



California Community Colleges



Reimagine Apply June Task Force Wrap-up PPT

June 26th, 2024

Executive Summary

Reimagine Apply Task Force met virtually on June 26. The Task Force shared feedback from their associations, organizations, and constituencies regarding the Target State of Reimagine Apply, collaborated on the Functional and Technical Requirements that will serve as inputs to the RFP, discussed the key considerations of the RFP Review Committee, and heard SOGI updates that will inform the Demographic questions in the Target State Reimagine Apply application.

Upon review of the Functional and Technical requirements, the group was generally aligned on the inputs and groupings. The conversation emphasized the importance of building out the integration requirements, the need for best-in-class fraud tooling, and how important it will be to align on the weight and hierarchy of priorities as the RFP process continues. The Task Force will confirm all feedback, redlines and suggested updates to the requirements will by 7/19/24.

The group discussed how to best structure the RFP Review Committee, the body that will be tasked with providing a recommendation to the Chancellor's Office for the Target State Reimagine Apply vendor. The feedback received from the Task Force was to increase the number of members in the RFP Review Committee and include a multi-layer approach that would provide opportunity for a broader range of representatives from various stakeholder groups and districts. Input from the Task Force will be incorporated in the RFP Review Committee nomination process.

With these insights, the Task Force aligned that the next steps include collecting feedback for the functional and technical requirements, finalizing the RFP, facilitating nominations for the RFP Review committee, and adapting the Task Force communication style to accommodate the preference for both a calendar invite and an emails for all further Task Force communications.

Session Attendees

Name	Stakeholder Group	Role	College/Organization
Annie Koruga	Student Senate	Region IV Legislative Affairs Director	Ohlone College
Becky McCall	CISO	Associate Vice President of Information Services & Technology	Shasta College
Elaine Kuo	Institutional Researchers	Supervisor, Institutional Research Planning College Researcher	Foothill College
Emily Ekenstam	Student Centered Design Lab	N/A	NA
Gina Browne	Chancellor's Office	Assistant Vice Chancellor	Chancellor's Office
Jane Linder	Tech Center	Director of User Experience, Student Centered Design Lab	Tech Center
Jennifer Coleman	CCC Tech Center	Executive Director	CCC Tech Center
John Hetts	Chancellor's Office	Task Force Co-Chair / Executive Vice Chancellor for the Office of Innovation, Data, Evidence and Analytics Office	Chancellor's Office
LaTonya Parker	Academic Senate	Professor, Counseling Services	Moreno Valley College
Lisa Mandy	Financial Aid	Director of Financial Aid & Scholarship	De Anza College
Lynn Neault	Chief Executive Officers	Grossmont-Cuyamaca Community College District Chancellor	Grossmont-Cuyamaca Community College District
Michelle Smith	Chancellor's Office	Visiting Assistant Vice Chancellor	Chancellor's Office
Michael Odu	Chief Instructional Officer	President, CCC Chief Instructional Officers	Peralta CCD
Patrick Walton	Chief Student Services Officer	Vice President of Student Services	College of the Siskiyous
Ruthie Welborn	Financial Aid	Assistant Director of Financial Aid	Bakersfield College



June Task Force Agenda

Time	Activity
1:00 PM	Welcome & Session Objectives
	Update & Feedback
	Functional & Technical Requirements
1:45 PM	Discussion: RFP Review Committee
	Spotlight: Demographic Questions
	Next Steps & Wrap-Up
3:00 PM	END

Organization, Association, & Constituent Feedback

Discussion Points:

Fraud

- Acknowledged that fraud needs to remain a top priority for the Reimagine Apply Target State, especially due to the increase in fraudulent activity.
- Highlighted that balancing accessibility and safety when solving for fraud is a key consideration to ensure actual students are not screened out in the process of stopping bad actors.

Student Experience

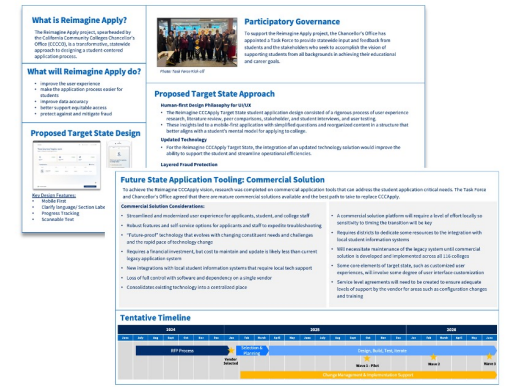
- The group aligned that student-ease when filling out the application remains a strong priority for the field; several suggestions were shared such as ensuring students can apply to multiple campuses at once.

Reimagine Apply Project

- The group relayed that their organizations, associations, and constituencies appreciated the materials provided in gathering feedback. There is a desire for timelines and additional assets to share.

What did you hear?

- What is **exciting** to you about the Reimagine CCCApply work?
- What is **important** to you in a future state student application?
- What would your association/district /college(s) **need for a successful integration** with a new student application?
- What **outstanding questions or concerns** do you have regarding the Reimagine Apply work?



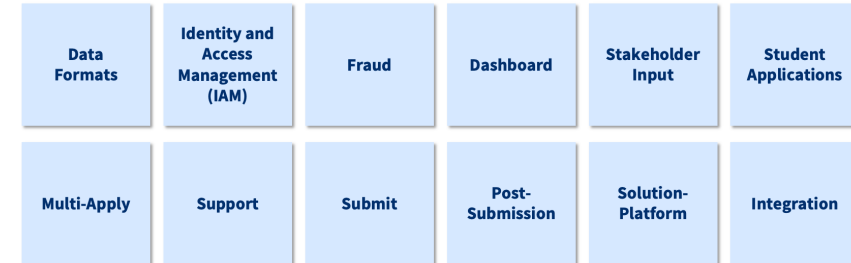
Functional & Technical Requirements

Discussion Points:

Requirement Feedback

- The group discussed the importance of aligning on general data approaches and best practices with vendors including seamless data flow, integration requirements, and preserving data formats as much as possible.
- Acknowledged the necessity of multi-layer “best of breed” fraud tooling to protect against fraud and maintain a welcoming front door for students.
- Emphasized that vendors must understand that CCC is the largest system in higher education and what that means for their transactional loads; the selected system must work for very high volume single and multi-college districts.
- Task Force is looking forward to further discussing the prioritization of vendor features and providing input on a defined ranking of priorities to frame vendor selection.

