

Software Requirement Specification for University Applicant Determination and Messaging Transactor

University of Minnesota, Twin Cities

CSci5801: Software Engineering

Revision 2.5

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Document Revision History

Rev	Date	Author	Change Description
1.0	02/14/2016	Krystal Lee, Qi Wu, Yuanchen Lu, Zixiang Ma	Requirements Draft.
2.1	03/03/2016	Krystal Lee	Removal of “Out of Scope” requirements.
2.2	03/12/2016	Krystal Lee	Added requirements: EX2, EX3, AD4.1, AD4.2, AD4.3, AF2, FU4, AU3.3, AU3.4 Modified requirements: AD2, AD4, AF1, AP2, AP4, AP5.2, S1.1, DU2, FU2, AU1, AU3, AC1-8
2.3	03/13/2016	Krystal Lee	Reworded Section 1 & 2 to match the reworked requirements.
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2.5	03/22/2016	Krystal Lee Zixiang Ma	Added header Modified requirements: ID1.1, AC4

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1. Introduction

1.1 Purpose

This documentation presents the description of University of Minnesota's application determination and messaging software. It includes the software design scope, declaration, perspective, functionality, constraints, and requirements.

This documentation is meant for approval by users and developers of the software. This documentation may also be used by eventual maintenance and system engineers to gain an understanding of the system.

1.2 Scope

The software to be implemented is University Applicant Determination and Messaging Transactor (U-ADMT). The system will allow access and editing privileges to each user account based on their user level. The system will allow applicants to access their applications, and make a final decision on possible admission to the university. It will allow users involved in an applications decision with the ability to access, edit, assign, filter, and screen applications submitted to the university. The system will not deal with user account creation, or obtaining application data.

Additionally, the system will some communication between users in the form of sending emails via an external messaging service, and commenting on applications.

The application of the software will be to allow applicants to keep track of their applications, and to help automate the university employees processing on said applications. It has the benefits of saving time and work for university employees, and giving applicants fast up-to-date responses on their applications.

1.3 Definitions, Acronyms, and Abbreviations

Table 1. Definitions

No.	Term	Definition
1	User	The person, or persons, who will interact directly with the product. In the context of this recommended practice the user may be members or applicants to the same University.
2	Application Data	The applicant information sent to the system from a shared database. Information is obtained from an external application software, and contains the following information: <ul style="list-style-type: none"> ● Personal Info ● Application Info <ul style="list-style-type: none"> ○ Desired College

		<ul style="list-style-type: none"> ○ Desired Department ○ Undergraduate/Graduate/Professional Status ● Educational Background ● Test Scores ● Essays ● Recommendations ● Awards ● Financial Status ● Language
3	Application	An application is made by the system for use by its users. It includes the application data, application type, application number, application status, score, application recommendation, and any comments made.
4	Application Type	An application can be for undergraduates, graduates, or professionals.
5	Application Status	An indicator showing application process. It can be undecided, accepted, rejected, waitlisted, or confirmed. All users with access to an application can see the application status.
6	Score	A score is associated with an application, and used as one of the evaluation criteria made by department level users. It is based on individual criteria scores. College and department users can filter and rank applications by score.
7	Application Recommendation	An evaluation made by faculty level user including accept, reject, or waitlist. It can be overridden by higher level users.
8	Comment	Additional information that users optionally provide for each application to explain how the application recommendation is made. Users may reply to other users comments to explain things like why a recommendation was overridden.
9	Waitlist	A collection of applications that can only be accepted when more opening becomes available.
10	Auto-Reject	A system feature that speeds the automatic removal those who fail to meet the threshold values.
11	Response Deadline	A deadline set by college level users for applicant level users. It is the deadline that applicant level users have to change an application status of accepted to rejected or confirmed.
12	Review Deadline	A deadline set by administrator level users for faculty level users. It is

		the deadline that faculty level users have to complete reviewing of an application.
13	Acceptance Threshold	A threshold set by college level users for the number of applications allowed to have a status of accepted for each undergraduate, graduate, and professional department. In other words, the maximum number of applicant level users to allow.

Table 2. Abbreviations/Acronyms

No.	Abbreviation	Full name
1	GPA	Grade Point Average
2	GRE	Graduate Record Examinations
3	SAT	Scholastic Aptitude Test
4	ACT	American College Testing
5	U-ADMT	University Applicant Determination Message Transactor

1.4 References

IEEE Std 830-1998, “IEEE Recommended Practice for Software Requirements Specifications”. October 20, 1998.

