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ACAN Project Brief:

Discovery For Transferring Transcripts and Sharing College Readiness Data Between LEAs and IHEs

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Michael & Susan Dell FOUNDATION   ed-fi ALLIANCE   E3 ALLIANCE EDUCATION EQUALS ECONOMICS

Executive Summary

The ACAN Data Sharing and Technology Platform Committee identified six key pain points in their September 30, 2020, report *ACAN Data Sharing and Technology Platform Review*, two of which are significant to this work:

- Transfer of transcripts from LEAs to IHEs, and
- Transfer of transcripts from IHE to IHE.

The committee engaged Ed-Fi and the Michael & Susan Dell Foundation & Eduphoric to examine the capability of the Ed-Fi standards and technology toward addressing these two pain points. Early in the research spike, the stakeholders agreed to focus on the first pain point since a solution would be more impactful to the community.

Eduphoric conducted the [ACAN Research Spike](#) from March through November 2021, with the goal of using Ed-Fi ODS to streamline transcript (including college readiness data) sharing from LEAs to IHEs. The tasks include defining a set of use cases through a facilitated worksession with academic and IT stakeholders from ACAN-local LEAs and IHEs, develop a future-state architecture that addresses those use cases, identify and build two technology proofs-of-concept, and provide recommendations for next steps.

The worksession identified these key pain points around transcript data sharing between LEAs and IHEs:

- There are significant numbers of paper transcripts, which are problematic because they lack visibility & tracking and are difficult for receiving IHEs to consume

- Not all IHEs have access to TREx system

- Transcript data can vary by LEA and almost always lacks data needed for decision making by IHEs

- Students/registrars lack visibility/control in transcript transfer process

To address these key pain points, Eduphoric produced:

- A first-draft **Ed-Fi student transcript data format** with these characteristics:

  - Data elements sourced from a combination of the TREx standard, Texas AAR standard, and a San Diego County standard (an existing body of work in the Ed-Fi community) in the form of a json schema with these categories:

     i. Student and school demographics

     ii. Course transcripts

     iii. Assessments (e.g., SAT, ACT, TSI, STAAR and others)

     iv. Recognitions (e.g., certificates, certifications, awards, achievements)

- ○ Supports future **Extensibility and Configuration**, meaning that with additional work, more ODS data elements can be added at the district level to satisfy local and/or state transcript requirements

- **APIs** used to retrieve data elements from a district ODS and produce json code which can then be:

  - ○ Acted upon by registrars and students via a (future) web application to make student transcript requests

  - ○ Used to authorize third-party transcript services such as TREx, Greenlight Credentials, or others to consume a district's transcript data with consistent endpoints

- A set of **user experience designs** for a web application intended for registrars (for extending/configuring the student transcript data format) and students (for requesting and tracking transcripts).

Eduphoric culminated this research spike with these recommendations for next steps:

- **Expand the scope to include a parallel discovery process for a student record data format.** Since student records are closely related to student transcripts, we can gain efficiencies by addressing both topics. While student record transfers are not important to ACAN, they are important among districts that are adopting Ed-Fi.

- **Create an Ed-Fi Starter Kit for Student Transcripts.** By approaching the problem through the starter kit process, we will be casting a wider net of interested stakeholders than we have with ACAN-area districts. With a broader and more diverse audience (other states, regions, collaboratives, institutions), we expect to refine the student transcript data format to reflect the current needs of the community, and we will be more likely to gain pilot adopters.

- **Create a multi-phased approach over the next year or so.** This research spike work has forged a technology path for how Ed-Fi can address the community's needs for student transcripts. Next steps should be carefully planned to include stakeholders at the appropriate junctures, focus on building out the technology, then engaging with a limited set of community members to obtain field experience and feedback that can then be rolled into a subsequent update. At the same time, TEA is rolling out requirements for statewide adoption of Ed-Fi, and so this work should be communicated with and aligned with that activity.

3/25/2021 Worksession

Desired outcome: a prioritized set of use cases, from which we can architect a solution based on Ed-Fi standards and technology, and select two solutions to build an effort-limited proof of concept.