Functional Requirement Groups



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Technical Requirement Groups



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 Discussion Points:

- The Task Force provided feedback to increase the members in the proposed RFP Review Committee especially in the areas for Admissions & Records (for single or multi-college schools, large or small, etc.), students, faculty, Institutional Researchers, and security representatives.
- Acknowledged the importance for the RFP Review Committee to be a smaller, actively involved committee that attends all meetings and provides timely feedback.
- The group aligned that it will be vital to incorporate an approach that would provide opportunity for a broader range of representatives from various stakeholder groups and districts.

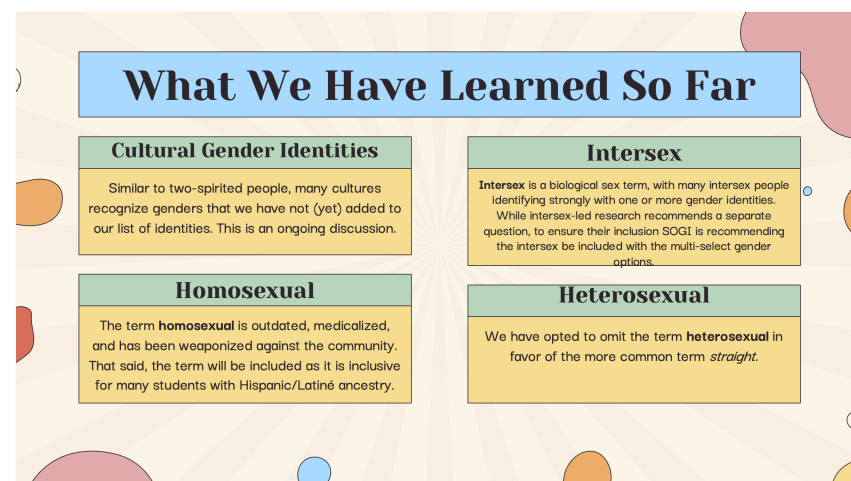


SOGI (Sexual Orientation & Gender Identity)

Discussion Points:

SOGI Coalition Updates

- SOGI provided an informative update and walkthrough on the research gathered on cultural identities, sex data elements, pronouns, and other definitions for varying genders. Some key updates included:
 - New race/ethnicity options especially for Native and Alaskan Americans
 - Transgender elements only display for 18+ years; a new wording for transgender / “trans”
 - Potentially adding a write-in option for sexual orientation in addition to the added options
- Jane Linder will be facilitating additional SOGI feedback sessions and Task Force members will send interested constituent names for these sessions.





California Community Colleges

Thank you!

Contact Info:

[Reimagine Apply Website](#)

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www.cccco.edu



California Community Colleges

Welcome!

Reimagine Apply
Task Force
Session 5

June 26th, 2024

Your Facilitators & Support Team



Erica Harrold
Delivery Lead



Garrick Yau
Delivery Lead



Adam Soni
Manager



Nicole Allport
Consultant



Sara Bunyard
Senior Analyst



Nicole Hay
Senior Analyst



Matt Khachigian
Strategy Consultant

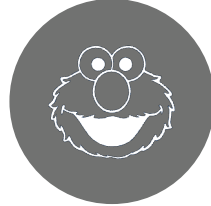
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3:00 PM	END

Agreements



Timeboxed



GELMO
"Good Enough
Let's Move On"



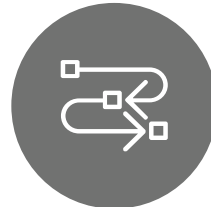
**Assume
Positive
Intent**



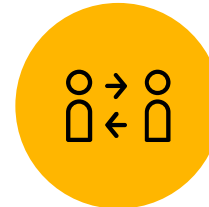
**Be present and
inclusive** (everyone
is heard)



Parking Lot



Trust the process



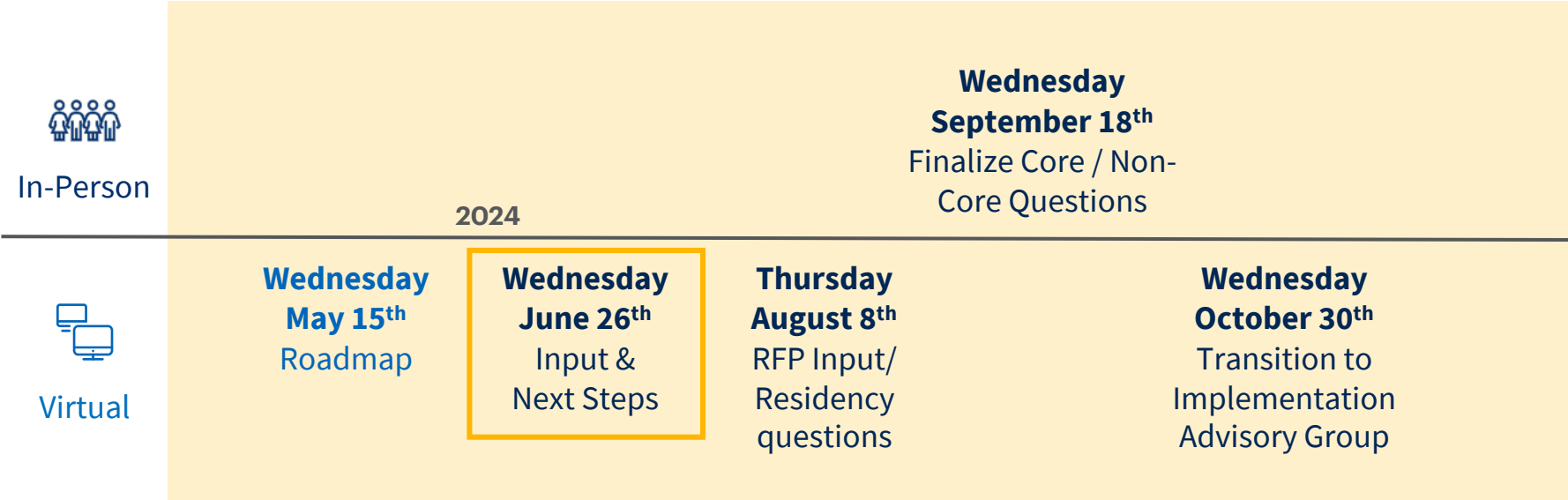
Give Grace



**Be curious and
solution-oriented**

Reimagine Apply Task Force

The Task Force will continue to give input on the Target State, new application governance and High-level Roadmap for implementation of a new application system.



