most of the phases. The phase should be a collaboration effort between your team and UJ staff and face time is required for this.

5.9. LEVEL OF EXPERTISE OF THE CORE IMPLEMENTATION TEAM

- a) An experienced implementation team is required with sufficient oversight from senior management. The approach to internal reviews and quality controls is critical for success and should be treated as such. The implementation structure should reflect this.
- b) Please document procedures in place to account for changes in the project manager or the core implementation team.
- c) Please document implementation planning, monitoring and measurement tools used during project delivery.

5.10. INTEGRITY AND CONTROL

The following integrity and control functionality is required:

- a) Integrity checks over data input and processing
- b) The installation and system should prevent the duplication of entries
- c) The installation and system should administer data integrity over the database

- d) The installation and system should administer logical access to control the segregation of duties – does your system have user roles and/or profiles?
- e) The installation and system should have an audit trail of changes on application and database level

5.11. TRAINING AND DOCUMENTATION

Training is of utmost importance to assist the users with the adoption of the new system and empowering them to do things better and faster. Training should not be a secondary aspect of the implementation.

5.12. TRAINING DOCUMENTATION REQUIREMENTS

- a) Please provide an overview of your proposed training approach (e-learning, classroom training, train-the-trainer etc.)
- b) A sample copy of the training agenda to be included as part of the implementation

5.13. DOCUMENTATION REQUIREMENTS

- a) Samples of user documentation to be included as part of the implementation
- b) Examples should include the following:
 - Technical manual
 - User manual
 - Training manual
 - Standard operating procedures (SOP) manual

6. VENDOR EVALUATION

Please note that vendor evaluation plays a significant role in our evaluation and selection process. We expect you to propose the best-fit solution for this project. Please also ensure that your response is tailored to the UJ project and not just generic information.

6.1. VENDOR BACKGROUND

Please specify:

- a) Background information on the local company (South Africa) and their operations
- b) The number of years for which your local company has been actively operating in South Africa
- c) Provide an organogram of your organization
- d) Please explain why your platform should be the preferred platform for UJ. What differentiates your platform?

6.2. FINANCIAL/RISK INFORMATION

Please specify:

- a) Confirmation that your company is liquid and solvent.
- b) Current normal and abnormal outstanding contractual obligations of the local company.
- c) Details of any litigation against the local company.
- d) Recourse back to the software developers.

6.3. SERVICE HISTORY

Please specify:

- a) Client information
 - The number of clients for which your company implemented the proposed system
 - The current number of clients still using this system as implemented by your company
 - Your experience in the higher education industry
 - The projected number of new clients for whom you will implement this system in the forecast financial year
- b) Percentage of projects delivered on time and within budget during the past financial year

6.3.1. Success of previous and similar implementations/Builds

- a) Rate the success (with reasons) of previous implementations and/or new development builds performed as well as the amount of post implementation work to ensure that the system ran as expected.
- b) Please provide us with your top five tips for successful implementation and/or new development builds.
- c) Please provide us with an example of a failed implementation/or new development builds and the reasons why it resulted in a failure

6.3.2. Results of user reference checks (Proposal Eval)

Please provide us with at least **3 relevant** reference implementations/or new development builds (completed) of the same nature and magnitude. Please also include implementations in the higher education industry, even if they are international implementations.

6.3.3. The following information is requested to enable us to do reference checks

- a) Name of company
- b) Country
- c) Industry
- d) Platform (cloud or on-premises)
- e) Implementation timeframe
- f) Number of users
- g) Number of students
- h) Go-live date
- i) Modules implemented
- j) Integrations done
- k) Contact details
- l) Available for a reference check (Y/N)
- m) Available for a site visit (Y/N)

6.4. YOUR PLATFORM/SYSTEM

- a) Please provide information on your approach to continuous research and development
- b) Please also provide the software development roadmap of your software/platform
- c) Please provide information on your cloud strategy
- d) Please provide an overview of your platform's technical architecture, including application,

database, hosting and integration information.