1.5 Overview

The rest of the software requirement specifications contains an overall description of what U-ADMT is, and the detailed design requirements for the software developers. The overall description should generalize the design typology of U-ADMT in terms of the product functionality and design constraints. The detailed design requirements are to the point where the application developers should be able to follow exactly the specifications as they are stated in the document.

The software requirement specifications is organized based on IEEE Std 830-1998. The detailed system description is categorized with respect to different system features and user classes.

2. Overall description

2.1 Product Perspective

The product, U-ADMT, will consist of two (2) main parts: an application determination system and messaging system.

U-ADMT accesses data from a shared database. U-ADMT also stores and updates the shared database with information that can be accessed by other systems. The product as a whole acts as middleware between other systems including an application data submission service and email service.

2.2 Product Functions

The main function of U-ADMT is to help users with application determination. It does this through a variety of different functions:

2.2.1 Application review

Application review function allows users to access applications, and their status. It additionally allows college and department level users to interact with applications and access how other users interact with the application.

2.2.2 Application assignment

Application assignment function helps distribution of applications to college and department level users. It also aids users in assigning applications to other users.

2.2.3 Evaluation ranking

Evaluation ranking function helps users rank applications by scores. It simplifies the process for users to make a decision.

2.2.4 Waitlist

Waitlist function allows applicants who weren't previously accepted or rejected the possibility of eventually being accepted after all accepted students have been notified. It allows the university to fill up seats while maintaining high levels of requirements.

2.2.5 Screening

Screening function allows applications with particularly low requirements to be automatically rejected without having to go through a complicated review process, and possibly waste users time.

2.2.6 Filtering

Filtering function allows all non-applicant level users to organize applications by different fields allowing for easier access.

2.2.7 Messaging

Messaging function allows for communication between users facilitated by the system. It also allows the system to notify applicant level users of changes in application status, and allows department level users and college level users to communicate via comments on applications.

2.3 User Characteristics

Users of U-ADMT are divided into 3 levels: College level, Department level, and Applicants level.

2.3.1 College, and Department level users

These users should be employees at the University, and can be expected to have at a minimum a college graduation level of education and average technical expertise. They will use the system to regularly review applications and applicants, and therefore can be expected to have average experience with the system after one (1) hour of training.

2.3.2 Applicant level user

Applicant level users are people who are applying for the university, and thus it can be assumed that they have at least a high school level of education and average level technical expertise. They cannot be expected to be experienced with the system.

2.4 Constraints

In addition to user requirements, development of U-ADMT is constrained by reliability requirements and security consideration. U-ADMT should allow for a data traffic from all users within the system's network at any given amount of time. However, the system may be constrained by its reliance on a shared database and external systems.

2.5 Assumption and Dependencies

Below is a list of assumptions U-ADMT is based upon:

- User privileges from highest to lowest are college level, department level, and applicant level.
- All users already have accounts registered that they can use to access the system.
- All applications have been submitted at the stage of application review.
- Input data from applicants is legitimate.
- Application data is stored in a shared database that is valid and ready to use.
- Applicant level users can only submit their application data to the application system after all mandatory fields are filled thus data for desired college(s), department(s), and undergraduate/graduate/professional status should be available to the system.
- There should be a predefined list of departments for applicants to choose from.
- There should be a predefined number of seats in each department.
- All users can and will use English.

3. Requirements

3.1 External Interface Requirements

Number: EX1

Title: Application Data

Description: All application data is entered by applicant level users through an application system. After they submit the application data is transferred to a shared database the system shall access.

Rationale: Where application data the system accesses originates.

Author: Krystal Lee

Related Reqs: AD1 (Application Creation)

Priority: Essential

Number: EX2

Title: Account Data

Description: All user account information including associated email are stored in a shared database the system shall access.

Rationale: Where account information the system accesses originates.

Author: Krystal Lee

Related Reqs: EX3 (Messaging Transactor)

Priority: Essential

Number: EX3

Title: Messaging Transactor

Description: The system shall interact with an email service to send messages to users through the email associated with their account.

Rationale: In order for the system to communicate with users.

Author: Krystal Lee

Related Reqs: EX2 (Account Data)

Priority: Essential

3.2 Functional Requirements

3.2.1 System Feature - Application Determination

3.2.1.1 Application Determination - Application

Number: AD1

Title: Application Creation

Description: When the system obtains new application data from the database it shall create a new application with a unique application number, and associate it with the applicant level user account that submitted the application data.

Rationale: In order for the system to use application data from applicants.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), AD1.1 (Application Creation - Multiple)

Priority: Essential

Number: AD1.1

Title: Application Creation - Multiple

Description: If the application data has more than one desired college or more than one desired departments within a college the system shall create multiple applications for the user. Each application created will have a unique application number.