TASK FORCE Members: Academic Senate, Student Senate, A&R, Financial Aid, CEO, CIO, CISO, CSSO, IR, PIO, CCCCCO

June Task Force Objectives

The purpose of our Task Force meetings is to identify, discuss, align and collaborate on Reimagine Apply



1. **Discuss**
update &
feedback



2. **Align** on the
functional and
technical
requirements



3. **Collaborate** on
RFP Review
Committee
Criteria



4. **Identify**
unanswered
questions and
new paths
forward

May Task Force Recap

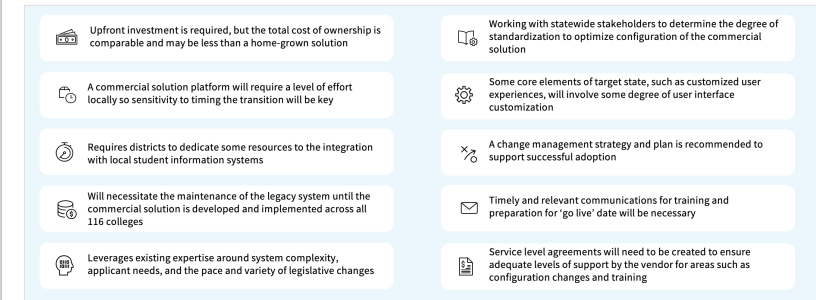
Commercial Solution Considerations

- Update: The **Tech Center will be participating in the RFP process** as a Chancellor's Office partner.
- The group aligned on the importance of “future-proof” technology that evolves with changing constituent needs and challenges.
- Key factors for the vendor selection include flexibility, responsiveness, the ability to connect with existing databases, AI readiness, and a multi-level fraud strategy.

Tentative Timeline

- Task Force will have the ability to review the RFP before a proposed mid-August release date.
- Implementation would be deployed in waves to ensure ample timing for learning, iteration and updates.

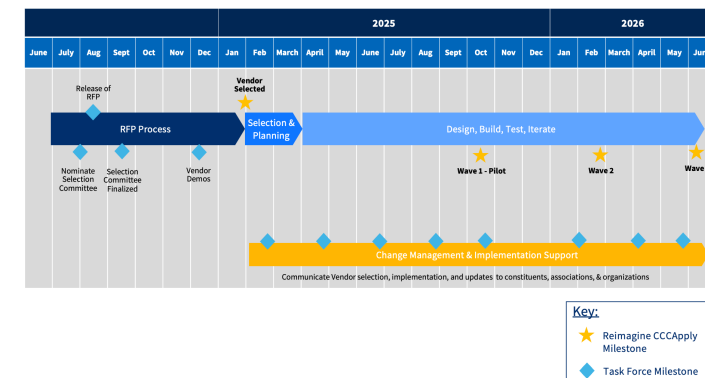
Commercial Solution Considerations



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Tentative Timeline

DRAFT



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What did you hear?

- What is **exciting** to you about the Reimagine CCCApply work?
- What is **important** to you in a future state student application?
- What would your association/district /college(s) **need for a successful integration** with a new student application?
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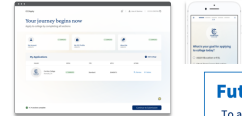
What is Reimagine Apply?

The Reimagine Apply project, spearheaded by the California Community Colleges Chancellor's Office (CCCCO), is a transformative, statewide approach to designing a student-centered application process.

What will Reimagine Apply do?

- improve the user experience
- make the application process easier for students
- improve data accuracy
- better support equitable access
- protect against and mitigate fraud

Proposed Target State Design



Key Design Features:

- Mobile First
- Clarify language/ Section Label
- Progress Tracking
- Scannable Text



Photo: Task Force Kick-off

Participatory Governance

To support the Reimagine Apply project, the Chancellor's Office has appointed a Task Force to provide statewide input and feedback from students and the stakeholders who seek to accomplish the vision of supporting students from all backgrounds in achieving their educational and career goals.

Proposed Target State Approach

Human-first Design Philosophy for UI/UX

- The Reimagine CCCApply Target State student application design consisted of a rigorous process of user experience research, literature review, peer comparisons, stakeholder, and student interviews, and user testing.
- These insights led to a mobile-first application with simplified questions and reorganized content in a structure that better aligns with a student's mental model for applying to college.

Updated Technology

- For the Reimagine CCCApply Target State, the integration of an updated technology solution would improve the ability to support the student and streamline operational efficiencies.

Layered Fraud Protection

Future State Application Tooling: Commercial Solution

To achieve the Reimagine CCCApply vision, research was completed on commercial application tools that can address the student application critical needs. The Task Force and Chancellor's Office agreed that there are mature commercial solutions available and the best path to take to replace CCCApply.

Commercial Solution Considerations:

- Streamlined and modernized user experience for applicants, student, and college staff
- Robust features and self-service options for applicants and staff to expedite troubleshooting
- "Future-proof" technology that evolves with changing constituent needs and challenges and the rapid pace of technology change
- Requires a financial investment, but cost to maintain and update is likely less than current legacy application system
- New integrations with local student information systems that require local tech support
- Loss of full control with software and dependency on a single vendor
- Consolidates existing technology into a centralized place

- A commercial solution platform will require a level of effort locally so sensitivity to timing the transition will be key
- Requires districts to dedicate some resources to the integration with local student information systems
- Will necessitate maintenance of the legacy system until commercial solution is developed and implemented across all 116 colleges
- Some core elements of target state, such as customized user experiences, will involve some degree of user interface customization
- Service level agreements will need to be created to ensure adequate levels of support by the vendor for areas such as configuration changes and training

Tentative Timeline

2024												2025												2026											
June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June											
RFP Process												Design, Build, Test, Iterate																							
												Wave 1 - Pilot												Wave 2											
												Wave 3																							
Change Management & Implementation Support																																			

Functional & Technical Requirements

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	Functional Requirement	Related Technical Requirement / Note
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	Functional Requirement		Related Technical Requirement / Note
CA-10300	Ability to auto save a user's in-progress data automatically to avoid lost work		3.9 Question State Machine

	Functional Requirement		Related Technical Requirement
Dashboard	CA-15400	Centralized applicant portal that allows students to know and track the status of their applications	3.3 User interface

