Software Requirement Specification:

Topicus Team 1:

Umair Aamir Mirza (s2928558)

Martin Demirev (s2965046)

Condu Alexandru-Stefan (s2769549)

Narendra Setty (s2944200)

Alexandru Lungu(s3006301)

Teodor Pintilie (s2920344)

User Stories per Requirement:

The goal of the product as a whole is to provide a solution for parents to easily register their children to the desired schools online. Essentially, the product will be a registration system that is accessible, widespread, and more manageable than having various methods for registering students. Such a system needs to account for the levels of access of its users, which are best formulated through functional and quality (non-functional) requirements. The main users of the system will be:

- **Parents:**
    - With the intention of registering their children or accessing existing registrations.
- **School Administrators:**
    - With the intention of managing registrations, accessing registration records, and creating/modifying registration forms.
- **Topicus Administrators:**
    - With sufficient access to monitor existing data about schools, for maintenance purposes.
    - They are not included in the primary users for the application, but if possible, the necessary functionalities will be provided.

The system itself will need to facilitate these interactions through a singular application, and the functional and non-functional requirements are derived in the table below from the requirements extracted from the information provided to the project team.

Type of User:	User Story:	MoSCoW Priority:
Parent	As a parent, I want to be able to submit a registration form in order to register my child with a desired school. ● Must fill in all required fields to submit. ● Appropriate validation on the fields to make sure that they are correct. ● Success/Fail message to inform the user if the action was successful. ● Parent details should be auto-imported from the account, along with details of the child if possible.	M
Parent	As a parent, I want to be able to modify my child's existing registration in order to update the necessary data when external changes occur. ● Modification is only allowed if permitted by the situation: a form that has already been submitted for review cannot be modified. ● Modification changes are saved when the parent presses "Save", and warnings are shown. ● Final request before modification to check if the parent truly wishes to change the data in the form. ● Should not be allowed to modify registrations if not permissible.	M
Parent	As a parent, I want to be able to delete my child's registration in case my child is no longer attending a particular school. ● Deletion should be synchronized with the database and refreshes. ● Should provide a prompt to request a final decision (if they truly want to delete). ● The deletion should not be permitted in the event that a registration is already submitted, a request should be sent to the school administrator for deletion.	M
Parent	As a parent, I want to be able to create an account to easily access the relevant information and permissions to manage my child's registration(s). ● Account creation should encrypt private data fields when communicating with databases. ● Checks to see if the email is already in use. ● Creation of account should immediately be directed to the login page, or into the account itself. ● (Possibly: Email Validation).	M
Parent	As a parent, I want to be able to see my registration(s) so that I can check whether the details I have submitted are correct. ● View permissions for forms will enable no editing whatsoever. ● Should be able to view the form immediately after submitting, so immediate refresh afterwards.	M
Parent	As a parent, I want to be able to see the status of my registration form so that I can check whether my child has been accepted. ● Status of the forms is displayed in the list, updated and self-explanatory.	M
School Admin	As a school administrator, I want to be able to view all registrations submitted for this school, so that I can stay updated about the latest developments. ● Must only be able to view registrations to the school. ● If time permits, appropriate filters should be added to ensure ease of navigation.	M

School Admin	As a school administrator, I want to be able to modify/delete registrations to respond appropriately to registrations. ● Modification of registrations relates to changing the status of the registration, data fields must not be allowed to be modified. ● Deletion from the system will remove the data from the database, and should provide a warning to the administrator, especially if the form is not rejected.	M
School Admin	As a school administrator, I want to be able to accept or reject registration requests from parents to inform parents if their child has been accepted or not. ● Rejection of registrations requires a reason for rejection. ● Acceptance should change the status. ○ If possible, and time permits, a notification to the parent will be appreciated.	M
School Admin	As a school administrator, I want to receive requests for updating or deleting a student's registration before any final action is taken. ● Requests must show the registration in question, the current status, and the reason for which a parent requests permission to update or delete the registration. ● Approval will then carry out the action needed (update: change status to awaiting an update, delete: remove the registration). ● Such requests can also be denied.	M
School Admin	As a school administrator, I want to be able to modify the style and contents of the registration form to better suit the school and the data we require. ● Styling changes must be visible after selection on a default template. ● Content changes must be possible before the submission of the registration form, afterwards, warnings should be displayed to schools to inform them of the repercussions of changing the fields at this stage. ● Should be able to save changes, delete registration forms, and more.	M
Topicus Admin	As a system admin, I want to be able to view all registrations so that I can check for mistakes and inappropriate input. ● Registrations will be displayed in the dashboard after choosing a school. ● The chosen school must exist and use the platform. ● Can view registrations for any school.	M
Topicus Admin	As a system admin, I want to add schools to the system so that they can start using it and sending requests for their School Admins to be added. ● Fill in the school's details through a form in the appropriate format and save them. ● Input type validation. ● Success/Fail message when finished.	M
Topicus Admin	As a system admin, I want to be able to approve or reject requests for School Admins so only the appropriate people of each school's staff become such. ● Receive requests which will be displayed on the intended page. The page will be empty if there are not any. ● Approve or reject them which updates the status accordingly. ● (Possibly: notifications showing that there are new requests after logging in)	M