Rationale: In order for the system to deal with applications for multiple colleges and/or departments.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), AD1 (Application Creation)

Priority: Essential

Number: AD1.2

Title: Application Type

Description: The system shall allow applications to be of type undergraduate application, graduate application, or professional application.

Rationale: In order for the system to use application data from applicants to determine where they're applying to.

Author: Krystal Lee

Related Reqs: EX1 (Application Data)

Priority: Conditional

Number: AD2

Title: Application Distribution

Description: When the system creates a new application it shall make the application accessible to all users asides from applicant level users who can only access an application's status and number.

Rationale: In order for the system to know what users can access the application.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), AD1 (Application Creation)

Priority: Essential

Number: AD2.1

Title: Application Distribution - Faculty

Description: As long as an application has a status of undecided the system shall allow administrator level users to assign three (3) faculty level users of the same department to review the application.

Rationale: In order for the system to know when to assign faculty level users to an application.

Author: Krystal Lee

Related Reqs: AD2 (Application Distribution), AU2 (Administrator Level User - Application Assignment)

Priority: Essential

Number: AD3**Title:** Application Status**Description:** The system shall keep track of the status of each application. The status of an application can be undecided, accepted, waitlisted, rejected, or confirmed.**Rationale:** In order for the system to know what to do with applications.**Author:** Krystal Lee**Related Reqs:** AD3.1 (Application Status - Undecided), AD3.2 (Application Status - Accepted), AD3.3 (Application Status - Waitlisted), AD3.4 (Application Status - Rejected), AD3.5 (Application Status - Confirmed)**Priority:** Essential**Number:** AD3.1**Title:** Application Status - Undecided**Description:** Undecided is the default application status assigned during application creation. The system shall let users review the application as long as it has a status of undecided.**Rationale:** In order for the system to know what to do with undecided applications.**Author:** Krystal Lee**Related Reqs:** AD3 (Application Status), AD1 (Application Creation)**Priority:** Essential**Number:** AD3.2**Title:** Application Status - Accepted**Description:** If an application has a status of accepted the system shall allow its status to be changed to rejected or confirmed by an applicant level user.**Rationale:** In order for the system to know what to do with accepted applications.**Author:** Krystal Lee**Related Reqs:** AD3 (Application Status), AD3.4 (Application Status - Rejected), AD3.5 (Application Status - Confirmed), AP5 (Applicant Level User - Respond to Decision)**Priority:** Essential**Number:** AD3.3**Title:** Application Status - Waitlisted**Description:** If an application has a status of waitlisted then the system shall add the application to the waitlist.**Rationale:** In order for the system to know what to do with waitlisted applications.**Author:** Krystal Lee**Related Reqs:** AD3 (Application Status), W1 (Waitlist), W1.1 (Waitlist - Add Application)**Priority:** Essential**Number:** AD3.4**Title:** Application Status - Rejected**Description:** After an application has been given a status of rejected the system shall make sure that it

can no longer be changed to any other status, and will delete the application from the shared database.

Rationale: In order for the system to know what to do with rejected applications.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), AD3 (Application Status), AD3.4.2 (Application Status - Applicant Rejected)

Priority: Essential

Number: AD3.4.1

Title: Application Status - Applicant Rejected

Description: If an application has a status change by an applicant level user to rejected after being accepted, and waitlist removal is enabled, the system shall remove an application from the waitlist.

Rationale: So the system knows that there is an open spot available that can be taken by a waitlisted application.

Author: Krystal Lee

Related Reqs: AD3 (Application Status), AD3.2 (Application Status - Accepted), AD3.4 (Application Status - Rejected), W1.3 (Waitlist - Remove Application), W1.4 (Waitlist - Enable)

Priority: Essential

Number: AD3.5

Title: Application Status - Confirmed

Description: An application can have a status of confirmed only after it has a status of accepted.

Rationale: In order for the system to know what to do with confirmed applications.

Author: Krystal Lee

Related Reqs: AD3 (Application Status), AD3.2 (Application Status - Accepted), AP3 (Applicant Level User - Application Status Access Confirmed)

Priority: Essential

Number: AD4

Title: Application Score

Description: The system shall keep track of a score for each application. The default score value of an unreviewed application is 0 (zero) points, and has a maximum value of 100 (hundred) points.