- e) Please provide information on your capability and strategy to artificial intelligence (AI) and robotic process automation (RPA)

7. COSTING

We understand that some software companies provide cost in a foreign currency for the user and modules licensing. Our requirement is to have Rand costing and to contract in local currency. Please provide us with an explanation on how your costing model works (the cost drivers) – e.g., is it based on users, types of users, modules etc. Please also provide information on any possible discounts for higher education entities, if possible.

Please specify at what stage of the implementation these costs are billable.

7.1. INITIAL INVESTMENT

Please provide the following costing information as per Table 2.

Table 2 - Costing Information

Item	Total Cost (Rand) – VAT inclusive
Software licensing/Annual Subscription (if applicable)	
Development Costs	
Implementation costs	
Migration of data costs	
Hosting set-up fees	
Project management	
Training	
Change management	
Other Costs	

Please specifically include in your response the following:

- a) Estimated disbursement costs, for example, travelling charges, meals, and accommodation charges. These costs can be supplied as a cost per kilometre or cost per day estimate.
- b) Estimate of the number of your resources required over the duration of the project.
- a) A split between software, hosting and implementation costs should be proposed. It should also be clear which costs are once-off and which are annual.
- d) Please specify whether you use a subscription model or outright purchase and annual licensing fee model. Please also provide your payment terms for us to understand the cash flow implications.
- e) Please clarify whether the hosting platform can be selected by UJ or whether you are prescriptive with the platform of choice.
- f) Please detail any assumptions and exclusions where applicable, e.g. describe what is

included in your development efforts and provide estimated costs for exclusions. Please ensure that assumptions are realistic.

7.2. SYSTEM REQUIREMENTS:

- a) Provide an accurate cost estimate for a cloud-hosted model
- b) What is covered by the maintenance contract?
- c) Is there a penalty provision in the SLA for a failed implementation?
- d) Is there a penalty provision in the SLA for failing to meet implementation deadlines?
- e) Do all prices quoted remain in effect throughout the contract period?

7.3. ANNUAL COSTS

- a) Please provide the following information on the ongoing cost of the software as per Table 3.

Table 3 - Annual Costing

Item	Total Cost (Rand) – VAT inclusive		
	Year 1	Year 2	Year 3
Annual costs for software (if applicable)			
Development Costs			
Annual costs for hosting			
Annual support cost			
Annual maintenance cost			
License Cost			
Other Costs			

- b) What is the estimated level of ongoing system maintenance required in the long term (R/annum)?

8. SCALE INFORMATION

- a) Due to peak periods for online student registration and applications, scalability is of the utmost importance. Please indicate your approach to support during high-peak periods.
- b) Primary data elements: The list below only comprises the critical areas, and other transactions, which might be necessary, were not included. Table 4 details the numbers for all years of study within the system.

Table 4 - Critical Data Volumes

Master data element	Quantity
Academic Structure Information	122 641 Qualifications
	755 317 Modules
Biographical Information	2 618 208
Academic Application Information	7 252 741

Residence Application Information	747 140
Registration Information	2 271 627
Study Record Information	13 675 204
Graduate Information	439 442
Alumni Information	294 775

8.1. COMMUNICATION REQUIREMENTS

Below find the communication statistics which should be regarded for scalability during peak periods.

Table 5 - Communication Volumes

iComms Letters	Total
2020	1 426 892
2021	1 954 170
2022	2 523 026
2023	2 607 314
2024	2 424 290
5-year Total	10 935 692
Average per year over 5 years	2 187 138

Table 6 - Letter of Information

Average letters per day during application cycle (estimate)	4 000
Average letters per day during peak period (estimate)	100 000
Size of largest letter in Kilobytes (Kb)	956
Size of smallest letter in Kilobytes (Kb)	61
Average size of letter sent in Kilobytes (Kb) (estimate)	350
Space required to store (DSR) letters in Gigabyte (Gb) (estimate range)	750 - 1000

8.2. PROCESSING CAPABILITY

The proposal should include details on:

- What the technology stack used in the proposed systems are, this must include information on whether the system is cloud based or can be hosted in our own datacenter and what the scalability approach would be.
- Information on Backup and Recovery as well as the DR setup/recovery process should also be provided.