Starting Point: the moderators hypothesized two epics, #1 HS student applying to IHE (including the special case of a co-enrolled student applying to IHE), and #2 IHE's recruiting students. As the work session progressed, we learned that #2 epic was not actually a use case that was in scope for this project because while there is recruiting, it involves mainly reaching out to students who don't already have an existing relationship with the IHE, and doesn't involve transcripts. So, we will focus on the college application process. Below are artifacts from the worksession:
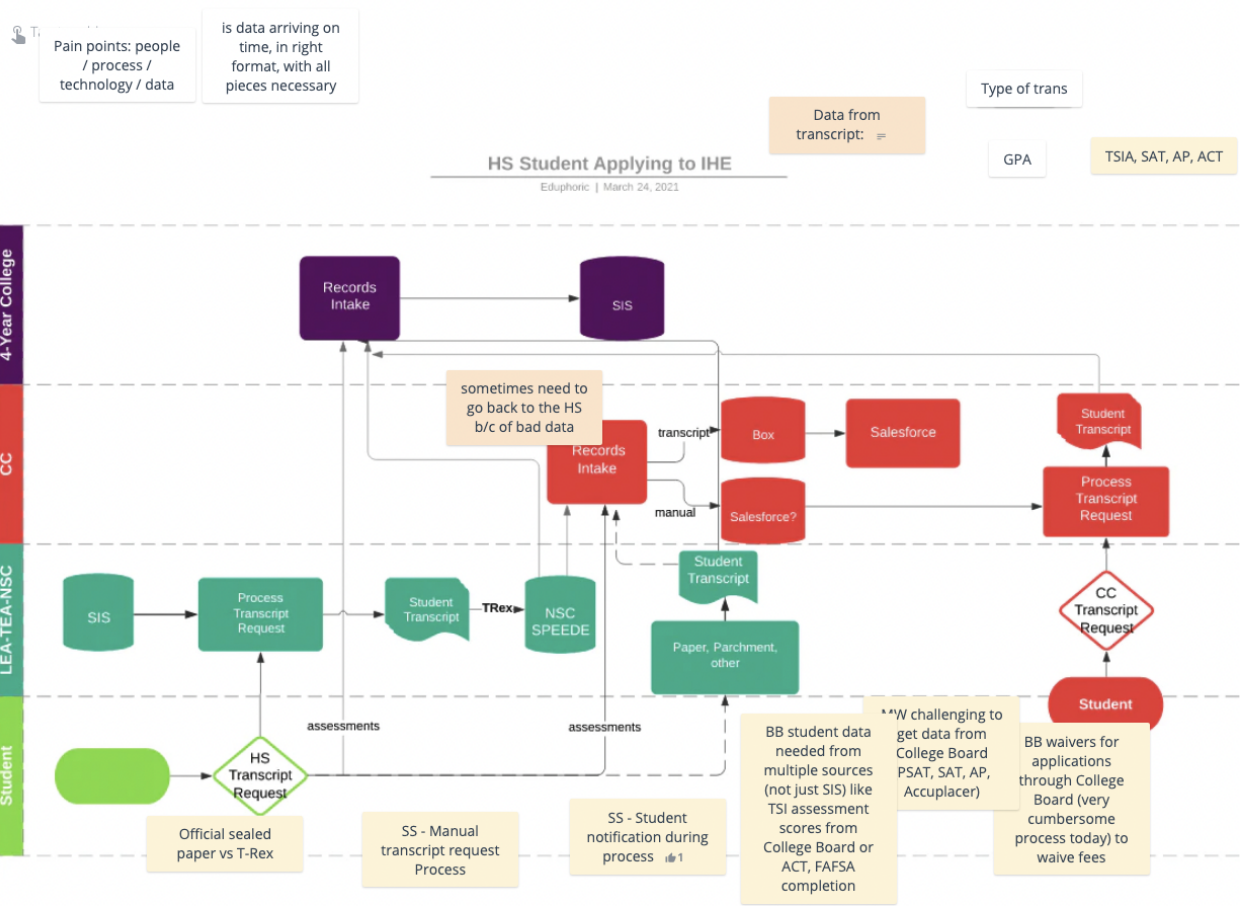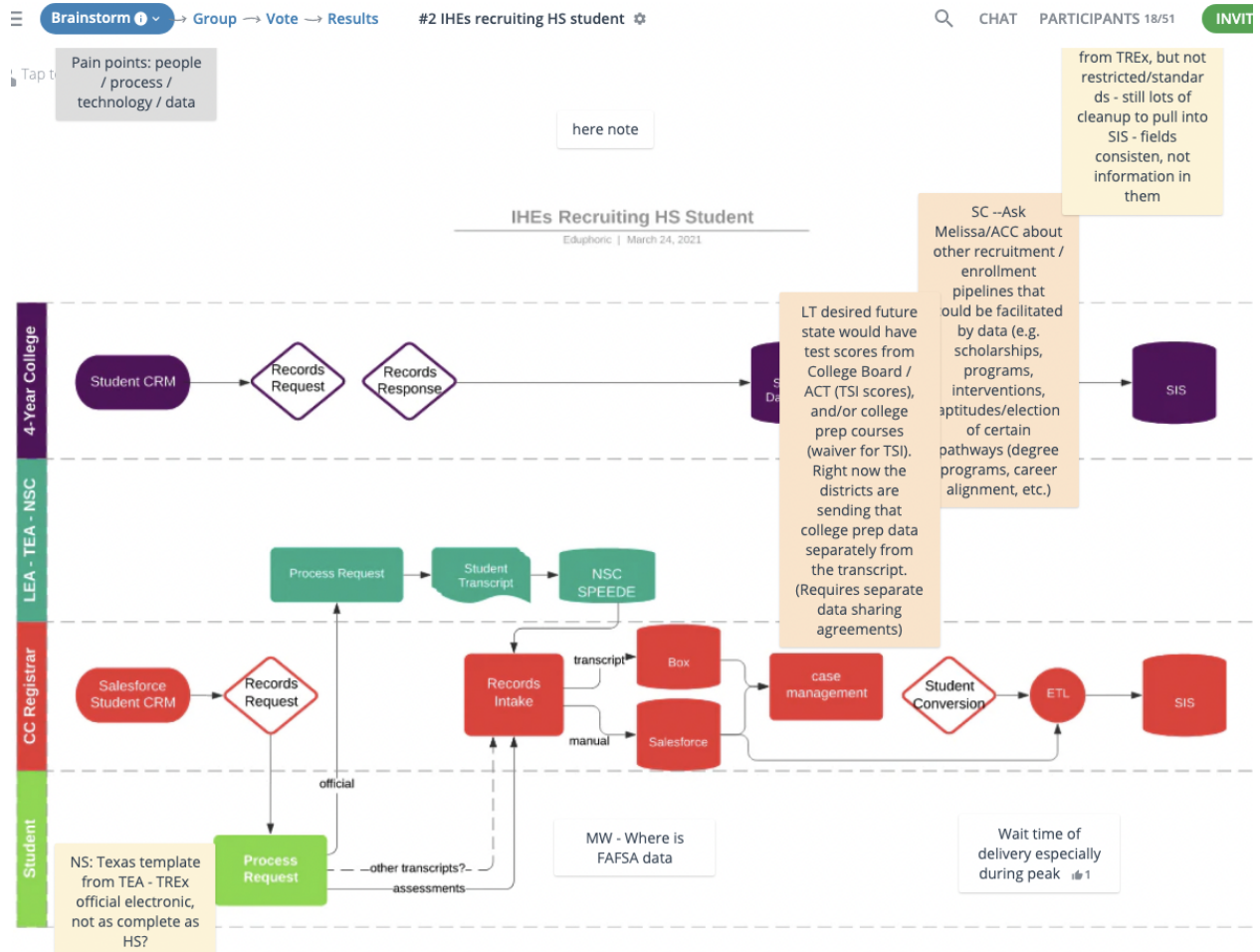
[Deck](#)