Rationale: In order for the system to score applications

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AD4.1 (Application Score - Undergraduate Application), AD4.2 (Application Score - Graduate Application), AD4.3 (Application Score - Professional Application)

Priority: Essential

Number: AD4.1

Title: Application Score - Undergraduate Application

Description: For undergraduate applications the system shall base the score on GPA, extracurricular activities, recommendations, ACT/SAT, and essays. The point distribution for each individual criteria is as follows: GPA for 25 (twenty-five) points, extracurricular activities for 20 (twenty) points, recommendations for 15 (fifteen) points, ACT/SAT for 25 (twenty-five) points, and essays for 15 (fifteen)

points.

Rationale: In order for the system to know what undergraduate application scores will be based upon.

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AD4 (Application Score), AD1.2 (Application Type)

Priority: Conditional

Number: AD4.2

Title: Application Score - Graduate Application

Description: For graduate applications the system shall base the score on GPA, research experience, recommendations, GRE, and essays. The point distribution for each individual criteria is as follows: GPA for 30 (thirty) points, research experience for 20 (twenty) points, recommendations for 20 (twenty) points, GRE for 15 (fifteen) points, and essays for 15 (fifteen) points.

Rationale: In order for the system to know what graduate application scores will be based upon.

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AD4 (Application Score), AD1.2 (Application Type)

Priority: Conditional

Number: AD4.3

Title: Application Score - Professional Application

Description: For professional applications the system shall base the score on relevant work experience, recommendations, GPA, and essays. The point distribution for each individual criteria is as follows: GPA for 25 (twenty-five) points, relevant work experience for 25 (twenty-five) points, recommendations for 25 (twenty-five) points, and essays for 25 (twenty-five) points.

Rationale: In order for the system to know what professional application scores will be based upon.

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AD4 (Application Score), AD1.2 (Application Type)

Priority: Conditional

Number: AD5

Title: Application Recommendation

Description: The system shall keep track of user recommendations for an application. The recommendations may be Accept, Reject, or Waitlist.

Rationale: In order for the system to know user recommendations on an application.

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria)

Priority: Essential

Number: AD6

Title: Application Comment

Description: The system shall let users create ASCII text comments on an application.

Rationale: In order for the system to allow users to comment on applications

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AP6.1 (Application Comment - Reply)

Priority: Essential

Number: AD6.1

Title: Application Comment - Reply

Description: The system shall let users reply to comments made by previous users on an application.

Rationale: In order for the system to allow discussion on applications.

Author: Krystal Lee

Related Reqs: AD1 (Application Criteria), AP6 (Application Comment)

Priority: Conditional

3.2.1.2 Application Determination - Waitlist

Number: W1

Title: Waitlist

Description: The system shall maintain three (3) separate waitlists for each department. The first waitlist for undergraduate applications, the second for graduate applications, and the third for professional applications. The waitlists shall be sorted by decreasing order of scores where the first entry is the highest score

Rationale: In order for the system to keep track of waitlisted applications.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), W1.1 (Waitlist - Add Application), W1.2 (Waitlist - Multi-Score Add Application), W1.3 (Waitlist - Remove Application), W1.4 (Waitlist - Enable)

Priority: Essential

Number: W1.1

Title: Waitlist - Add Application

Description: When an application status is changed to waitlisted the system shall look at which department the application is for, if it is for undergraduate, graduate, or professional admission, and then add the application to the matching waitlist. The system will insert the application into the waitlist based on its score.

Rationale: In order for the system to know how to insert applications to waitlist.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), W1 (Waitlist), AD3.3 (Application Status - Waitlisted), W1.2 (Waitlist - Multi-Score Add Application), W1 (Application Score)

Priority: Essential

Number: W1.2

Title: Waitlist - Multi-Score Add Application

Description: If there are already applications in the waitlist with the same score the system will add the application beneath the last application with matching score.

Rationale: In order for the system to know how to insert multiple applications to waitlist with same score.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), W1 (Waitlist), AD3.3 (Application Status - Waitlisted), W1.1 (Waitlist - Add Application), AD4 (Application Score)

Priority: Conditional

Number: W1.3

Title: Waitlist - Remove Application

Description: When the system needs to get an application from a waitlist it removes the first entry in the waitlist, which will be the one with the highest score. It then changes the application status from waitlisted to accepted.

Rationale: In order for the system to know how to remove applications from waitlist.

Author: Krystal Lee

Related Reqs: W1 (Waitlist), AD3.3 (Application Status - Waitlisted), AD3.2 (Application Status - Accepted), AD4 (Application Score)

Priority: Essential

Number: W1.4

Title: Waitlist - Enable

Description: By default the system has application removal disabled. Only after the waitlist removal is enabled will the system start removal of applications from the waitlist.

Rationale: In order for the system to know when to start removing applications from waitlist.