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	Functional Requirement		Related Technical Requirement
Data Formats	CA-07000	CCCCC manages and publishes a Reimagine Apply Data Dictionary	3.6 Data Platform
	CA-07050	CCCCC manages and publishes Reimagine Apply integration data formats	3.6 Data Platform
	CA-07100	Allow address input fields to accommodate international addresses	3.6 Data Platform
Identity & Access Management (IAM)	CA-02000	Core Identity and Access Management (IAM) solution for Reimagine Apply for management of user identities (CCCID), authentication, authorization, and access control across the platform	3.2.1 Identity and Access Management
	CA-02100	SSO via <i>californiacolleges.edu</i> that enables K-12 students to access Reimagine Apply without identity verification. ★	3.2.1 Identity and Access Management
Fraud	CA-75000	Sufficient fraud screening that is regularly updated and maintained	3.2.2 Fraud Prevention
	CA-75100	Fraud screening handles applications incorrectly flagged as fraud in a timely manner, avoiding burdensome delays for applicants	3.2.2 Fraud Prevention
	CA-75200	Ability to make API calls to more than one third party fraud management service provider and orchestrate and capture interactions based on specific conditions.	3.2.2 Fraud Prevention
	CA-75300	Ability to imbed a data collection script on the application to determine how the user physically interacts with the application and to collect details about the device.	3.2.2 Fraud Prevention

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The implementation team and the entity or entities responsible for building and maintaining the Reimagine Apply Target State Solution should adhere to DevOps best practices. DevOps is a collaborative approach that emphasizes automation, communication, and integration between development and operations teams and

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The Service Layer Extensions layer constitutes a critical component within the Reimagine Apply Target State Solution architecture, serving as the foundation for customizing and extending the functionality of the commercial solution platform. This layer encompasses a combination of commercial solution platform native

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3.4 Commercial Solution Platforms

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3.4.2 Commercial Solution Platform

3.4.3 Reimagine

Universal technical requirements are applicable across all components and subsystems within the proposed solution. They serve as foundational principles aimed at ensuring consistency, interoperability, and efficiency throughout the system's development, deployment, and operation phases. For the list of universal technical requirements, please see section 3.1 of the Functional and Technical Requirements Report.

For security measures that are more robust and scalable we strongly recommend implementing a fully managed commercial Identity and Access Management (IAM) solution. Such solutions offer comprehensive features and capabilities that ensure effective management of user identities, access controls, and authentication mechanisms. The commercial solution should have the ability to create CCCIDs.

To fortify the Reimagine Apply Target Set Solution against fraudulent actors and applications and enhance its overall security posture, it is advisable to adopt a multi-layered approach to fraud protection. This involves leveraging a combination of commercial offerings for identity validation, fraud mitigation, and network perimeter protection, which can collectively strengthen the system's defenses and provide comprehensive coverage against various types of fraud.

The User Interface (UI) component will function as a superficial layer that sits on top or wraps the commercial solution platform identified in **3.4 Commercial Solution Platform**. This component's purpose is primarily to deliver brand identity, customization, and adaptability where not possible to achieve in the commercial solution platform.

Functional Requirement Groups

**Data
Formats**

**Identity and
Access
Management
(IAM)**

Fraud

Dashboard

**Stakeholder
Input**

**Student
Applications**

Multi-Apply

Support

Submit

**Post-
Submission**

**Solution-
Platform**

Integration

Technical Requirement Groups

**Universal
Technical
Requirements**

**Identity and
Access
Management
(IAM)**

**Fraud
Prevention**

User Interface

**Commercial
Solution
Platform**

**Service Layer
Extensions**

Data Platform

Infrastructure

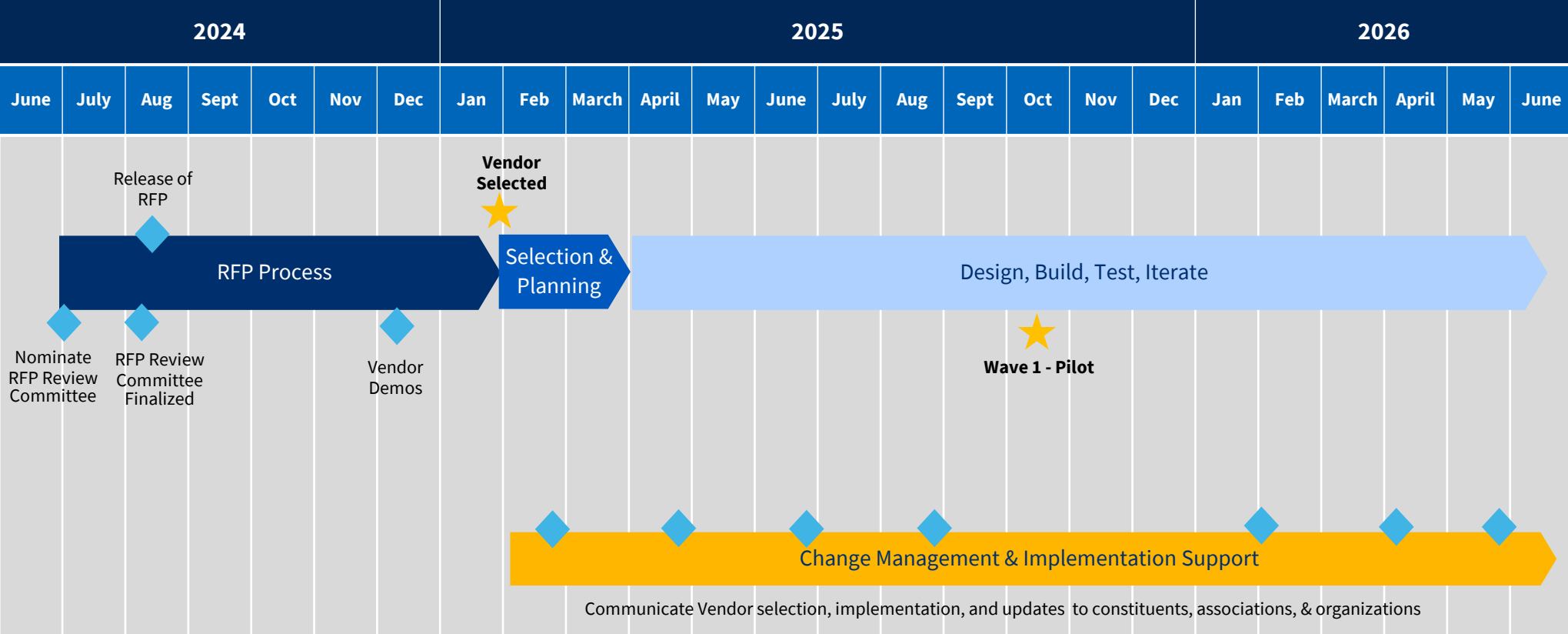
**Question State
Machine**

DevOps

RFP Review Committee



Proposed Timeline



Key:

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Reimagine CCCApply Milestone

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Task Force Milestone

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Composition:



- ### Estimated Time Commitment:



Proposed RFP Review Committee Next Steps



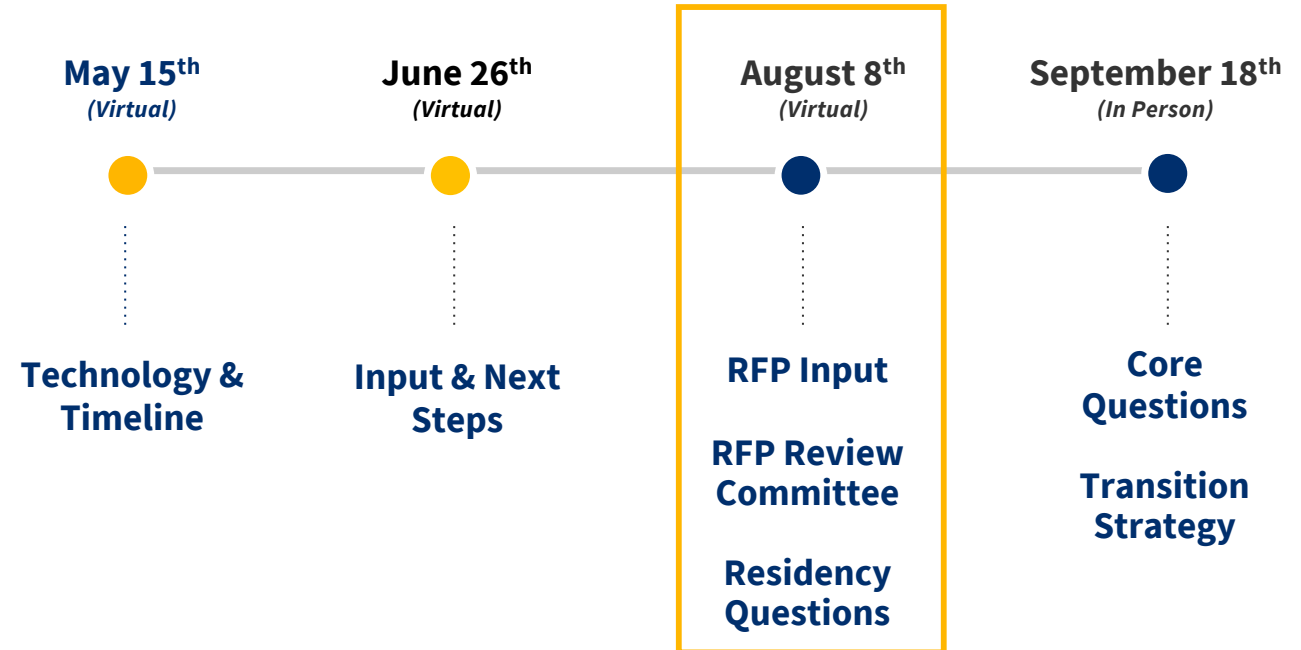
Spotlight: Demographic Questions



Next Steps

- ❑ RFP Review Committee Nominations by **7/3**
- ❑ Feedback on Functional & Technical Requirements by **7/19**

Upcoming Task Forces:



Thank You!

Functional Requirements



Functional Requirements Overview

Group	Definition
Data Formats	Data formats play a crucial role in software systems, determining how information is structured and exchanged. These requirements encompass the standards, protocols, and mechanisms governing the representation and transmission of information within the system and across external interfaces.
Identity and Access Management (IAM)	Identity and Access Management (IAM) is the framework of policies, technologies, and processes used to manage digital identities, control access to resources, and ensure security for the Reimagine Apply Target State Solution.
Fraud	Fraud prevention is a critical aspect of safeguarding the system's integrity, protecting sensitive data from malicious activities, and protecting the system from bad actors.
Dashboard	The Reimagine Apply Target State Solution Dashboard will serve as an invaluable tool for students to quickly assess the status of their in-progress applications and review any necessary steps or actions they need to take.
Stakeholder Input	Stakeholder Input is the functionality required for stakeholders to efficiently input and process student applications on behalf of the students they represent. This functionality enables stakeholders to act as intermediaries and facilitate seamless communication between students and the application system.
Student Applications	Student Applications outline the essential functionality required for students to utilize the system effectively for its primary purpose: creating and submitting college applications. Additionally, this section delineates the crucial functions performed by the system to process the application before submission to the college.
Multi-Apply	Multi-Apply allows the student to apply to multiple colleges during one occurrence.
Support	Support defines the essential functionality that the system must provide to assist students in navigating the college application process effectively.
Submit	Submit functional requirements outline submission feedback mechanisms that provide students with confirmation that their application submission was received.
Post-Submission	Post-Submission outlines steps and processes executed by the system to maximize data reusability and minimize additional steps and data entry required by the student applicant.
Solution-Platform	The Solution-Platform contains the key features and processes that the commercial solution platform system must encompass to facilitate efficient management of student interactions, data, and workflows.
Integration	Integration requirements of the Reimagine Apply Target State Solution systems and data sources with District SIS (student information systems) and other third-party data sources will be essential. A focus on seamless communication and data exchange between disparate systems will facilitate interoperability and data consistency.

Functional Requirements – Core Commercial Solution Platform Functionality

The Reimagine Apply Target State will include a commercial cloud solution platform, likely a commercial solution platform, that has built-in multichannel engagement and the ability to customize, extend, and integrate with other systems.

Core Commercial Solution Platform functionality:

	1. Ability to deliver customizable, omnichannel (e.g., email & SMS) communications and reminders to increase successfully submitted applications. Ability to automatically send students personalized messaging to inform them of timely application status updates.		5. Commercial solution platform Analytics to identify problems early, enabling stakeholders to accurately troubleshoot applicant issues.
	2. Nudges sent to applicants to return to the application based on where they stopped in the application (i.e., "Return to finish the Education section").		6. Data-driven alerts sent to stakeholders to identify students that need additional support for proactive outreach. This includes the ability to configure outreach campaigns for common application issues. (e.g., applicants who stop on Residency page can be connected to local A&R staff.)
	3. AI tool in the commercial solution platform to help stakeholders automate inputs and reduce manual data entry.		7. Click configuration to help stakeholders drag and drop customizations.
	4. Case management functionality to help stakeholders track student support requests in a centralized place, and the ability to track and manage tasks through centralized administration in the commercial solution platform.		8. A user friendly portal for stakeholders that provides robust customization options.