All	As a user, I want to be able to log in securely to my account to perform my desired tasks. ● No private data is displayed until successful login through the login form. ● Can register if they do not have an account yet.	S
All	As a user, I want to be able to recover or reset my password in case it has been compromised or I have forgotten it. ● After some unsuccessful attempts to login, the 'recover password' option will become available. ● The password can still be reset if a user decides to do so.	S
Parent	As a parent, I want to be able to contact support so that I can complete registrations with ease. ● Available through a separate page 'Support'. ● Contacts a Topicus Admin.	C
Parent	As a parent, I want to be able to add files to a registration so that my child's registration is complete with all data. ● Through the allocated field in the registration form. ● Only some file types will be acceptable (like pdf, docx).	C
Parent	As a parent, I want to be able to download the registration form so that I can keep this information to myself. ● Possible through an export button. ● Only some file types will be supported (like pdf, docx) between which the parent can choose.	C
School Admin	As a school administrator, I want to be able to add notes to existing registrations to inform other admins about further developments regarding a particular application/registration. ● After viewing a form and pressing the Add note button. ● The note must contain sufficient information.	C
School Admin	As a school administrator, I want to be able to export registrations from our school, for purposes required by the school. ● Available after choosing the export all option in the dashboard. ● Only some file types will be supported (like pdf, docx) between which the School Admin can choose.	C
School Admin	As a school administrator, I want to be able to close the registration form based on dates so that the school can more easily accommodate the appropriate number of students. ● An extension in the customizable form page. ● The status of the registration form is updated accordingly. ● It will no longer be possible for more students to be registered. ● (Possible: The School Admin can open it again.)	C
School Admin	As a school administrator, I want to be able to contact parents through the system in order to provide updates and instructions. ● An option after viewing a particular form will be available to contact the corresponding parent. ● The text field has to be filled with reasonable information. ● The parent will be able to see the messages after viewing the form on their side in an extra field.	C
School Admin	As a School Admin or Topicus Admin, I want to be able to sort the registrations based on some criteria.	C

| and Topicus Admin | When viewing the registrations in the dashboard, there will be a sorting field in which the sorting criteria has to be chosen. The sorting can be performed only by existing fields in the form. | |

However, it is imperative to consider what functionalities the system itself possesses, irrespective of the user. There are actions that the system must conduct in order to ensure stability, consistency, and desirable performance. These system requirements are highlighted in the list below:

Functional Requirements - As a Registration System…
- **MUST HAVE:**
  - I want to be able to provide regulated access and privileges to users based on their type, to keep the system secure.
  - I want to be able to store and manage registrations on a school-by-school basis, keeping data separated.
  - I want to be able to authorize users to prevent impersonation.
  - I want to be able to send the registration requests from parents to school admins so that the admins can give a response.
  - I want to create registrations only after they have been accepted by an admin so that only authorized students can be registered to the school.
  - I want to update or delete registration data after a parent's modification request has been approved by an admin or the action is performed by an admin so that any changes made by the parent can be accommodated.
  - I want to display to users the data corresponding to their role to make it easier to differentiate them.
- **SHOULD HAVE:**
  - I want to offer a way for the users to restore/reset their passwords so that they can access their accounts containing important data and do not have to create new accounts.
- **COULD HAVE:**
  - I want to provide a way of sorting registrations to admins, possibly with in-built filters, to allow for better viewing of the data.

In addition to specifying the functional aspects of the system, it is also necessary to focus on the quality of the system as a whole. These quality requirements are described in the list structure below:

Quality Requirements (Non-functional):
- **Usability and User Interface:**
    - Present a friendly user interface to assist in the process of users being able to interact with other system components to improve user experience.
    - Present clear navigation, only displaying correct pages corresponding to a particular role so that users can easily navigate to their desired location.
- **Performance**
    - The application must be able to execute operations with ease and run into freeze/blocking issues rarely to never.
- **Maintainability**
    - During the lifespan of the web application, there will be clear documentation, UML diagrams and well-structured code to make maintenance of the product as easy as possible.
- **Compatibility**
    - It should be possible for different types of files to be uploaded on the platform (pdf, docx, etc.).
- **Reliability**
    - The system must be available every day with the exception of deploying updates.
- **Portability**
    - The application must work on all different types of hardware such as MacOS, Android and Windows powered devices.
    - The web application should support different browsers.
- **Security**
    - The system must ensure that personal data is not transmitted in a manner that can be exploited, ensuring necessary security during log-in, data access, authentication, and more.
    - The system should be able to withstand basic security threats such as SQL injection, etc.
    - The system must store vulnerable data in the Database in an encrypted form.