Author: Krystal Lee

Related Reqs: W1 (Waitlist), W1.3 (Waitlist - Remove Application), AC6 (College Level User - Enable Waitlist)

Priority: Essential

3.2.1.3 Application Determination - Screening

Number: S1

Title: Screening

Description: If an application has GPA, GRE, and SAT scores below a minimum threshold the system shall provide any user allowed to review the application with the option to Auto-Reject the application.

Rationale: Allow users to auto-reject applications.

Author: Krystal Lee

Related Reqs: EX1 (Application Data), AD1 (Application Creation), AC5 (College Level User - Requirement Threshold)

Priority: Conditional

Number: S1.1

Title: Screening - Auto-Reject

Description: If a user chooses to Auto-Reject an application the system shall change the application's recommendation to reject, and score to the default value of 0 (zero).

Rationale: In order for the system to know what to do in the case of an auto rejection.

Author: Krystal Lee

Related Reqs: S1 (Screening), DU2 (Department Level User - Application Auto-Reject)

Priority: Conditional

3.2.1.4 Application Determination - Filtering

Number: AF1

Title: Application Filtering

Description: The system shall let all users, asides from applicant level users, filter applications. The system shall support the entering of one or more filtering criteria, and then return the resulting filtered applications with the desired filtering criteria.

Rationale: In order for selection of students.

Author: Yuanchen Lu and Krystal Lee

Related Reqs: EX1 (Application Data), AC8 (College Level User - Rank Applications), AF2 (Application Filtering - Filtering Criteria)

Priority: Essential

Number: AF2

Title: Application Filtering - Filtering Criteria

Description: The system shall support filtering criteria on an application's number, status, name, submission date, and department.

Rationale: In order for system to know what criteria users can filter data by

Author: Krystal Lee

Related Reqs: AF1 (Application Filtering)

Priority: Conditional

3.2.1.5 Application Determination - Validity Checks

Number: ID1

Title: Input Data

Description: System shall perform validity checks on input application data.

Rationale: In order for input not to crash the system.

Author: Krystal Lee

Related Reqs: EX1 (Application Data)

Priority: Essential

Number: ID1.1

Title: Input Data - Data Correctness

Description: The system should be able to recognize the input format and range. The system should not accept entered input that would result in a format mismatch or out-of-range issue.

Rationale: In order for input not to crash the system.

Author: Zixiang Ma

Related Reqs: EX1 (Application Data), ID1 (Input Data)

Priority: Essential

3.2.1.6 Application Determination - Abnormal Situations

Number: AB1

Title: Abnormal Situation Handling - Memory Overflow

Description: In the case of memory space overflow the system shall prevent users from adding more information to the database, and limit the the editing of applications.

Rationale: In order to protect the system for crashing and recover timely.

Author: Zixiang Ma

Related Reqs: n/a

Priority: Essential

Number: AB2

Title: Abnormal Situation Handling - Network Disconnection

Description: In case of network disconnection the system shall try to reconnect to the network every ten (10) seconds.

Rationale: In order to protect the system for crashing and recover timely.

Author: Zixiang Ma

Related Reqs: n/a

Priority: Essential

3.2.3 User Classes

3.2.3.1 User Class 1 - Applicant Level User

Number: AP1

Title: Applicant Level User - Account Access

Description: The system shall allow an applicant level user account to access functions allowed in its user level. The functions include application status access, and application decision response.

Rationale: In order for Applicant level user to access function allowed in its user level.

Author: Qi Wu and Krystal Lee

Related Reqs: AP2 (Applicant Level User - Application Status Access), AP4 (Applicant Level User - Decision Notification)

Priority: Essential

Number: AP2

Title: Applicant Level User - Application Status Access

Description: An applicant level user can access the application number and statuses of applications associated with their account.

Rationale: Applicant user can get the application status of applications.

Author: Qi Wu

Related Reqs: AD3 (Application Status), AD1 (Application Creation)

