Report Title: Demand Details
Run Date and Time: 10/21/2024 02:53:06 PM Central Daylight Time
Run by: Cole Robison
Table name: dmn_demand

Demand

Number:	DMND0001982	Approved project start date:	09/01/2024
Initiative Name:	EpiTrax Genomics	Approved project close-out date:	11/28/2025
Initiative Acronym:		Estimated project start date:	09/01/2024
Category:	Strategic	Estimated project close-out date:	11/28/2025
Type:	Project	Estimated execution start date:	10/15/2024
Project:	EpiTrax Genomics	Estimated execution end date:	10/15/2025
Change:			

Description:

The genomic sequencing of pathogens produces a large amount of data that can be used to reduce the amount of human illness in a population by streamlining disease investigations. All 50 states and most countries sequence pathogens from patients and upload these genomic sequences into databases like GenBank that is managed by the National Center for Biotechnology Information (NCBI) that is run by the USA's National Institutes of Health. Because pathogen sequences are accessible, pathogen sequences from patients in Kansas that our team at KDHE have produced can be compared with sequences from around the world to understand where diseases that infect Kansans come from. You can think of this as similar to the way that law enforcement compares DNA from crime scenes to databases of DNA to catch criminals. In public health, the criminals are the diseases that make humans sick.

To effectively use genomic data for public health this project will streamline the identification of infectious disease outbreaks in two ways:
1. Automate the analysis of genomic sequencing data from pathogens obtained from patients.
2. Integrate genomic sequencing data with epidemiological investigation data within our disease surveillance system, EpiTrax.

To meet these two objectives, we will work with EndPoint who is our contractor for EpiTrax and the Centre for Genomic Pathogen Surveillance (CGPS) who has developed a suite of software to analyze genomic data for public health. The CGPS team has created a dashboard they call Microreact to visualize genomic and epidemiological data together.

We will integrate MicroReact into EpiTrax so that MicroReact will inherit all the security and authentication procedures employed by EpiTrax and make it easy for disease investigators to connect the investigation data in EpiTrax with the genomic data on NCBI. To automate data retrieval from NCBI, comparison with related sequences, genomic analyses, the CGPS software Dat-flo will be employed.

Details

Portfolio:		Priority:	4 - Low
Program:		Impact:	Agency/Local
Investment Class:		T-Shirt size:	S - Small
Investment Type:	Non-Infrastructure	Agency:	KDHE
Submitted by:	Cassie Edwards	Project Manager:	Cassie Edwards
Demand manager:	Cassie Edwards	Impacted Agencies:	
Collaborators:	Jeff Maxon	Business Capabilities:	
		Business Applications:	
		Idea:	

Business Case

Business case:

The analysis of genomic data takes significant expertise and computational power. Every species of pathogen that is sequenced requires a unique analysis to be performed due to the unique nature of their genomes. Only three people at KDHE have the resources to run genomic analyses because of the expertise and computational requirements. Disease investigators, epidemiologists, and infection preventionists require analyzed genomic data to conduct their day-to-day work and cannot run the genomic analyses themselves. Currently, when multiple requests for genomic analysis are made simultaneously it is not possible to perform all the analyses in a timely manner and the order of analyses must be prioritized based on public health needs. The analysis bottleneck can be overcome through automation using the Dataflo tool from CGPS. Once a genomic analysis is validated for a species of pathogen then the analysis of genomic data from that pathogen is a routine process that can be automated so that lay users can select a group of samples and send the samples through a predefined pipeline to obtain results without the oversight of the experts. With this automation, the experts spend their time developing new genomic analyses and training lay users to use automated tools instead of running routine genomic analyses. Another constraint of genomic data is that the data cannot be visualized using common data visualization tools. To have the greatest impact on public health, the genomic and epidemiologic investigation data must be combined to make the connections between pathogens and patients clear. The Microreact dashboard developed by CGPS allows genomic and epidemiologic data to be combined and thereby facilitates disease investigation and control. The integration of Data-flo and Microreact into EpiTrax is an ideal solution because staff are familiar with the platform and the security/permissions have already been developed for EpiTrax.

