

GVSU RFP #216-33

Functional and Design Requirements

Emerging Technology Fund (ETF) Website

Original Opportunity and Problem Statement

The issues this design addresses include:

- The current site's technology platform is "end of life", potentially causing support issues and limiting the ability for the site to be enhanced periodically.
- The current site's performance is not meeting SBDC's expectations on a consistent basis.
- The site is 'fragile', preventing SBDC from adding fields and other modifications that should be expected from time to time.
- The current reporting capabilities are inadequate.
- Complex business rules are difficult to maintain and administer.
- The end user experience for grant submissions is not as elegant and intuitive as it should be.
- Data retention requirements are significant. SBDC needs to ensure that all information and records are adequately retained and accessible.

These issues have been addressed by developing a comprehensive set of new requirements for the ETF site along with a complete collection of wireframes that prototype the desired behavior of the new site, and a technical design that will balance long-term maintainability with a technology stack sufficiently robust and flexible to provide the user experience, workflow, reporting, data management and professional "look and feel" that SBDC is seeking.

Functional and Technical Requirements

The following requirements summarize both the administrative and applicant user experience and functionality for the new ETF, sorted by Epic Link.

Key	Summary	Linked Issues	Description	Epic Link
MSBD E-71	As a ETF user filling out the application form or requesting an award, I want to ensure my company info is up to date		pop up box at two stages: when filing an application and requesting an award. The pop up box will pull the name of the primary contact person as well as his/her email address and telephone number and request confirmation that they are current. If yes, proceed; if not, redirect to Profile page to edit.	Account Creation
MSBD E-5	As a returning ETF user on the landing page, I want a more obvious button to allow me to login to my existing account.			Account Creation
MSBD E-4	As a returning ETF user, I want to log onto my existing account.		Username field Password field Forgot Password functionality - allow them to reset their password.	Account Creation
MSBD E-3	As a first time ETF user, I want to create an account.		Username Password Confirm Password Email	Account Creation

MSBD E-70	As an admin viewing a new application I want to accept the application and send a letter of support	MSBD E-40	<p>As an ETF admin, when I have navigated to a new application submission, I want to set the application to accepted, So that an automatic email notification is sent to the company letting them know they have been accepted for the ETF award pending their SBIR/STTR grant. (support letter is sent in their ETF account). * This will trigger the creation of the *letter of support* which will be auto-filled and sent to Sara, who would then review for correctness and forward to the applicant. * The date that the letter of support was sent should be captured. - Sent to applicant's email</p> <p>As an ETF admin who as reviewed a new application submission, when I am viewing an auto-populated support letter, I want to review/edit the letter before sending it off to the applicant, So that all information is accurate.</p> <p>*LOS content auto-populated inside the ETF agreement:*</p> Date, Name, Company Name, Street, City, MI, Zip Federal Agency Name, Project Title	Admin Operations
MSBD E-69	As an admin viewing an ETF agreement and W9 forms I want to enter a check date			Admin Operations
MSBD E-68	As an admin viewing a request for ETF award, I want view/download the attachments		<p>As an admin viewing a request for ETF award, I want view/download the attachments</p> <p>- When I click on the file name link, the file will open in a new tab, where I will then have the option to download.</p>	Admin Operations