Priority: Essential

Number: AP3**Title:** Applicant Level User - Application Status Access Confirmed**Description:** An applicant level user can have only one (1) application associated with their account that has a status of confirmed.**Rationale:** So that an applicant level user can't be confirmed to multiple colleges/departments.**Author:** Krystal Lee**Related Reqs:** AD3 (Application Status), AD3.5 (Application Status - Confirmed), AP2 (Applicant Level User - Application Status Access)**Priority:** Essential**Number:** AP4**Title:** Applicant Level User - Decision Notification**Description:** When a decision has been made on an application status, the system shall send an email to the corresponding applicant level user that their application has had its status changed from undecided to either accepted, rejected, or waitlisted.**Rationale:** In order to keep applicant user informed in timely manner.**Author:** Qi Wu and Krystal Lee**Related Reqs:** AD3 (Application Status), EX3 (Messaging Transactor), AC4 (College Level User - Final Decision), AC4.1 (College Level User - Response Deadline)**Priority:** Essential**Number:** AP5**Title:** Applicant Level User - Respond to Decision**Description:** When an application status is changed to accepted, the system shall give the applicant level user the ability to change the status to rejected or confirmed. The system shall give the applicant level user until the response deadline to make any such changes.**Rationale:** In order for applicants level user respond to their application.**Author:** Qi Wu and Krystal**Related Reqs:** AP4 (Applicant Level User - Decision Notification), AD3.2 (Application Status - Accepted), AD3.4 (Application Status - Rejected), AD3.5 (Application Status - Confirmed), EX3 (Messaging Transactor), AC4 (College Level User - Final Decision), AC4.1 (College Level User - Response Deadline)**Priority:** Essential**Number:** AP5.1**Title:** Applicant Level User - Respond to Decision Failure**Description:** If an applicant level user does not change an accepted application status by the response deadline the status is automatically changed to rejected.**Rationale:** In order for the system to know what to do if an applicant level user does not respond to an accepted application by the response deadline.**Author:** Qi Wu**Related Reqs:** AP5 (Applicant Level User - Respond to Decision) AD3.4 (Application Status - Rejected)

Priority: Essential

Number: AP5.2

Title: Applicant Level User - Respond to Decision Multiple Confirm

Description: If an applicant level user changes an application status from accepted to confirmed when they already have an application with confirmed status the system shall also change the status of the previously confirmed application to accepted.

Rationale: In order for applicants level user respond to their application.

Author: Qi Wu and Krystal Lee

Related Reqs: AP3 (Applicant Level User - Application Status Access Confirmed), AD3.2 (Application Status - Accepted), AD3.5 (Application Status - Confirmed)

Priority: Essential

3.2.3.2 User Class 2 - Department Level User

Number: DU1

Title: Department Level User - Application Auto-Reject

Description: System shall allow department level users to Auto-Reject applications that do not meet the minimum screening threshold.

Rationale: This feature can reduce the load of department level user.

Author: Qi Wu and Krystal Lee

Related Reqs: S1 (Screening), S1.1 (Screening - Auto-Reject)

Priority: Essential

3.2.3.2.1 Administrator Level User

Number: AU1

Title: Administrator Level User - Account Access

Description: The system shall allow an administrator level user account to access functions allowed in its user level. The functions include application assigning, application review by collating scores and taking majority vote, and application submission.

Rationale: In order for Administrator level user to access to its account and function allowed in its user level.

Author: Qi Wu and Krystal Lee

Related Reqs: AU2 (Administrator Level User - Application Assignment), AU3 (Administrator Level User - Review Application), AU4 (Administrator Level User - Submit Application)

Priority: Essential

Number: AU2

Title: Administrator Level User - Application Assignment

Description: The system shall allow administrator level users to assign applications to faculty level users for review, and set a review deadline that the assigned faculty level users must submit the reviewed application by.

Rationale: In order for administrator level user to give out the application to faculty.

Author: Qi Wu and Krystal Lee

Related Reqs: AD2.1 (Application Distribution - Faculty)

Priority: Essential

Number: AU3

Title: Administrator Level User - Review Application

Description: The system shall allow administrator level users to review applications submitted back to them from faculty level users. This includes allowing administrator level users to reply to comments, collate scores, and take majority vote on recommendations.

Rationale: In order for administrator user to make decisions.

Author: Qi Wu and Krystal Lee

Related Reqs: AU3.1 (Administrator Level User - Override Recommendation), AU3.2 (Administrator Level User - Reply Comment), AU3.3 (Administrator Level User - Collate Scores), AU3.4 (Administrator Level User - Majority Recommendation), FU4 (Faculty Level User - Submit Application)

Priority: Essential

Number: AU3.1

Title: Administrator Level User - Override Recommendation

Description: The system shall allow administrator level users to override a recommendation on an application based on the recommendations of faculty level users

Rationale: In order for administrator user to change the recommendation when needed.

Author: Qi Wu

Related Reqs: AU3 (Administrator Level User - Review Application), AD5 (Application Recommendation)

Priority: Essential

Number: AU3.2

Title: Administrator Level User - Reply Comment

Description: The system shall allow administrator level users to reply to comments made by faculty level users with their own comment.

Rationale: In order for the administrator user and faculty level user to exchange idea.