In scope:

DES Scope
Through this collaborative project, KDHE will work with external partners (End Point Corporation and Digital Epidemiology Services (DES)) to create an integrated genomics visualisation tool within the state EpiTrax system along with automated pipelines to process and merge the epidemiologic and genomic data. End Point and DES will work collaboratively with KDHE to create a turnkey genomic epidemiology system, where sequencing data simply needs to be uploaded to a public repository by KHEL and the accession number reported through Electronic Lab Reporting (ELR) to EpiTrax, and then automated processes will complete the necessary steps to create the genomic outputs (variant, serotype, etc. and phylogenetic tree) and import them back into EpiTrax for viewing and interaction within an integrated Microreact viewer.
Project components:
To enable linkage of pathogen genomic data back to the correct case record within EpiTrax, it is necessary that the sequence accession number be imported into EpiTrax and associated with the correct case. To accomplish this, End Point will work with KDHE to define and create the field in EpiTrax, and implement a workflow to receive spreadsheets from KHEL and create HL7 messages in Mirth to import into EpiTrax. This work will encompass both loading historical data, and creating a prospective workflow that will be incorporated into standard ELR workflows.To bring in pathogen genomic data, the NCBI pathogen detection portal (PDP) will be used to import genomic data (phylogenetic trees, selected metadata elements such as collection date, specimen type, etc.) into EpiTrax. The DES and End Point teams will work collaboratively to build stable workflows that automatically push sequence accession numbers out of the EpiTrax system and return processed genomic data from NCBI back to EpiTrax for integration and viewing in an integrated Microreact viewer embedded into EpiTrax.For viral pathogens of interest that are not available through the NCBI PDP, DES will conduct an analysis of the bioinformatics workflows that would be needed to create,integrate, and maintain a tree-building process similar to the NCBI PDP process. The output of this will be a quote and proposal for integrating these viral pathogens after the successful implementation of the bacterial pathogens.The DES and End Point teams will work collaboratively to integrate the Microreact viewer tool into EpiTrax. This work will allow for the visualisation of genomic data alongside all of the epidemiologic and clinical data stored in EpiTrax. By creating this integrated viewer, the user permissions within EpiTrax will prevent users from accessing any data that they do not have permission to view.

Out of scope:

n/a

Risk of performing:

Risk of not performing:

Enablers:

Barriers:

Assumptions:

Financials

Rate Model:

Capital expense:	$1,027,200.00	Capital budget:	$0.00
Operating expense:	$300,000.00	Operating budget:	$0.00
Total planned cost (minus Quarterly Oversight Fee):	$0.00	Discount Rate %:	0
		Net present value:	$1,587,799.80

Total planned cost:	$1,327,200.00	Internal rate of return %:	
Financial return:	$1,587,799.80	Demand Actual Cost:	$0.00
Financial benefit:	$2,914,999.80		
ROI %:	120		
Estimated annual ongoing costs of new system:	$0.00	Estimated life/length of commitment (in years):	3

Assessment Data

Business Risk Evaluation Required:	true	KITO Confirmed:	Confirmed
KITO Reportable:	true	KITO Follow-Up:	false
Strategic Risk Score:	1	Overall Business Risk Evaluation Score:	1.82
Operational Risk Score:	1.3		
Financial Risk Score:	2.3	Security & Compliance Risk Score:	2
		Reputational Risk Score:	2

Notes

Watch list:		Work notes list:	

Work notes:

10/09/2024 08:51:04 AM - Cassie Edwards (Work notes)
It has been a couple weeks since I added the additional information that was requested so I just wanted to see what our status for approval on this DMND is. I have both vendors working on their KITO items for the high level project plan. It has been almost 2 months since I submitted this for approval.