MSBD E-50	As an admin, I want to receive notifications for any item that needs attention		As an ETF admin, I want to receive automatic message indicating a call to action. As an ETF admin, when I open a notification for an applicant, I would like to see a direct link to that user's application. <ul style="list-style-type: none"> • "Follow up needed" • More than just "who's late" with reports • New application has been submitted • Request for ETF award has been submitted • Signed ETF agreement / W9 has been submitted • Follow up report has been submitted • Amendment has been submitted 	Admin Operations
MSBD E-49	As an admin, I want the ability to add/modify fields and metrics		As an ETF admin, I want the ability to add/modify fields or metrics on all reports, So that in the event that required field changes, they can easily be updated without a developer. <ul style="list-style-type: none"> • Capital formation categories • Jobs created • Jobs removed 	Admin Operations
MSBD E-48	As an admin, I want to export data as an excel file		As an ETF admin, when I am viewing a report on all applications, I want to export that data as an excel file, So that it can easily be used for reporting.	Admin Operations
MSBD E-45	As an admin I want to enter a payment request for Phase II applicants		As an ETF admin, when I am viewing an application for a Phase II application, I want to enter a payment request of \$125K or \$40K, So that a trigger is made for either 1 payment or 2 payments in SP.	Admin Operations
MSBD E-44	As an admin viewing an ETF agreement and W9 forms I want to approve payment		As an ETF admin, when an application has been submitted with an ETF Agreement and W9 forms, I want to approve payment and forward the agreement to GVSU, So that the company may finally receive their EYF Award.	Admin Operations

<p>MSBD E-42</p>	<p>As an admin, when there is a new request for ETF award, I want to receive a notification</p>		<p>As an ETF admin, when an application has been submitted with required documents for requesting their ETF Award (after they have received their SBIR/STTR grant), I want to receive a notification, which includes a link to that application, So that I can set the Share Point alert and documents are auto-populated to the ETF agreement form.</p> <p>As an ETF admin, when I open a notification for an applicant, I would like to see a direct link to that user's application.</p>	<p>Admin Operations</p>
<p>MSBD E-41</p>	<p>As an admin viewing an inaccurate application, I want to set the status to edit</p>		<p>As an ETF admin, when I have navigated to a new application submission and have contacted the company because something was not correct on the original application, I want to set the application to edit, So that the company may re-submit their application with the appropriate information.</p> <p>The admin user can click a "Send Back" button that would allow the applicant to edit any of the fields and resubmit.</p>	<p>Admin Operations</p>
<p>MSBD E-40</p>	<p>As an admin viewing a new application I want to accept the application without sending a letter of support</p>	<p>MSBD E-70</p>	<p>As an ETF admin, when I have navigated to a new application submission, I want to set the application to accepted, So that an automatic email notification is sent to the company letting them know they have been accepted for the ETF award pending their SBIR/STTR grant.</p> <p>An admin would normally choose to accept an application with a letter of support in the case that they applicant meets all requirements, but the date that they would have applied for their SBIR/STTR has passed already.</p>	<p>Admin Operations</p>

MSBD E-39	As an admin, when a new application is submitted I want to receive a notification		<p>As an ETF admin who has logged into the admin tool, when a new application has been submitted, I want to receive a notification, which includes a link to that application, So that I can easily access any new applications.</p> <p>As an ETF admin, when I open a notification for an applicant, I would like to see a direct link to that user's application.</p>	Admin Operations
MSBD E-15	As an ETF user who has completed the ETF application and an admin has accepted their application, I want to receive a letter of support form SBDC, So that I can include it in my application to SBIR/STTR.		<p>As an ETF user who has completed the ETF application and has been approved for the ETF Award, I want to receive a letter of support form SBDC, So that I can include it in my application to SBIR/STTR.</p> <p>The letter of support will be emailed to the member and is designed to be used to give that company an advantage in their application process with SBIR/STTR.</p> <p>*LOS content auto-populated inside the ETF agreement:*</p> <p>Date, Name, Company Name, Street, City, MI, Zip Federal Agency Name, Project Title</p>	Apply for ETF Award
MSBD E-14	As an ETF user who has submitted my ETF application, I want to have an email sent to my personal email address.		<p>Message Content:</p> <p>Thank you for submitting your program information. Please return to www.mietf.org to request your ETF disbursement when you have received your SBIR/STTR award and entered into a contract with the specified federal agency.</p> <p>Because changes are made to the ETF as warranted throughout the year, the SBDC encourages all existing applicants to routinely check the website for new information. Please be sure to periodically check the site for updates to the ETF, including ETF Program Guidelines and FAQs.</p>	Apply for ETF Award