[Participants](#)

[Recording](#)

[Follow-up Questions & Responses](#) for Participants

Screenshots of participants' comments on GroupMap flow diagrams:

Use Case #1: Student Applies to IHE

Pain points: people / process / technology / data

is data arriving on time, in right format, with all pieces necessary

Data from transcript: ≡

Type of trans

GPA

TSIA, SAT, AP, ACT

HS Student Applying to IHE
Eduphoric | March 24, 2021

4-Year College
- Records Intake
- SIS

sometimes need to go back to the HS b/c of bad data

CC
- Records Intake
- transcript → Box → Salesforce
- manual → Salesforce?
- Student Transcript
- Process Transcript Request
- CC Transcript Request

LEA-TEA-NSC
- SIS → Process Transcript Request → Student Transcript → TRex → NSC SPEEDE
- Student Transcript
- Paper, Parchment, other
- Student

Student
- HS Transcript Request
- assessments
- assessments

Official sealed paper vs T-Rex

SS - Manual transcript request Process

SS - Student notification during process 👍1

BB student data needed from multiple sources (not just SIS) like TSI assessment scores from College Board or ACT, FAFSA completion

**W challenging to get data from College Board PSAT, SAT, AP, Accuplacer)

BB waivers for applications through College Board (very cumbersome process today) to waive fees

Use Case #2: CC Recruits HS Student (determined to not be a valid use case)

We received [ACC's current state process](#) from Rafael just after the worksession.

What Did We Learn From the Worksession?

Narrative & Pain Points Summary

LEAs

- *OPEN QUESTION: OnRamps courses and credits - do LEAs track these and what are the sources? Are they included on the transcript? If they want college credit, do students have to send another type of transcript to the IHE?*

- In one of the districts (RRISD), students come to the front office to request a transcript and pay a fee. There is no way to take payment electronically - cash or check only.

- Students can request paper or electronic forms of their transcript, it's up to them. The HS can coach them, but the student has the final decision.

- Some students use paper / hard copy transcripts when they have time constraints. At crunch times, when lots of transcripts are requested, they need 24/48 hours to confirm and students can't wait. Both ACC and TXST get >50% transcripts in paper format.

- Students sometimes want to know where their request is in process and it would be ideal for them to have one place to go to see where it is. Today, they come back to the registrar to find out, and that creates more traffic in the office.

- One ISD reported they see TREX transcripts time out / expire before they are picked up by the IHE.

- LEAs have had difficulty getting information from the College Board - looking for a better way to inhale their test scores into SIS. This includes ACT, AP, SAT

- Another barrier for low-income students - when they are eligible for fees waived by the College Board, they have to go through their College Board account and it's difficult to do, especially if they've changed schools at any point. Same goes for getting fees waived for sending these results.

- There is so much information students need to gather. Our transcripts don't have TSI (RR ISD) so they have to go to TSIA / College Board or others to grab scores, which leads to incomplete information.

IHEs

- Not all schools (e.g. private IHEs) have the ability to receive transcripts from TREX. it's important to have a transcript service that works for all public and private institutions in CTX for IHE. (Over 50% CTX students stay in CTX for IHE and far more FRL students.)

- Paper versus TREX
    - ACC 60% paper / e transcript versus TREX
    - TXST 50% paper

- Transcript intake process for ACC and TXST differs (expected). In some cases, the transcripts don't seem to be actioned in a timely manner.

- When transcripts are sent as pdfs (as they are in Parchment) the transcript has to be imaged in or transcribed manually.

- For IHEs, there are too many [transcript] data sources requiring separate technology solutions and admin staff to process differently. Too many vendors take too much time, which is especially frustrating when registrar staff are unsure where to send students for support when they have questions about specific credentials.

- Transcript format, although standard, has some open fields that are set by local policy and can be confusing (e.g. GPA doesn't specify the scale, so we don't know the meaning unless we know HS policy)

- Sometimes transcripts have incomplete (eg, missing graduation date) or missing data or data quality issues, and the IHE needs to go back to the LEA for a corrected transcript. Without certain data, decisions are held up.