Author: Qi Wu

Related Reqs: AU3 (Administrator Level User - Review Application), AD6.1 (Application Comment - Reply)

Priority: Conditional

Number: AU3.3

Title: Administrator Level User - Collate Scores

Description: The system shall allow administrator level users to collate the scores of an application by averaging the scores received from the assigned faculty level users. If a score has a default value of 0 (zero) then it is not included in the average.

Rationale: In order for the administrator user to collate scores.

Author: Krystal Lee

Related Reqs: AU3 (Administrator Level User - Review Application), AD6.1 (Application Comment - Reply)

Priority: Essential

Number: AU3.4

Title: Administrator Level User - Majority Recommendation

Description: The system shall allow administrator level users to take the majority vote recommendation to obtain the final application recommendation. The system shall consider for the majority the 3 (three) application recommendations obtained from assigned faculty level users

Rationale: In order for the administrator user to take the majority recommendation.

Author: Krystal Lee

Related Reqs: AU3 (Administrator Level User - Review Application), MT5.9 (Message Notification - Reply Comment), AD6.1 (Application Comment - Reply), AU3.4.1 (Administrator Level User - Final Application Recommendation)

Priority: Essential

Number: AU3.4.1

Title: Administrator Level User - Final Application Recommendation

Description: When determining the majority recommendation, the system shall determine the final application recommendation to be the one that is recommended at least 2 (two) times. If none of them are recommended more than twice the system shall determine the final application recommendation to be waitlist.

Rationale: In order for the system to know how to take majority recommendation.

Author: Krystal Lee

Related Reqs: AU3 (Administrator Level User - Review Application), AU3.4.1 (Administrator Level User - Majority Recommendation)

Priority: Conditional

Number: AU4

Title: Administrator Level User - Submit Application

Description: The system shall allow administrator level users to submit applications that have completed review to college level users.

Rationale: In order for administrator level users to submit applications.

Author: Qi Wu

Related Reqs: AU1 (Administrator Level User - Account Access), AC2 (College Level User - Submitted Application)

Priority: Essential

3.2.3.2.2 Faculty Level User

Number: FU1

Title: Faculty Level User - Account Access

Description: The system shall allow a faculty level user account to access functions allowed in its user level. The functions include application review and application submission for assigned applications.

Rationale: In order for faculty level user to access to its account and function allowed in its user level.

Author: Qi Wu

Related Reqs: FU2 (Faculty Level User - Application Assignment), FU3 (Faculty Level User - Review Application), FU4 (Faculty Level User - Submit Application)

Priority: Essential

Number: FU2

Title: Faculty Level User - Application Assignment

Description: When a faculty level user is assigned to an application by an administrator level user the system shall grant them full access to review the application. They will be given until the review deadline to submit the application back to the assigning administrator level user.

Rationale: In order for faculty level users to review applications.

Author: Qi Wu and Krystal Lee

Related Reqs: FU3 (Faculty Level User - Review Application), FU4 (Faculty Level User - Submit Application)

Priority: Essential

Number: FU3

Title: Faculty Level User - Review Application

Description: The system shall allow faculty level users to review an assigned application by providing a score and application recommendation. The system shall also allow faculty level users to provide a comment.

Rationale: In order for faculty level user to access the application for evaluation.

Author: Qi Wu

Related Reqs: FU2 (Faculty Level User - Application Assignment), FU4 (Faculty Level User - Submit Application)

Priority: Essential

Number: FU3.1

Title: Faculty Level User - Review Application Minimum Score

Description: The system shall only allow a minimum score of 1 (one) to be entered.

Rationale: In order for the system to know an application has been scored or not.

Author: Krystal Lee

Related Reqs: FU3 (Faculty Level User - Review Application), AD4 (Application Score)

Priority: Conditional

Number: FU4

Title: Faculty Level User - Submit Application

Description: When an assigned application has been given a score and recommendation by the faculty level user the system shall allow the faculty level user to submit the application back to the assigning administrator level user.

Rationale: In order for faculty user to submit the review to higher priority user.

Author: Qi Wu

Related Reqs: FU1 (Faculty Level User - Account Access), FU2 (Faculty Level User - Application Assignment), FU3 (Faculty Level User - Review Application), FU4.1 (Faculty Level User - Submission Failure)

Priority: Essential

Number: FU4.1

Title: Faculty Level User - Submission Failure

Description: If the faculty level user fails to submit the application back to the assigning administrator level user by the review deadline then the system shall assign the application a recommendation of reject, and score to the default value of 0 (zero).

Rationale: In order for the system to know what to do if a faculty level user fails to submit application back in time.