<p>MSBD E-13</p>	<p>As an ETF user who is submitting an application, I want to finally submit my completed application.</p>		<p>As an ETF user who is submitting an application, when I click the "submit" button a modal view of my complete submission appears for my review.</p> <p>As an ETF user who is reviewing my ETF application submission, I can click a "confirm" (will set to submitted) or a "cancel" button (will return the user to the previous page).</p> <p>As an ETF user who has selected the "confirm" button on the review submission modal, I am brought back to my home page where I see the ETF application with a "Submitted" Status.</p>	<p>Apply for ETF Award</p>
<p>MSBD E-12</p>	<p>As an ETF user who has began an application, I want to save my work.</p>		<p>Status set to: *Edit*</p> <p>As an ETF user who has saved my work on an application, I want to log back in on another time and see all my initially reported data still in the tool, So that I can begin where I left off.</p>	<p>Apply for ETF Award</p>

<p>MSBD E-11</p>	<p>As an ETF user who is submitting an application, I want to thirdly fill out the Program Information.</p>	<ul style="list-style-type: none"> * Project Title – Free Text * Program Name (text carried over from the user's selection on previous page) * Department Name (Dropdown) <ul style="list-style-type: none"> o Department of Agriculture o Department of Commerce: NIST o Department of Commerce: NOAA o Department of Defense: Air Force o Department of Defense: Army o Department of Defense: Chemical and Biological Defense Program o Department of Defense: DARPA o Department of Defense: Defense Logistics Agency o Department of Defense: Defense Microelectronics Activity o Department of Defense: Defense Technical Information Center o Department of Defense: Defense Threat Reduction Agency o Department of Defense: Missile Defense Agency o Department of Defense: National Geospatial-Intelligence Agency o Department of Defense: Navy o Department of Defense: Special Operations Acquisition and Logistics Center o Department of Education o Department of Energy o Department of Health & Human Services: NIH o Department of Health & Human Services: CDC o Department of Health & Human Services: FDS o Department of Health & Human Services: AHRQ o Department of Homeland Security o Environmental Protection Agency o National Aeronautics Space Administration o National Science Foundation * Topic/Sub-Topic Name – Free Text * Topic Number (if applicable) – Free Text * Project Description – Free Text (1,500 Characters Max) * Primary Technological Area (Dropdown) <ul style="list-style-type: none"> o Advanced Automotive, Manufacturing, Information, Materials and Agricultural Processing o Alternative Energy o Homeland Security and Defense o Life Science * Federal Application Due Date – Calendar * Anticipated Award Decision Date – Calendar * Anticipated Funding Date – Calendar * Anticipated Project Completion Date – Calendar * Federal Award Amount Anticipated – Currency 	<p>Apply for ETF Award</p>
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<p>MSBD E-10</p>	<p>As an ETF user who is submitting an application, I want to secondly choose one of the four a Program Names.</p>	<p>*Options to choose for program Names:*</p> <p>SBIR Phase I STTR Phase I SBIR Phase II STTR Phase II</p> <p>*Additional items included in this step:*</p> <ul style="list-style-type: none"> • How many SBIR/STTR Phase II awards has your company received in the past 5 years? – Numeric value <p>* This is a numeric field. If anything more than 2 is entered, then the system displays an automatic message saying “A Company that has been awarded more than two (2) SIBR/STTR Phase II federal grants or contracts within the previous five (5) years is not eligible to apply to the ETF.”</p> <p>* Add a second “stop/go” gate: If an applicant has received four (4) phase I ETF wards and (2) phase II ETF awards, then it is ineligible to participate in the ETF program and may not proceed to the next step. The maximum number of ETF awards a company can receive is four phase I and two phase IIs.</p> <ul style="list-style-type: none"> • Agree to truthfulness – Check Box with link to certificate 	<p>Apply for ETF Award</p>
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<p>MSBD E-9</p>	<p>As an ETF user who is submitting an application, I want to first fill out my business profile information.</p>		<p>As a first time ETF user, before I can apply for an ETF Award, I must first complete my business profile.</p> <ul style="list-style-type: none"> - As a first time ETF user who has not completed there company profile information, When I select the "New application" button, I want to be brought to the company profile page. When I click the save button the company profile page then I will be brought to the application page. - As a first time ETF user who has completed there company profile information, When I select the "New application" button, I want to be brought to the application page. <p>*Company Profile Content:*</p> <ul style="list-style-type: none"> • Business Name – Free Text • Business Start Date – Calendar • Business Website - URL • Address – Free text • Phone Number • EIN – Numeric • DUNs Number - Numeric • Primary/Secondary Contact • Primary/Secondary Email Address <p>* allow the user to add another contact (up to 5)</p> <ul style="list-style-type: none"> • Brief Company Summary, Including Technology Focus – Free Text (1,000 Characters Max) 	<p>Apply for ETF Award</p>
<p>MSBD E-46</p>	<p>As an admin, I want to provide MEDC monthly, progress reports, and respond to data requests</p>		<p>As an ETF admin, when a company uploads metrics for their follow up report, I want to Provide MEDC monthly and Progress Reports, and Respond to data requests.</p>	<p>Follow Up</p>