Data Formats

Data Formats drive how information is represented and transmitted within the community college system and across different external systems. Data formats enable the integration of data across disparate systems, ensuring the data of one system can be accepted by another.

Functional Requirement		Related Technical Requirement
CA-07000	CCCCO manages and publishes a Reimagine Apply Data Dictionary	3.6 Data Platform
CA-07050	CCCCO manages and publishes Reimagine Apply integration data formats	3.6 Data Platform
CA-07100	Allow address input fields to accommodate international addresses	3.6 Data Platform

Identity and Access Management (IAM)

Identity and Access Management (IAM) is the framework of policies, technologies, and processes used to manage digital identities, system access, and security for the Reimagine Apply Target State Solution.

Functional Requirement		Related Technical Requirement
CA-02000	Core Identity and Access Management (IAM) solution for Reimagine Apply for management of user identities (CCCID), authentication, authorization, and access control across the platform	3.2.1 Identity and Access Management
CA-02100	SSO via <i>californiacolleges.edu</i> that enables K-12 students to access Reimagine Apply without identity verification.	3.2.1 Identity and Access Management

Fraud

Fraud prevention is a critical aspect of safeguarding the system’s integrity, protecting sensitive data from malicious activities, and protecting the system from bad actors.

Functional Requirement		Related Technical Requirement
CA-75000	Sufficient fraud screening that is regularly updated and maintained	3.2.2 Fraud Prevention
CA-75100	Fraud screening handles applications incorrectly flagged as fraud in a timely manner, avoiding burdensome delays for applicants	3.2.2 Fraud Prevention
CA-75200	Ability to make API calls to more than one third party fraud management service provider and orchestrate and capture interactions based on specific conditions.	3.2.2 Fraud Prevention
CA-75300	Ability to imbed a data collection script on the application to determine how the user physically interacts with the application and to collect details about the device.	3.2.2 Fraud Prevention

Dashboard

The Reimagine Apply Target State Solution **Dashboard** will serve as an invaluable tool for students to quickly assess the status of their in-progress applications and review any necessary steps or actions they need to take.

Functional Requirement		Related Technical Requirement
CA-15400	Centralized applicant portal that allows students to know and track the status of their applications	3.3 User Interface

Stakeholder Input

Stakeholder Input is the functionality required for stakeholders (e.g., Admissions and Records) to efficiently input and process student applications on behalf of the students they represent. This functionality enables stakeholders to act as intermediaries and facilitate seamless communication between students and the application system.

Functional Requirement		Related Technical Requirement
CA-12700	Ability for A&R stakeholders to input data from paper applications into the Reimagine Apply system and create a CCCID on behalf of the applicant	3.3 User Interface
CA-12750	Preparer role that allows stakeholder to submit application on behalf of applicants	3.3 User Interface

Student Applications (1/3)

Student Applications outline the essential functionality required for students to utilize the system effectively for its primary purpose: creating and submitting college applications. Additionally, this section delineates the crucial functions performed by the system to process the application before submission to the college.

Functional Requirement		Related Technical Requirement
CA-09000	Student has a single point of entry to apply to a CCC College	3.9 Question State Machine
CA-10000	A student's path through Apply is optimized based on answers to previous questions	3.9 Question State Machine
CA-10100	Allow credit, non-credit, international, and promise grant students to frictionlessly navigate through the application process	3.9 Question State Machine
CA-10110	Students should not be asked redundant questions across systems	3.9 Question State Machine
CA-10112	All applicants are required to only provide relevant information based on their matriculation pathway	3.9 Question State Machine
CA-10120	Logical application branching and skip logic to guide applicants to complete parts of the application that are pertinent to them	3.9 Question State Machine

Student Applications (2/3)

Functional Requirement		Related Technical Requirement
CA-10130	All applicants complete the same application, removing the need for self-selecting student type. Logical branching will categorize each student into the Standard, International, and Non-Credit segments	3.9 Question State Machine
CA-10300	Ability to auto save a user's in-progress data automatically to avoid lost work	3.9 Question State Machine
CA-10500	Allow multiple term applications to be open at the same time	3.6 Data Platform
CA-10520	Allow terms to start on different dates for noncredit, promise grant, and standard/international applications	3.6 Data Platform
CA-10600	Must be able to localize/translate application into common languages to support ESL applicants	3.3 User Interface
CA-11000	Improved Residency Algorithm to prevent 'false flags' for applicants	3.4.3 Reimagine Apply Algorithms

Student Applications (3/3)

Functional Requirement		Related Technical Requirement
CA-11100	Improved accuracy of residency determination – needs to be improved to minimize false negatives	3.4.3 Reimagine Apply Algorithms
CA-12000	Need to maintain other submission calculations from current state application	3.4.3 Reimagine Apply Algorithms
CA-12100	AB540 eligibility calculation and flag	3.4.3 Reimagine Apply Algorithms
CA-12200	Admission ineligibility flag to flag an applicant as possibly ineligible for admission	3.4.3 Reimagine Apply Algorithms
CA-12250	Reimagine Apply to categorize/label applicants based on their responses	3.4.3 Reimagine Apply Algorithms

Multi-Apply

Multi-Apply allows the student to apply to multiple colleges during one occurrence.

Functional Requirement		Related Technical Requirement / Note
CA-19000	Allow student applicants to apply to more than one college within the application	Note: Auto fill form from Integration supplied data
CA-24100	Ability to apply to multiple colleges via one application	Note: Auto fill form from Integration supplied data

Support

Support defines the essential functionality that the system must provide to assist students in navigating the college application process effectively.

Functional Requirement		Related Technical Requirement
CA-20000	Allow students to obtain support through tool tips and robust chatbot	3.4 Commercial Solution Platform
CA-22100	Search fields must make use of dynamic search	3.3 User Interface

Submit

Submit functional requirements outline submission feedback mechanisms that provide students with confirmation that their application submission was received.

Functional Requirement		Related Technical Requirement
CA-24200	Submission confirmation email. Sent once per application submitted	3.4 Commercial Solution Platform
CA-24220	Submission confirmation email contains a confirmation number	3.4 Commercial Solution Platform

Post Submission

Post-Submission outlines steps and processes executed by the system to maximize data reusability and minimize additional steps and data entry required by the student applicant that may be associated to additional information being collected by the colleges.