- TSIA scores are not coming through TREX. It is difficult for IHEs to know whether students have submitted TSIA scores, whether they've taken the assessment, or whether they're eligible for alternative/waiver/exemption. It takes a good amount of time to work through this during enrollment.

- College prep course grades (ACC) are being shared through an existing channel "tech prep exchange system" which was already in place and convenient, but not necessarily an ideal channel

- Assessment scores are typically received from the vendor.

- Transcript data stored (separately) by IHE varies, but includes things like: name, date of birth, SSN, HS, date of graduation, class rank, GPA, type of degree, endorsements, type of transcript, date rec'd.

- IHE to IHE transcript transfers could happen using multiple sources, and similar to the LEA-IHE transfers, there are too many vendors/technologies to solve for

Definitions

IHE	Institute of Higher Education. This could be a community college, 4-year college, public or private, inside or outside of TX.
IHE application requirements	Application (ApplyTexas), HS transcript, other IHE transcripts (if applicable), assessment scores (ACT, SAT, TSI, AP, IB), meningitis, whether the student has satisfied TSI requirements Official score reports must come from the vendor if the student is seeking college credit (ACT, SAT, AP, IB).
IHE requirements	The IHE must determine whether the student has satisfied TSI requirements prior to the first semester, by looking at TSI scores or eligibility for a TSI waiver: ACT/SAT/TSI scores, STAAR EOC

to begin first semester	scores for English 3 and Algebra 2, college prep course grades, associates degree, EL status.
CC	Community College. In our case, we are focused on the sort of CC that accepts all students and is mostly concerned with placing them into the proper courses for optimum success.
CC application/on boarding requirements	Application, HS transcript, other IHE transcripts (if applicable), assessment scores (ACT, SAT, TSI, AP, IB), proof of residency, FAFSA, meningitis verification Official score reports must come from the vendor if the student is seeking college credit (ACT, SAT, AP, IB)
CC placement requirements	The CC uses [TSI scores or eligibility for a TSI waiver](#) to determine college readiness, which is how to determine initial course placement. Any or all of this data is used to determine placement: ACT/SAT/TSI scores, STAAR EOC scores for English 3 and Algebra 2, college prep course grades, associates degree, EL status.
Transcript (or AAR, Academic Achievement Record)	Academic achievement record for a student lists specific information (such as courses, grades, credits earned, degree path, etc) and is standardized at some level. In Texas K-12, here is the [standard](#) and a sample form [A](#) or [B](#). Here is a [local example](#). Here is an example of a [ACC transcript](#), and a [comparison of HS vs. IHE transcript data](#).
TREX Data Standard 4.9.1	Standards for transferring student records electronically between TX public school districts and charter schools, and transmitting HS transcripts to TX public colleges and universities. [Here is a link to the standard](#).

User Personas

Student	A student is either a HS student who is applying to college, or is a co-enrolled student (enrolled in HS and also enrolled in CC at the same time).

High School Registrar	The HS registrar has the responsibility for validating and sending official student transcripts that are sent from the district. Without validation by the registrar, the transcript is not considered official.
IHE records / admissions	The community college records staff is responsible for receiving, processing, and storing documentation for admissions, including transcripts, test scores, and applications. In the case of ACC, all applicants are admitted, and student academic records are used primarily for placement.
IHE enrollment / placement	Enrollment/placement staff is responsible for enrolling students who have provided required documentation, and placing students based on college readiness data (such as TSIA scores and other data).

Assumptions

- HS transcript requests can originate from:

    - the student, or

    - parent on behalf of the student (with a student signature), or

    - IHE with written permission from the student

- IHEs can accept official assessment scores (TSI, SAT, ACT, AP, IB) in these ways:

    - Directly from the vendor (ACT or the College Board)

    - Included with/on the student's official HS transcript

    - From the LEA, with student permission, and with secure transmission (no email)

    - OneLogos

- Student data (superset) that is important to the college application process:

    - HS transcript

    - Co-enrolled college transcripts (eg, UT Austin for OnRamps, ACC for dual credit, possibly others). This data must come from the originating institution.

    - TSIA/ACT/SAT/AP/IB scores

    - College readiness data for placement purposes (TSI scores or data used to determine eligibility for a waiver):

        - ACT/SAT/TSIA scores

- - STAAR EOC scores for English 3 and Algebra 2

  - college prep course grades

  - associates degree earned

  - EL status

  - Industry based certifications (the college-credit type only)

Summary of Data, Owner, Current Transmission Pathway

item	Data owner (who is accountable?)	Data resides (where can I get it?)	Current state pathway of transmission (how do I receive it?)
HS transcript	LEA	LEA Parchment Greenlight	TRex or US Mail Parchment service Greenlight service
College transcript	ACC UT Austin (OnRamps) Other university	ACC UT Austin (OnRamps) Other university	SPEEDE (TX), NSC, other? US Mail Depends on the institution
TSI scores	College Board	Possibly: LEA, ACC Definitely: College Board	OneLogos (LEA to ACC) College Board
ACT/SAT scores	College Board, ACT	Possibly: LEA, CBOs Def: College Board, ACT	LEAs don't currently provide OneLogos College Board ACT
AP/IB scores	College Board IB	LEA (but not for credit) College Board IB	On the HS transcript College Board IB
Industry based certs	Industry orgs	Industry orgs	Not sure, but not a problem
College readiness data (college prep courses)	LEA	LEA	Doesn't happen currently, but ACC has a back-channel "tech prep exchange system"

User Stories

Reminder that our goal is reducing the barriers that students face in getting to and through college with a specific focus on first-generation and underrepresented students in Central Texas, with a limited scope of transcripts and college readiness data.