MSBD E-37	As an ETF user who has been awarded an ETF Award, I want the ability to submit my follow up report.		http://share.myhealthux.com/GFQLYH/#p=follow_up As an ETF user who has been awarded an ETF Award and has selected an application with the Follow Up Report Status, I want the ability to submit my follow up report. <ul style="list-style-type: none"> • Add dropdowns to follow up reports for clarifying sources etc. • Add metrics to existing Annual Report Fields. Fields must be numeric only; no text. • Follow up Reports are due one year after the award check date, and are due for five years thereafter. 	Follow Up
MSBD E-36	As an ETF user who has been awarded an ETF Award, I want to clearly view which application needs a follow up report		As an ETF user who has been awarded an ETF Award, I want to clearly view which application (in the event that I have more than one) needs a follow up report by its status of Follow Up Report. Status: *Follow Up Report*	Follow Up
MSBD E-35	As an ETF user who has been awarded an ETF Award, and is overdue on submitting their annual report, I want an automated email sent to me		As an ETF user who has been awarded an ETF Award, and is overdue on submitting their annual report, I want an automated email sent to me that includes a quick link to “greater than 30 days” late on annual report.	Follow Up

<p>MSBD E-34</p>	<p>As an ETF user who has been awarded an ETF Award, I want an automated reminder for reporting or other actions on my part sent to my email</p>		<p>As an ETF user who has been awarded an ETF Award, I want an automated reminder sent to my email informing me that my annual report is due in X days, and requesting documentation of my annual report, So that I know how to proceed.</p> <ul style="list-style-type: none"> • Automate the follow up report reminder to go out X days before due date • Includes a quick link to login and to that exact application. • The annual report due date is based on the check's date 	<p>Follow Up</p>
<p>MSBD E-33</p>	<p>As an ETF user who has been approved for an ETF Award, I want to receive a message in my email box indicating that SBDC has awarded my ETF award.</p>		<p>As an ETF user who has been approved for an ETF Award, I want to receive a message in my email box indicating that SBDC has awarded my ETF award and soon the check will be sent.</p> <p>The message will also indicate a reminder that I will need to submit annual reports.</p>	<p>Receive ETF Award</p>
<p>MSBD E-30</p>	<p>As an ETF user applying for Phase II grant and received a partial payment of \$40K, if I am able to come up with the rest of my Third Party Match, I can request a second payment of \$85K</p>		<p>http://share.myhealthux.com/GFQLYH/#p=request_2nd_payment</p> <p>As an ETF user applying for Phase II grant and requested the second payment, I want to sign and upload my Contract Amendment.</p> <p>Contact Amendment - upload Proof of Match - upload Use of Funds Report - upload Third Party Funding - currency</p>	<p>Receive ETF Award</p>