Let me know if you are waiting for anything else from me please

Thank you

@Bob Doane, @Christopher McGinley, @Amy Crotinger, @Sara Spinks, @Jeff Maxon @[Alex Wong]

09/25/2024 09:28:18 AM - Cassie Edwards (Work notes)
I have added two SOW documents (1) DELOITTE - Genomics Task Sheet - DRAFT - As of 09_24_2024 and (2) - DES SOW_epitrax project. Please review these documents and provide further guidance and how to progress with this project. Regards Cassie Edwards
@Jeff Maxon @Bob Doane @Christopher McGinley @Amy Crotinger

09/23/2024 12:05:26 PM - Cassie Edwards (Work notes)
I have attached the EndPoint/Deloitte (Vendor #1) Master Contract. We will use a Change Request for Deloitte.

For DES, (Vendor #2), we are working to develop a contract for their part of the project.

@Bob Doane, @Christopher McGinley, @Amy Crotinger, @Sara Spinks, @Jeff Maxon

09/05/2024 08:48:31 AM - Christopher McGinley (Work notes)
@Alex Wong and @Sara Spinks is this still under review for determination? It shows reportable, however, the demand has not been approved as of this message.

08/19/2024 11:49:35 AM - Cassie Edwards (Work notes)
@Sara Spinks @Christopher McGinley

08/19/2024 11:48:55 AM - Cassie Edwards (Work notes)
@[Cole Robison]...ELR = Electronic Lab Reporting (ELR) updated. I have updated the dates and the Category.

08/14/2024 02:00:55 PM - Cole Robison (Work notes)
@Cassie Edwards

Please define the “ELR” acronym used in the “In scope” text on the Business Case tab. Approved project plans are distributed to a wide audience and are also available at public request, so we ask that you identify acronyms found on plan documentation for better reader understanding.

The project start date coincides with the execution start date, implying no planning phase for the project, and the project close-out date coincides with the execution end date, implying no close-out phase. Please review and revise the dates as necessary to properly reflect the dates for the entire project, accounting for all three phases (planning, execution, and close-out) as defined in the Kansas Project Management Methodology.

Category must be set to Strategic, and Type must be set to Project. This will trigger the display of the Monetary Benefit Plans and Non-monetary Benefit Plans related list tabs, in which you must have at least one entry.

(Please let me know when you have made these revisions, so I know when to review again. You can post a note here and "@mention" me, as I have done here to address this message to you, to do so.)

08/05/2024 02:01:31 PM - Alex Wong (Work notes)
Thank you for resubmitting the Business Risk Evaluation. I have reviewed and agreed with the result, please proceed.
@Cassie Edwards @Christopher McGinley

08/05/2024 10:59:49 AM - Cassie Edwards (Work notes)
@Christopher McGinley

I found the new Business Risk Assessment and will take it now. Thank you and sorry for the confusion

@Alex Wong @Amy Crotinger

08/05/2024 10:54:37 AM - Christopher McGinley (Work notes)
@Alex Wong please see my questions presented on 7/30/2024

@Amy Crotinger @Cassie Edwards

07/30/2024 10:14:42 AM - Christopher McGinley (Work notes)
@Alex Wong

Based on your previous comment, we are not sure how to update the business risk assessment (BRA). Are we expected to submit a new demand, or will your office fix the current demand to allow us to redo the BRA? A complete resubmittal imposes a lot of additional work on my staff members so our preference is the ability to replace the current BRA.

@Tyler Kincaid, @Cassie Edwards , @Amy Crotinger

07/29/2024 09:18:18 AM - Alex Wong (Work notes)
@Tyler Kincaid

Based on the additional information provided, we will replace the Business Risk Evaluation form. Please re-submit and make the following changes:

Financial Duration changing from 1 to 3 because this project will run for more than 2 years.
Net new % On-going cost from 1 to 3 because on-going cost is now 100%
Data Information Risk from 1 to 3 due to the fact that information stored in this system is considered as RUI.

07/23/2024 09:27:42 AM - Tyler Kincaid (Work notes)
@Alex Wong

Hi Alex,

We have updated the financials to fix the ongoing costs. Those are now in the correct place.

The current on-going cost is $0 dollars, and after implementation of this project the on-going cost will go to $100,000 a year for 3 years. So a 100% change. This is a new system being added to EpiTrax so the current on-going costs they pay today are $0.