Here are user stories that address the pain points shared by LEAs and IHEs. These user stories were shared with the workshop participants so they could comment on them and rate them (see the following section):

HS Student	1. As a HS student, I want a simple, online, self-serve process to request my official HS transcript be sent to an IHE using the fastest channel that the IHE will accept, whether that's TRex, NSC, Parchment, or paper (sent via US Mail or hand carried)
	2. As a HS student, in the same transaction as above, I want to see which assessments my district has in my local record (ACT/SAT/TSI) and select which ones I want to send to the IHE
	3. As a HS student, when my final transcript is available I want to be notified by my HS so that I can request to send it to an IHE as needed
	4. As a HS student, I want to have an app on my phone that allows me to request all of my credentials be sent to an IHE, including: my HS transcript, assessment scores (SAT/ACT/TSI), AP/IB scores, dual credit course transcripts (OnRamps, others), industry-based certifications (college-credit-related only), and optionally a defined set of college readiness data

HS Registrar	5. As a HS registrar, I want access to up-to-date assessment scores stored in our local systems for accountability purposes
	6. As a HS registrar, I want to be sure that transcripts I process and send to an IHE are received complete, correct, and timely so that I do not have to re-process them
	7. As a HS registrar, I want students to have visibility into the status of their transcript request in order to reduce student inquiries

| IHE and CC records, enrollment, advising, placement, financial aid	8. As IHE or CC staff, I want to channel as many <u>HS transcripts</u> as possible through TRex and Parchment (rather than paper or other electronic services) because those are our most efficient processes
	9. As IHE or CC staff, I want to channel as many <u>college transcripts</u> as possible through SPEEDE, Parchment, and NSC (rather than paper or other electronic services) because those are our most efficient processes
	10. As IHE or CC staff, I want to receive a transcript in a way that allows me to recover missing or additional data for a student.
	11. As IHE or CC staff, I want a more comprehensive and consistently used TX AAR standard because I am missing the context of some of the data provided on the transcript that is driven by local policy (for example, GPA weighted v. unweighted)
	12. As IHE or CC staff, I want to obtain any available assessment scores (TSI/ACT/SAT/AP/IB) from the LEA in the same transaction with the transcript
	13. As IHE or CC staff, I want to obtain specific college readiness data in one (secure, authorized) transaction from the LEA in order to make placement decisions. This data is focused on TSI scores or eligibility for a waiver: ACT/SAT/TSI scores, STAAR EOC scores for English 3 and Algebra 2, college prep course grades, associates degree earned, EL status.
	14. As a CC, I want to build an auto-apply feature so that students can opt-in to have the CC (secure, authorized) obtain these credentials from the LEA: HS transcript, any available assessment scores, and the specific set of college readiness data.

User Stories Rating by Stakeholders

We shared the user stories with the workshop participants via GroupMap so they could rate them on feasibility and impact. The LEA stakeholders were asked to rate the S (student) and HS (high school) user stories; the IHE stakeholders were asked to rate the S and IHE user stories.

As you can see from the results, the stakeholders felt that all of the user stories have a medium to high impact, and medium to high feasibility.

User Story #	Impact	Feasibility	#responses
S1	5	4	5
S2	4.2	3.2	5
S3	4.4	4.4	5
S4	4.2	2.6	5
HS5	4.8	3.5	4
HS6	5	4.3	3
HS7	5	3.3	3
IHE8	5	4	2
IHE9	4	5	2
IHE10	5	3	2
IHE11	5	3	2
IHE12	4	3.5	2
IHE13	5	4.5	2
IHE14	4	3.5	2