Author: Krystal Lee

Related Reqs: FU4 (Faculty Level User - Submit Application)

Priority: Essential

3.2.3.3 User Class 3 - College Level User

Number: AC1

Title: College Level User - Account Access

Description: The system shall allow a college level user account to access functions allowed in its user level. The functions include making the final decision on applications, setting thresholds and deadlines, and managing the waitlists.

Rationale: In order for the college level users to access function allowed in its user level.

Author: Yuan Chen Lu and Krystal Lee

Related Reqs: AC2 (College Level User - Submitted Application), AC3 (College Level User - Reply Comment), AC4 (College Level User - Final Decision), AC5 (College Level User - Requirement Threshold), AC6 (College Level User - Enable Waitlist), AC7 (College Level User - Waitlist Applications), AC8 (College Level User - Rank Applications)

Priority: Essential

Number: AC2

Title: College Level User - Submitted Application

Description: The system shall allow college level users access and amendment privilege to all submitted applications.

Rationale: In order for the college level users to have rights to applications.

Author: Krystal Lee

Related Reqs: AD2 (Application Distribution)

Priority: Essential

Number: AC3

Title: College Level User - Reply Comment

Description: The system shall allow college level users to reply to comments made by department level users.

Rationale: In order for users participating in the application evaluation to exchange ideas.

Author: Yuanchen Lu

Related Reqs: AC2 (College Level User - Submitted Application), AD6.1 (Application Comment - Reply)

Priority: Essential

Number: AC4

Title: College Level User - Final Decision

Description: The system grants college level users with the ability to change the application status from undecided to accepted, rejected, or waitlisted. They can either change the status based on the recommendation submitted by lower level users, or override the recommendation based on the acceptance threshold and waitlist numbers.

Rationale: In order for the college level users to make final decisions

Author: Yuanchen Lu

Related Reqs: AD3 (Application Status), AC2 (College Level User - Submitted Application), EX3 (Messaging Transactor)

Priority: Essential

Number: AC4.1

Title: College Level User - Response Deadline

Description: The system shall allow college level users to set a response deadline by which an applicant level user must respond to an application status change of Accepted.

Rationale: In order for the college level users to make final decisions

Author: Yuanchen Lu

Related Reqs: AD3 (Application Status)

Priority: Essential

Number: AC4.3

Title: College Level User - Met Acceptance Threshold

Description: If a college level user tries to change an application status from undecided to accepted, and the number of accepted applications for the application type and department has already met the acceptance threshold then the system shall change the application status to waitlisted instead of accepted.

Rationale: In order for the system to know what to do if an application status is changed to accepted when the acceptance threshold has been met.

Author: Krystal Lee

Related Reqs: AD3 (Application Status), AC9 (College Level User - Accepted Threshold)

Priority: Essential

Number: AC5

Title: College Level User - Requirement Threshold

Description: The system shall allow college level users to set requirement threshold for students' test scores and GPA.

Rationale: In order for screening incoming applications

Author: Yuanchen Lu

Related Reqs: S1(Screening)

Priority: Essential

Number: AC6

Title: College Level User - Enable Waitlist

Description: The system shall allow college level users to enable waitlist removal..

Author: Yuanchen Lu

Rationale: In order for waitlist removal to start.

Related Reqs: W1.4 (Waitlist - Enable)

Priority: Essential

Number: AC7

Title: College Level User - Waitlist Applications

Description: The system shall allow college level users to waitlist multiple students from each college or department at once. The number of students to be waitlisted can be inputted by the user.

Rationale: In order to let users mass waitlist.

Author: Krystal Lee

Related Reqs: W1 (Waitlist)

Priority: Essential

Number: AC8

Title: College Level User - Rank Applications

Description: The system shall allow college level users to select the top number of students for each department based on scores and application type. The number of students to be selected can be inputted by the user.

Rationale: In order to let users filter top students.

Author: Yuanchen Lu and Krystal Lee

Related Reqs: AF1 (Application Filtering)

Priority: Essential

Number: AC9

Title: College Level User - Acceptance Threshold

Description: The system shall allow college level users to set the maximum number of allowed applications with a status of accepted for each department and application type.

Rationale: In order to keep too many applications from being accepted

Author: Krystal Lee

Related Reqs: AC4.3 (College Level User - Met Acceptance Threshold)

Priority: Essential

3.4 Software System Attributes

The system should adopt the following attributes:

- The system should be available 95% of the time.
- The system should be able to recover to a previous working state, in case an unexpected shutdown occurs.
- The system should be easy to maintain and build upon.