The components of the system are NOT front facing. This requires careful maintenance of user access including the use of dual-factor authentication.

Please let me know if you have any other questions.

07/22/2024 09:45:45 AM - Alex Wong (Work notes)
For IT Business Risk Evaluation, CITA recommend the following changes:

Financial Duration changing from 1 to 3 because this project will run for more than 2 years.
Data Information Risk from 1 to 3 due to the fact that information stored in this system is considered as RUI.

We will also need agency to provide on-going cost and if there is an existing on-going cost, the different in percentage of the on-going cost.

Also, will any of the components of this system, such as front-facing application interface or portal be accessible directly from the internet?

@Cassie Edwards @Christopher McGinley

Preferences

Close Demand:		Project calculation:	Automatic

Related List Title: Demand Task List
Table name: dmn_demand_task
Query Condition: Parent = DMND0001982
Sort Order: Number in ascending order

2 Demand Tasks

▲ Number	Short description	Due date	Percent Complete	Priority	State	Assigned to
DMNTSK0001178	SOW/RFP			4 - Low	Closed Complete	Cassie Edwards
DMNTSK0001181	JCIT Review			4 - Low	Closed Complete	

Related List Title: Demand Stakeholder List
Table name: dmn_m2m_demand_stakeholder
Query Condition: Demand = DMND0001982
Sort Order: None

5 Demand Stakeholders

Number	User	Key Stakeholder Type	Function
STAK0001165	Daniel Thimmesch	Finance Director/CFO	
STAK0001357	Ashley Goss	Sponsor/Business Owner	
STAK0001166	Christopher McGinley	PMO Director	
STAK0001057	Bob Doane	IT Director/CIO	
STAK0001164	Janet Stanek	Executive Authority	

Related List Title: Requirement List
Table name: dmn_requirement
Query Condition: Parent = DMND0001982
Sort Order: Number in descending order

2 Requirements

▼ Number	Short description	Priority	State	Approval	Created
DREQ0001459	Demand: KITO Review	4 - Low	Accepted	Not Yet Requested	08/14/2024 08:38:47 AM
DREQ0001458	Compliance Acknowledgement	4 - Low	Accepted	Not Yet Requested	08/13/2024 03:04:10 PM

Related List Title: Benefit Plan List
Table name: benefit_plan
Query Condition: Work in (DMNTSK0001178, DREQ0001458, DMNTSK0001181, DMND0001982, DREQ0001459) AND Benefit type = Monetary benefits
Sort Order: Name in ascending order

None

Related List Title: Benefit Plan List
Table name: benefit_plan
Query Condition: Work in (DMNTSK0001178, DREQ0001458, DMNTSK0001181, DMND0001982, DREQ0001459) AND Benefit type = Non-monetary benefits
Sort Order: Name in ascending order

None

Related List Title: Demand Baseline List
Table name: dmn_demand_baseline_header
Query Condition: Demand = DMND0001982
Sort Order: Name in ascending order

1 Demand Baselines

▲ Name	Demand	Description	Plan	Created
DMND0001982 - PRJ0024100	EpiTrax Genomics	Created before conversion to project		10/21/2024 12:29:16 PM

Related List Title: Assessment Instance List
Table name: asmt_assessment_instance
Query Condition: Task = DMND0001982
Sort Order: Number in ascending order

5 Assessment Instances

▲ Number	Metric type	Taken on	State	Assigned to
AINST0438227	Business Risk Screening	07/16/2024 03:40:40 PM	Complete	Cassie Edwards
AINST0438228	Business Risk Evaluation	07/17/2024 10:29:43 AM	Complete	Cassie Edwards
AINST0443714	Business Risk Evaluation	08/05/2024 11:09:31 AM	Complete	Cassie Edwards
AINST0447460	Business Risk Screening	08/13/2024 02:45:58 PM	Complete	Cassie Edwards
AINST0450466	Business Risk Evaluation	08/13/2024 02:52:07 PM	Complete	Cassie Edwards