User Story Ratings
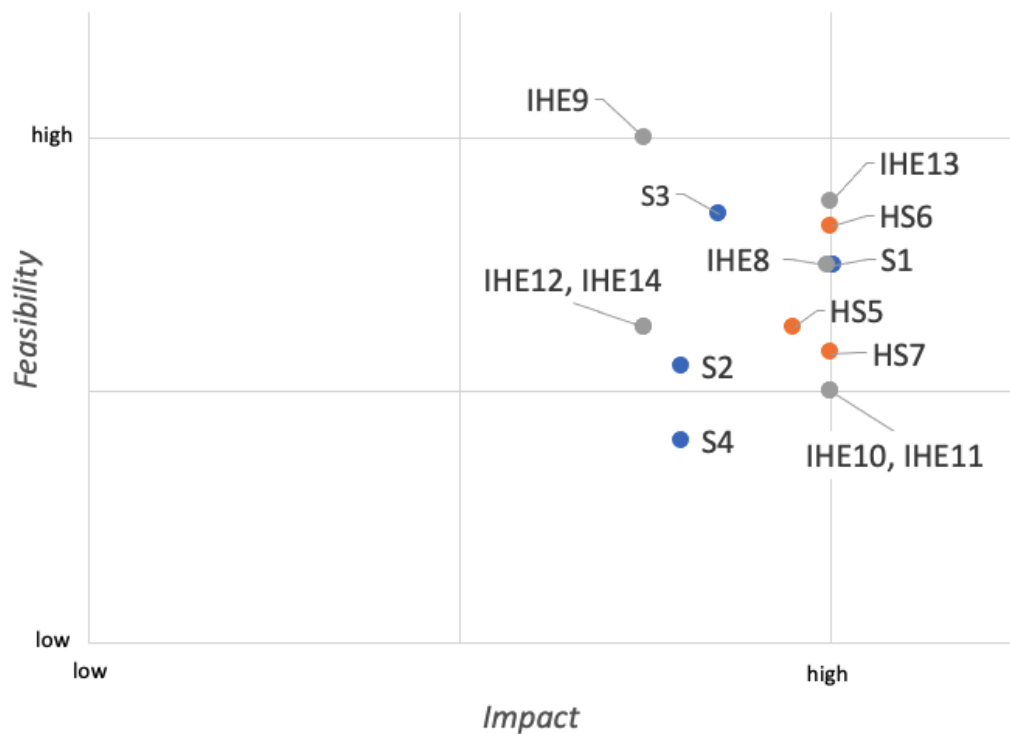
Ed-Fi Goals

Chris B, Pam, Sean Casey, and Mike Minuto met on 4.8.2021 to talk about Ed-Fi / MSDF priorities. Here is the meeting recording (pw is EdFiAlliance1!) and a summary of the meeting:

- Starting point should be the Ed-Fi transcript data model that was developed with John Watson @ SDCOE
- Our solution should be technology agnostic, e.g., we'll set a standard and vendors (such as TREX, Parchment, etc) will need to adapt to the standard
- College readiness data should be included via customizable extension to the model; there could be state-specific extensions
- Dynamic extensions already exist to enable data model extensions; composites - used in the SDCOE work - are an option also
- Document a comparison of the Texas AAR standard to the Ed-Fi transcript data model, and loop in Ed-Fi for further discussion.

Here are a few early points from a more technical perspective (Eric Jansson):

- I would definitely start from the SCDOE work. Our main priority should be aligning on the transcript "package" specification that came out of that project, and not necessarily using the SCDOE technology. My impression was that the SCDOE technology was reasonable, but since it tried to leverage composite APIs, it has to work around some of the limitations there (Douglas raised Tracker tickets on these at my request) it is perhaps overly complex.
    - It should be obvious by now, but in case not: the SCDOE project does not source transcripts directly from the ODS via ODS composite APIs. The composite API technology was not powerful enough and so they essentially built a application that sources data from the ODS and transforms it into the package format
    - My assumption is that this project will likely have to do the same: it will have to generate the transcript and won't be able to rely on ODS composite API technology due to its limitations.
- The transcript package specification is the main target. It is essentially a strongly Ed-Fi aligned data model (in JSON) specification that packages together all transcript elements for a single student into one package, then allows you to also package multiple student transcripts. (The default course transcript APIs don't do that – they look like the underlying data storage, and so expose "transcript parts")
    - Why is the transcript package specification the main target? SIS systems are already familiar with sending transcript data to states in the Ed-Fi format, so asking them to also support this package specification is likely not a huge lift for them. This may be a long-term goal of course: in the interim we are likely to continue to have ODS systems in the middle.
    - The other reason is that many agencies already understand the Ed-Fi format as well, including many states. So there is good experience with the basic Ed-Fi stuff and it is growing.

- Note that the recent ODS 5.2 release contains a critical fix for transcripts generally: the ability to not enforce that the Course reference on CourseTranscript resolves. That's been a thorn in the side of SIS systems and LEAs for a long, long time.
- One other thing that the SCDOE work taught me: although there is arguably such a thing as a "canonical" transcript and "canonical" transcript elements, in local contexts (like the ACAN one) a lot of other items are seen as "standard" just because of local practice or policy.
    - I'd focus on finding out what these are early.
    - On a related note, the project brief mentions creating RFCs on data model changes. I'd just note that RFCs are generated by the community process, and not directly created by projects – the project is welcome to submit its work to the applicable governance groups (probably the TAG in this case), and if those groups endorse it, then we publish it.
    - Given that, the project should probably commit to making the extensions it needs in order to do its work: asking for core Ed-Fi data model changes is a slow process, by design (we can't go out and break everyone, and when we ram in field stuff quickly we nearly always regret it).

Research Spike Plan Going Forward

Key Findings
- Significant numbers of paper transcripts
- Not all IHEs have access to TREx system
- Transcript data can vary by LEA, lack data needed for decision making
- Students/registrars lack visibility/control in transcript transfer process

Ed-Fi Perspective
- Goal: "…simple, secure standard that connects all educational data systems"
- A transcript package would provide a common data standard for facilitating data exchange
- Absent a universal standard, let's allow flexibility
- Propose: create an extensible package with an initial, common set of elements

Proposed Approach
- Define Ed-Fi standard extensible transcript format:
    - Referenceable for any specific vendor solution
    - Base standard covers multiple formats, meets existing Ed-Fi standards

- State or regional extensions
- Transcript features:
  - Validation (initially by registrar, future potential for blockchain)
  - Optional/selectable data elements
- Self-serve portal:
  - Roles, element inclusion, data scarcity, transfer, multiple delivery channels

POC1: Extensible Student Transcript Format (75% resource allocation)

Goal: Create an extensible standard for providing a transcript package from an active district ODS would provide a referenceable standard for any specific vendor solution to interface with a request and fulfillment response from an authorized district party.