Functional Requirement		Related Technical Requirement
CA-60050	Supplemental question functionality to be captured in post-submission experience and tooling	3.4 Commercial Solution Platform
CA-60100	Route data automatically to other departments for reporting and outreach	3.4 Commercial Solution Platform
CA-70000	Ability to store and manage applications for college data recovery. Need to store all historical applications	3.4 Commercial Solution Platform

Solution-Platform (1/2)

The **Solution-Platform** contains the key features and processes that the commercial solution platform system must encompass to facilitate efficient management of student interactions, data, and workflows.

Functional Requirement		Related Technical Requirement / Note
CA-50200	Ability to track where students drop off in the application using the Commercial Solution Platform's analytics features, enabling targeted stakeholder interventions for improved application retention	3.4 Commercial Solution Platform
CA-50300	Commercial Solution Platform Functionality	Note: See related slide on Core Commercial Solution Functionality
CA-50400	Follow up emails for additional information. Only sent to likely eligible applicants. Likely eligibility is determined by Reimagine Apply responses (e.g., AB540 forms, Promise Grant forms)	3.4 Commercial Solution Platform
CA-50450	Stakeholder configured follow up emails. Ability for stakeholders to add follow up emails specific to their colleges and college level decisions like residency and acceptance. (E.g., special program eligibility, residency decisions, admissions decisions, financial aid conflicting information)	3.4 Commercial Solution Platform

Solution-Platform (2/2)

The **Solution-Platform** contains the key features and processes that the commercial solution platform system must encompass to facilitate efficient management of student interactions, data, and workflows.

Functional Requirement		Related Technical Requirement
CA-50460	Automation of outreach to student applicant at different points of the process. (e.g., incomplete, submitted, additional information needed, etc.). Allow stakeholders to add Reimagine Apply data into the body of the email	3.4 Commercial Solution Platform
CA-50470	Nudge emails for incomplete applications. Will include any applicants who start creating an OpenCCC account	3.4 Commercial Solution Platform
CA-55000	Intake tool to collect change requests for the Reimagine Apply Update Request form from stakeholders in a centralized place. Centralized view for Tech Center Administrators to see all requests in one place and ability to prioritize and categorize these as “accepted” or not	3.4 Commercial Solution Platform

Integration (1/2)

Integration requirements of the Reimagine Apply Target State Solution systems and data sources with District SIS (student information systems) and other third-party data sources will be essential. A focus on seamless communication and data exchange between disparate systems will facilitate interoperability and data consistency.

Functional Requirement		Related Technical Requirement
CA-16000	Ingest data from external systems to enhance the Reimagine Apply process.	3.6 Data Platform
CA-16100	Ability to ingest data from trusted external sources (e.g. CCGI) that enables pre-population of applicants' fields for applicants where possible.	3.6 Data Platform
CA-16200	Ingest data that identifies dual enrollment students and accelerates their application process.	3.6 Data Platform
CA-16300	Allow returning students to be able to apply with pre-populated data that reflects the most up-to-date information.	3.6 Data Platform
CA-16400	Centralized database for Majors that can be updated by local administrators and pull data on an automated schedule.	3.6 Data Platform
CA-16450	Centralized database for Term dates that can be updated by local administrators and pull data on an automated schedule.	3.6 Data Platform

Integration (2/2)

Integration requirements of the Reimagine Apply Target State Solution systems and data sources with District SIS (student information systems) and other third-party data sources will be essential. A focus on seamless communication and data exchange between disparate systems will facilitate interoperability and data consistency.

Functional Requirement		Related Technical Requirement
CA-16475	Descriptive error messages that will help stakeholders understand configuration upload errors (with majors and term data) so they can troubleshoot more effectively.	3.6 Data Platform
CA-17000	Ingest data from external sources to ensure colleges receive relevant data for English and Math placement (MMPS) from sources including CDE and CCGI.	3.6 Data Platform
CA-18000	Optimize CVC data flow between Home and Teaching colleges.	3.6 Data Platform
CA-18100	Fast and reliable API for retrieving and exchanging students' statewide K-12 ID (SSID) information.	3.6 Data Platform
CA-18200	Pre-populate student information from CaliforniaColleges.edu into the Apply application through a real-time API call with CCGI.	3.6 Data Platform
CA-18300	Provide electronic high school transcripts housed in Cradle-to-Career to CCC campuses for California public high school students, meeting campus needs, including SIS mapping.	3.6 Data Platform

High-level Technical Requirements

Universal Technical Requirements

Universal technical requirements are applicable across all components and subsystems within the proposed solution. They serve as foundational principles aimed at ensuring consistency, interoperability, and efficiency throughout the system's development, deployment, and operation phases. Key Universal Technical Requirements include:

- Design **components** that are **scalable** to accommodate changing workloads
- Build a system with a **high fault tolerance** to withstand failures and disruptions
- **Prioritize security measures** to protect sensitive data and prevent unauthorized access adhering to regulatory requirements
- Optimize performance with **consistently fast response times** to increase efficiency
- **Track system health** continuously to prevent system crashes
- Create **robust documentation and knowledge sharing, testing, and quality assurance** measures to standardize processes
- **Automate routine design, build, test, and deployment** where possible to accelerate delivery of new features and enhancements

Identity and Access Management (IAM)

Identity and Access Management (IAM) solutions offer comprehensive features and capabilities that ensure effective management of user identities, access controls, and authentication mechanisms. Key technical requirements for IAM Solutions include:

- Allow administrators to create, modify, and deactivate user accounts efficiently through **centralized user management**
- Support a variety of **authentication mechanisms** for users, including multi-factor authentication (MFA), single-sign on (SSO), and adaptive authentication
- Implement robust **security controls** for users through encryption and tokenization
- Provide a **user experience** with an intuitive user interface and self-service capabilities for users to manage their own accounts, reset passwords, and request access
- Accommodate a growing user base with **scalability and availability** during peak usage times
- Create a **Commercial Solution** that can create CCCIDs efficiently

Fraud Prevention

Fraud Prevention provides protection against fraudulent actors and applications while enhancing overall security posture. Adopting an approach aligned with industry best practices involves leveraging a combination of commercial offerings and robust business processes. Key technical requirements for Fraud Prevention include:

- Implement a multi-layered approach to **fraud protection** that provides system defenses with comprehensive coverage while also striking a balance to ensure students are not marginalized
- Utilize **identity validation services** that integrate with reputable providers such as ID.me and Lexis-Nexis
- Develop **risk scoring and assessment** capabilities to user interactions and transactions based on factors such as user behavior, device fingerprinting, and geolocation to assess the likelihood of fraud
- Access **enriched data sources and intelligence feeds** to augment fraud detection capabilities
- **Integrate with** chosen **IAM solution**