Related List Title: Assessment Category Result List
Table name: asmt_category_result
Query Condition: Source = 68561e77971bce1041e8b72ef053af4d
Sort Order: None

17 Assessment Category Results

Assessment group	Category	Weight	Rating	Normalized value
ASG0450463	Financial		6.25	1.25
ASG0450463	Reputational		5.01	1
ASG0450463	Operational		1.25	0.25
ASG0443711	Reputational		5.01	1
ASG0438225	Financial		1.25	0.25
ASG0450463	Strategic		0	0
ASG0450463	Security & Compliance		5	1
ASG0447457	Risk Screening		6.67	6.67
ASG0443711	Financial		6.25	1.25
ASG0443711	Operational		1.25	0.25
ASG0443711	Security & Compliance		5	1
ASG0443711	Strategic		0	0
ASG0438225	Strategic		0	0
ASG0438225	Security & Compliance		3	0.6
ASG0438224	Risk Screening		6.67	6.67
ASG0438225	Reputational		5.01	1
ASG0438225	Operational		1.25	0.25

Related List Title: Approval List
Table name: sysapproval_approver
Query Condition: Approval for = DMND0001982
Sort Order: Created in descending order

2 Approvals

State	Approver	Comments	▼ Created
Approved	Jeff Maxon	10/21/2024 12:29:14 PM - Jeff Maxon (Comments) reply from: jeff.maxon@ks.gov Ref:MSG9691232	09/23/2024 10:19:28 AM

State	Approver	Comments	▼ Created
Approved	Janet Stanek	08/13/2024 04:00:13 PM - Janet Stanek (Comments) reply from: Janet.K.Stanek@ks.gov Approve Ref:MSG9394572	08/13/2024 03:18:57 PM

Related List Title: Attachment List

Table name: sys_attachment

Query Condition: Table name = dmn_demand AND Table sys ID = 68561e77971bce1041e8b72ef053af4d OR Table name = dmn_demand_task AND Table sys ID in 02ed5a3497c8da1441e8b72ef053af27, 44a77f5297a81e14d1b7ba4ef053af65 OR Table name = dmn_requirement AND Table sys ID in 0eed5a3497c8da1441e8b72ef053af21, 6a4fc68197cc9e1441e8b72ef053af12 OR Table name = risk AND Table sys ID in OR Table name = issue AND Table sys ID in OR Table name = dmn_decision AND Table sys ID in OR Table name = project_action AND Table sys ID in OR Table name = project_change_request AND Table sys ID in OR Table name = sysapproval_approver AND Table sys ID in 5be564c297bcda9041e8b72ef053aff4, e641ea34970cda1441e8b72ef053af2a

Sort Order: Created in descending order

7 Attachments

File name	Content type	Table name	▼ Created	Created by
DES SOW_epitrax project - 092424 updated.pdf	application/pdf	dmn_demand	09/26/2024 02:37:21 PM	Cassie.Edwards@kdhe.ks.gov
Genomics Task Sheet - DRAFT - As of 09_24_2024.xlsx	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet	dmn_demand	09/25/2024 09:25:01 AM	Cassie.Edwards@kdhe.ks.gov
End Point_08.01.23-07.31.28.pdf	application/pdf	dmn_demand	09/23/2024 12:01:04 PM	Cassie.Edwards@kdhe.ks.gov
KDHE_EpiTrax_Proposal.pdf	application/pdf	dmn_demand_task	08/13/2024 03:17:55 PM	Cassie.Edwards@kdhe.ks.gov
KDHE_DES_Proposal.pdf	application/pdf	dmn_demand_task	08/13/2024 03:17:54 PM	Cassie.Edwards@kdhe.ks.gov
KDHE_DES_Proposal.pdf	application/pdf	dmn_demand	07/16/2024 03:31:20 PM	Cassie.Edwards@kdhe.ks.gov
KDHE_EpiTrax_Proposal.pdf	application/pdf	dmn_demand	07/16/2024 03:31:20 PM	Cassie.Edwards@kdhe.ks.gov