- Identify a proposed transcript package format
  - Gap analysis: Ed-Fi, SDCOE, TX AAR, TREx, local ISDs
  - Iterate with stakeholders
- Research Composites v. Extensions
  - ID authorization or composition issues
  - ID validation methods
- Generate a set of test data
  - Demonstrate pulling transcript package from sample ODS

POC2: Student Transcript Operational User Experience Design (25% resource allocation)

Goal: Design exercise to reflect the capabilities expressed in the standard.

- Roles (student, registrar)
- Optional data inclusion
- Transfer
- Multiple delivery channels
- Validation

POC1: Extensible Student Transcript Format

We first focused on a comparison of the relevant data models: SDCOE, TREX, sample HS transcripts, and the Texas AAR standard so as to pick up the common data elements across several relevant formats. Then we performed a gap analysis (ref. ACAN Gap Analysis, below) and obtained feedback from Ed-Fi's Eric Jansson in order to come up with a draft transcript standard (ref. ACAN Standard Draft).

With the draft transcript standard established, we produced a JSON schema (ref. ACAN Transcript Schema) and then mapped the data elements to the ODS to understand the source of the data (ref. ODS Data Mapping).

The team next reviewed different options for composing a high level transcript entity from the available platform approaches. Examining the options, we skewed away from technologies like extensions, direct database manipulation and other approaches that would limit broad-based adoption. This narrowed the approach to using the EdFi Composite technology or a composing application layer on top of ODS.

The composite approach allowed us to be dynamic about how and which attributes of a transcript were included and on first look provided an excellent means of including large blocks of student transcript data in a manner consistent with the EdFi data standard.

While we found this approach plausible, we faced a number of issues in using the Collection and LinkedCollections to flexibly define comprehensive transcript data, disinclude unwanted entity instances. We also foresee issues with refining the Transcript format to include additional disparate transcript data that may be satisfied by considering the use of an application middle tier to facilitate composition.

For the proof of concept prototype, we set up a local ODS with sample data (Grand Bend plus).

Here are the resulting technical artifacts:

Title	Description
ACAN Gap Analysis	Comparison of the relevant data models from SDCOE, TREx, Texas AAR standard, and a sample HS transcript.
ACAN Standard Draft	Original and revised draft for ACAN standard transcript template.
ACAN Transcript Schema	Transcript schema and sample data values
ODS Data Mapping	Transcript data elements mapped to ODS
ACAN Composite Research	Light documentation around composite research for this project.

[Sandbox Deployment](#) [Demo Video Deployment](#) [Demo Video](#)	Detailed ODS sandbox deployment documentation in IIS. Recorded video of the same document. Demo walkthrough for proof-of-concept.
[Github Repo](#)	Github repository that contains the composite file and sample json output file.

POC2: Student Transcript Operational UX

UX Use Cases

We focused our design exercise on the user experience for registrars, students, and transcript recipients for the use cases in the table below. The design is a MVP design (minimum viable product) which is our preferred approach prior to implementing a pilot or customizing a product for a specific use case. This approach enables a low risk entry into product development with the ability to iterate to a final solution.

User	Function	Description
Registrar	Log In	
	Pre-Approvals	The registrar can see which students have requested registration, take actions outside the system to validate the request, and then use the system to approve or deny registration. With the registrar's approval, the system emails the student to complete the pre-approval process. Pre-approval gives the registrar a level of confidence that this email address belongs to a student.
	Process Transcript Requests	The registrar can see and act on the queue of transcript requests. The statuses are: Ready to Review, Released, Denied. The registrar has the opportunity to explain why a request is denied. The system sends confirmation emails to the requestor (released or denied) and recipient (with transcript attached).
	Request a Transcript	The registrar can request a transcript on behalf of a student.
Student	Request Pre-Approval	The student may choose to request pre-approval to use their email for future transcript requests; this should reduce the registrar's processing time.
	Request a Transcript	Students (or parents or even IHEs) can request a student transcript

		with the student name, id, dob, email, school name and dates of attendance. The requestor can choose to include optional data (such as SAT/ACT/TSI scores), and must also provide recipient name, email and due date.
	Confirm a Transcript Request	Any time a request is made for a student transcript, the student needs to be notified by email to confirm that the request is valid. This is a simple way to prevent an unauthorized user requesting a student's transcript.
Recipient	Email receipt of transcript	The recipient receives a student transcript via email as an attachment.

Designs

Here is a link to the designs for each type of user:

- District User
- Student User
- Recipient

And a link to the full set of screens as individual pdfs.

Recommendations for Next Steps

Based on what we've learned so far about the stakeholders, use cases, and technology, here are recommendations for next steps:

- **Expand the scope to include a discovery process for a student record data format.** Since student records are closely related to student transcripts, we can gain efficiencies by addressing both topics

- **Create an Ed-Fi Starter Kit for Student Transcripts.** By going through the starter kit process, we will be casting a wider net of interested stakeholders. With a broader and more diverse audience, we expect to refine a student transcript model that reflects the current needs of the stakeholders, and we will be more likely to gain pilot adopters.

- **Create a multi-phased approach over the next year or so.** The research spike work has laid the foundation for how Ed-Fi can address the community's needs for student transcripts. Our next steps should be carefully planned to include stakeholders at the appropriate junctures, focus on building out the technology, then engaging with a limited set of community members to obtain field experience and feedback that can then be rolled into a subsequent update. If we define smaller steps, we have the opportunity to change course if needed, and to set more manageable budgetary limits.