User Interface

User Interface (UI) will function as a superficial layer that sits on top or wraps the commercial solution platform. This component's purpose is primarily to deliver brand identity, customization, and adaptability where it is not possible out of the box. User Interface development should adhere to:

- Provide **brand identity customization** through tools and methods for customizing the UI to reflect and reinforce the brand identity of the CCC and its district partners, while aligning with style guidelines
- Follow **responsive design principles** to ensure optimal user experience across various devices, screen sizes, and orientations
- Optimize **internationalization** (i18n) to allow for the adaptation of diverse linguistic and cultural contexts
- Adhere to **prototype design principles** that prioritize intuitive navigation, clear visual hierarchy, and user-centric interactions

Commercial Solution Platform Overview

Commercial Solution Platform serves as the central components for managing student relationships and interactions. The solution platform should be capable of:

- Ensure **scalability and performance** to accommodate the diverse needs and growing user base
- Offer comprehensive **user training programs** and **support services** to ensure effective adoption and utilization of the commercial solution platform by administrators, faculty, staff, and students
- Maximize **integration capabilities** with other systems and applications known across the extended Apply ecosystem including district SIS (student information systems)
- Provide robust **developer tools for customization**, including APIs, SDKs and customization frameworks to enable developers to extend the commercial solution platform
- Offer a **high level of configurability** that allows administrators to customize workflows, data structures, user interfaces, and business rules without extensive coding or development effort
- Maintain **data security and compliance** through robust security measures to protect sensitive data and ensure compliance with industry regulations and data privacy laws
- Select a **vendor** with strong **reputation for reliability**, support, and commitment to continuous product improvement

Commercial Solution Platform Developer Tools

Commercial Solution Platform Developer Tools will facilitate customization according to CCC's unique requirements and value propositions. Developer Tools should have the following capabilities:

- Cover aspects such as **user interface** (UI), **business logic**, and **integration**, that empower the solution to tailor the commercial solution platform to specific needs
- Offer **integration features** for delivering student applications seamlessly to designated recipients and integrating data into the solution dashboard and reporting systems for informed decision-making
- Provide **robust developer tools** and **extension hooks** to enable customizations, ensuring flexibility

Commercial Solution Platform Customization

Commercial Solution Platform Customization will go beyond standard off-the-shelf offerings to accommodate the unique customization needs of the application process. Customization capabilities should include:

- Implement **custom styling** for student application forms to maintain **branding consistency**
- Support the implementation of **custom logic** to intelligently guide applicants through the application process
- Chain multiple forms together to facilitate a **comprehensive application process** and **define custom fields** for capturing specific data points relevant to its workflows

Commercial Solution Platform Apply Algorithms

Commercial Solution Platform Reimagine Apply Algorithms must employ various algorithms to process student applications efficiently. Key Algorithm requirements include:

- **Specify** the **fields** within the **application's data dictionary** that are relevant to the algorithm's computation
- Define the **algorithm rules** and **criteria governing** each computation based on the specified fields within the application's data dictionary
- Provide an **explanation of additional facts** or criteria used in the algorithm that are not directly represented by fields in the application's data dictionary, along with references to where the information can be found
- **Store** the result of each **algorithm's computation** as a field or fields within the student application

Service Layer Extensions

The **Service Layer Extensions** layer serves as the foundation for customizing and extending the functionality of the commercial solution platform. This layer encompasses a combination of plugins, extensions, and functions or workflows built in the commercial solution platform, alongside services and code external to the commercial solution platform, all aimed at modifying its behavior to align with specific business requirements. Service Layer Extensions should adhere to:

- Ensure **compatibility with the customization framework** to facilitate seamless integration and extension of native functionality
- Create **modular and reusable service layer extensions**

Data Platform

The **Data Platform** serves as the foundational layer for customizing and extending the commercial solution platform data model and database and providing interactivity with the solution platform data model outside of the solution platform's native integration methods. The Data Platform should adhere to:

- **Aggregate and manage data** from various sources across the CCC ecosystem for easy data access
- **Ensure compatibility** with the commercial solution platform to facilitate seamless integration and extension of the existing data schema
- Provide a **data model customization framework** to allow for the addition, modification, or deletion of attributes as needed
- Implement mechanisms for **managing schema changes** to ensure data integrity and consistency
- Develop a **data dictionary** to facilitate an understanding and interpretation of the data
- Support **data transformation and integration capabilities** to facilitate the exchange of data between the platform and external systems
- Implement **data quality controls and governance policies** to maintain accuracy, completeness, and consistency of data stored within the platform

Infrastructure

The Reimagine Apply Target State Solution should continue to utilize **prominent cloud infrastructure** providers such as Amazon Web Services (AWS) for continued and new development. Infrastructure should adhere to:

- Utilize prominent **cloud providers** to ensure reliability, scalability, and security of infrastructure resources
- Leverage **fully managed services** to emphasize the adoption wherever feasible
- Implement **cost optimization strategies** to maximize resource utilization
- Establish **backup and disaster recovery mechanisms**
- Ensure **compliance with industry standards** and best practices for infrastructure and cloud deployments with regular audits

Question State Machine

A **Question State Machine** is a model used to provide structured question flow for guiding students through the application process in a logical sequence. It operates on the principles of transitioning between different states based on user inputs. Key requirements for Question State Machine include:

- **Power the intelligent branching and skip logic** to enhance user experience and improve data quality
- **Provide structured question flow** through the application process to create a simplified applicant process
- Ensure that each **question** is presented in the **appropriate order**, and that students are presented with **questions** that are **only relevant to them** to reduce confusion and reduce time spent filling out applications

Note: If possible, leverage managed commercial solutions that meet both functional and technical requirements, prioritizing reliability, scalability, and ease of integration.

DevOps

DevOps best practices should be adhered to. DevOps is a collaborative approach that emphasizes automation, communication, and integration between development and operations teams and is essential for accelerating software delivery, enhancing quality, and improving overall efficiency in software development projects. Key technical requirements for DevOps include:

- Automate software build, test, and deployment processes **with continuous integration (CI) and continuous delivery (CD) pipelines**
- Utilize **containerization technologies** for consistent application deployment across environments
- Utilize **version control systems** for managing code repositories and facilitating collaborative development
- Implement **monitoring systems** for real-time tracking of system health and performance
- **Foster collaboration and communication** between development and operations stakeholders