- c) Information about the database and operating system technology used for the system is needed.
- d) Also indicate whether your system as setup on your requirement specifications, has been stress tested and whether it will be able to handle 250 concurrent users.

8.3. CURRENT TECHNICAL LANDSCAPE

Table 7 details the current technical landscape.

Table 7 - Technical Landscape

Technical information	Details
Server environment (on-premises and cloud)	On Premise (Linux) Oracle Virtualization
Mail platform	Microsoft Outlook server
Identity management	Microsoft AD
Document storage platforms	Perceptive Content
Disaster recovery / backup measures	Manual Log Shipping / Cold Backup - NetBackup
Office platform	Microsoft 365 Enterprise

9. SCORING INFORMATION

The tender will be evaluated through four phases, while a gated approach will be deployed to select a Vendor (Gate 1) and then a strategic Partner (Gate 2).

- a) The vendor selection process will identify the best-fit SIS based on functionality, scalability, and compliance with academic and administrative requirements.
- b) Once the system is chosen, a **strategic vendor-certified implementation partner** will be selected to tailor the deployment, integrate with existing infrastructure, and provide change management support.

This gated approach minimises risk, ensures a smoother transition, and leverages expert guidance to maximise system effectiveness. To this end, both gates will consist of the following phases:

The evaluation will consist of the following phases:

1. **Phase 1** – Tender Administrative Compliance
2. **Phase 2** – Solution Evaluation: Proposal Documentation
3. **Phase 3** – Solution Evaluation: System Demonstration
4. **Phase 4** - Financial and B-BBEE

9.1. PHASE 1 – TENDER ADMINISTRATIVE COMPLIANCE

- a) Tender Administrative Compliance – providing all relevant and mandatory documentation requested throughout the supplier registration process.
- b) The UJ Procurement Department will evaluate this phase.
- c) Tenderers will not be allowed to proceed to Phase 2 should this not be approved.

9.2. PHASE 2 – SOLUTION EVALUATION: PROPOSAL DOCUMENTATION

- a) During this phase, solutions will be evaluated based on the documentation provided and the demonstration by the service providers as detailed in Table 8.
- b) Scoring is weighted higher towards system capability and functionality; hence, 20 points are assigned for the critical functional areas. This does not mean that the other categories are less important.
- c) Respondents who score below 15 points for Academic Administration, Residence Administration and Student Finance will automatically be eliminated from Phase 3.
- d) Having met the requirements set out in (c), only those who score above 70 in total and above will be invited to phase 3.

Table 8 - Functional Evaluation Scoring

RATING SCALE	DESCRIPTION
5	Exceptional
4	Above Adequate
3	Adequate (Basic)
2	Below Adequate
1	Poor

FUNCTIONAL EVALUATION CRITERIA FOR STUDENT INFORMATION SYSTEM (SIS)			
Evaluation Category	Criteria	Scoring	Maximum Scoring
Technical Development Capability	To provide the requirements detailed in Sections 4.1, 4.2 and 4.3.		60
Integration with 3rd Party Systems	Ability to integrate with systems as detailed in Section 4.4.		5
Technology and Implementation	As detailed in Section 4.5		5
User Interface (UI) and User Experience (UX)	As detailed in Section 4.6		5

Security and Compliance	As detailed in Section 4.7		5
Project Delivery and Support	As detailed in Section 5.		10
Vendor Capability (References)	As detailed in Section 6.		10
TOTAL SCORE			100

9.3. PHASE 3 - SOLUTION EVALUATION: SYSTEM DEMONSTRATION

Refer to Table 8 Functional Evaluation Scoring

9.4. PHASE 4 – PRICE EVALUATION

Tenderers who have earned the necessary points (at least 70) during Phase 2 will be evaluated as per the evaluation table below.

Table 9 - Final Evaluation Criteria

Price	BBBEE
80 (As detailed in section 7.)	20