Recommended Future State Architecture

Here is our proposed future state architecture:
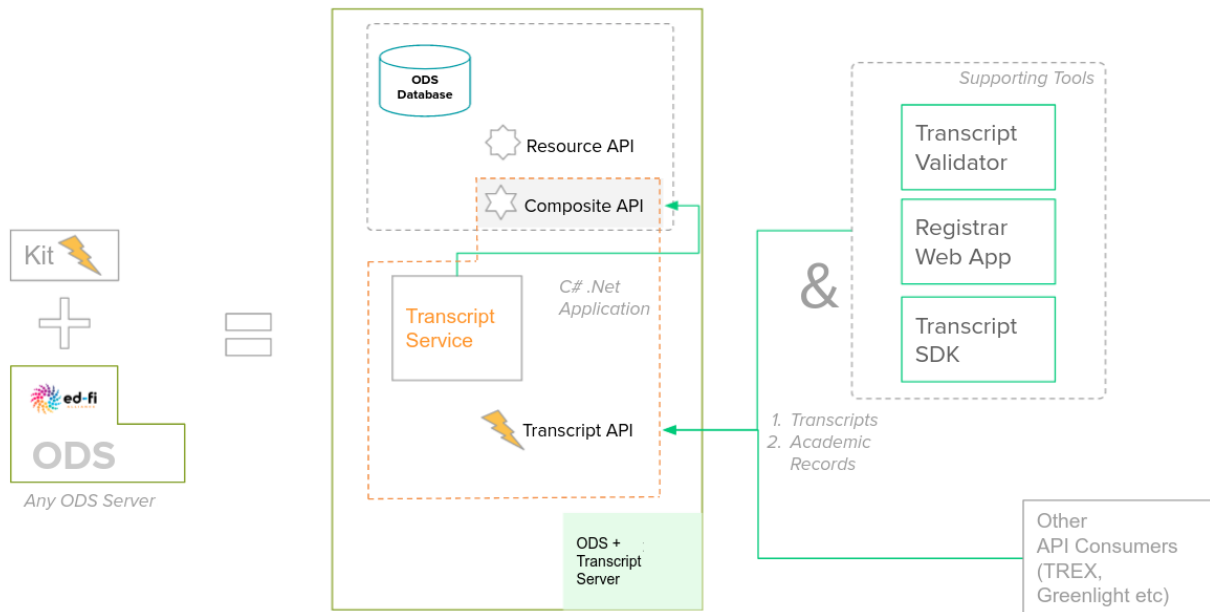
- **APIs,** which pull data from a district ODS, that align with the Ed-Fi student transcript data format and the student record data format

- **SDK** (software development kit) that gives developer-level access to district users for extending/configuring, formatting, and validating student transcript / student record data; and for giving third party transcript services vendors permission to access student transcript data (such as TEA/TREx, Greenlight, etc)

- **Web App** for:

  - Registrars to extend the student transcript / student record data formats to include additional data elements available in the district's ODS,

  - Registrars to configure the student transcript /student record data formats to define optional elements,

  - Registrars to manage student transcript / student record requests (and make requests on behalf of students), and

  - Students to make transcript requests that may include optional elements going to specific recipients, and to track transcript requests

Recommended Components

- **Student Transcript Model.** We will solicit community feedback on the draft model produced by the ACAN work, and then propose a basic model that comprises a common set of data elements. We will also identify data elements that were mentioned by 1 or 2 districts only as candidates for local configuration.
- **Draft RFCs (if needed).** We will determine the need for new entities or changes to APIs to be added to the UDM in support of the starter kit. If there are recommended new entities, we will produce draft RFCs to kick off the [established RFC process](#).
- **Student Transcript Starter Kit technology:**
  - API
  - Validator
  - SDK
  - Application / UX components:
    - Application layer that holds locally-defined logic needed for ST (to support district-specific configurability and optional student-selected data), issuer and recipient information
    - UX for registrars to:
      - Configure which data elements (which can be found in the district ODS) to include in the Student Transcript data model
      - Request, track and transmit Student Transcripts individually or in bulk
- **Documentation** (links to samples)**:**
  - [Reference Material](#)
  - [Demonstration Guide](#)
  - [Quick Start](#)
  - [Setup Guide](#)
  - [Vendor Developer Guide](#)
- **Student Record discovery.** As we meet with the community to solicit feedback on the draft Student Transcript model, we will collect and document requirements for a draft Student Record model, including the challenges that districts have currently, and use cases that need to be addressed if we are to solve those challenges.
  - Notes around data elements to include in a Student Record data model
  - Use cases indicating the problem to be solved
  - Proposal for next phase work to include Student Records in the starter kit

Stakeholder Responsibilities

It is important to acknowledge the steps that various stakeholders must take to realize the benefits of the proposed future state architecture:

- **LEAs will need to**:

    - Adopt Ed-Fi ODS

    - Ensure that all of the district-needed student transcript / student record data elements can be sourced from ODS

    - Extend and configure the Ed-Fi data formats according to local needs (state, district, local IHEs)

    - Encourage their third-party vendors to connect to / consume the data format for streamlined services

- **Third party vendors will need to**: build a connector to access districts' student transcript data to enable streamlined services