<p>MSBD E-29</p>	<p>As an ETF user applying for Phase II grant, when I have submitted the final form to be awarded an ETF, depending on the amount of my third party match, I will receive \$125K or \$40K once approved (no request needed).</p>		<p>*Phase II Math:* The "total third party funding" amount determines the amount that the user will see in the "Your ETF award is" section. - Less than \$4,999: No award - \$5K - \$124,999: \$40,000 award - \$125K or more: \$125,000</p>	<p>Receive ETF Award</p>
<p>MSBD E-28</p>	<p>As an ETF user applying for Phase I grant, when I have submitted the final form to be awarded an ETF, 25K will automatically be the amount I will receive once approved (no request needed).</p>		<p>*Phase I Math:* The "total third party funding" amount determines the amount that the user will see in the "Your ETF award is" section. - Less than \$25K: No award - \$25K - or more: \$25,000</p>	<p>Receive ETF Award</p>

<p>MSBD E-43</p>	<p>As an admin viewing a request for ETF award, I want to send an ETF agreement</p>		<p>As an ETF admin, when I have navigated to an application requesting their ETF Award, I want to send the company their ETF Agreement form with approved documents, So that the company can sign to receive the award.</p> <p>Example ETF Agreement ?</p> <p>As an ETF admin who has approved an application for requesting ETF Award, I want to review/edit the auto-populated ETF Agreement, So that all information is accurate.</p> <ul style="list-style-type: none"> • As an ETF admin, I want the ETF Agreement form to be auto-populated with the applicants: <ul style="list-style-type: none"> - Company Name - Address - SBIR/STTR Contract Upload - Proof of third party match Upload - Use of Funds Report Upload 	<p>Request ETF Award</p>
<p>MSBD E-23</p>	<p>As an ETF user who has submitted the form to Request an ETF Award, I want to receive an email indicating it is in review, and that SBDC will be in contact.</p>		<p>Email says “documents are being reviewed”</p>	<p>Request ETF Award</p>
<p>MSBD E-22</p>	<p>As an ETF user who has completed inputting information and uploading required documents, I want to see a summary of my information, so that I can</p>		<p>As an ETF user who has been approved by SBIR/STTR, has selected the application with a Request ETF Award status, and has completed inputting information and uploading required documents, I want to see a summary of my information, so that I can review it before submitting the form.</p>	<p>Request ETF Award</p>

	review it before submitting the form			
MSBD E-21	As an ETF user who has saved work when requesting an ETF Award, I want to log back in on another time and see all my initially reported data still in the tool, So that I can begin where I left off.			Request ETF Award
MSBD E-20	As an ETF user requesting an ETF Award and I have began inputting information, I want to save my work.		As an ETF user who has been approved by SBIR/STTR, has selected the application with a Request ETF Award status, and has began inputting information, I want to save my work. Status: *Edit*	Request ETF Award

<p>MSBD E-19</p>	<p>As an ETF user requesting an ETF Award, I can see the amount of my ETF award.</p>	<p>http://share.myhealthux.com/GFQLYH/#p=request_etf_award</p> <p>*SBIR/STTR Contract/Award Information* - Upload your SBIR/STTR Contract/Award - SBIR/STTR Contract Date - date drop down menu - SBIR/STTR Amount Awarded – Currency</p> <p>*Use of Funds Information* - Template - Upload Completed Use of Funds</p> <p>*Third Party Funding Information* - Upload your Third Party Funding - fill out sources</p> <p>*Phase II Math:* The "total third party funding" amount is equal to the sum of each "source of third party funding" items. The "total third party funding" amount determines the amount that the user will see in the "Your ETF award is" section. - Less than \$4,999: No award - \$5K - \$124,999: \$40,000 award - \$125K or more: \$125,000</p> <p>*Phase I Math:* The "total third party funding" amount is equal to the sum of each "source of third party funding" items. The "total third party funding" amount determines the amount that the user will see in the "Your ETF award is" section. - Less than \$25K: No award - \$25K - or more: \$25,000</p> <p>* How many SBIR/STTR Phase II awards has your company received in the past 5 years?* – Numeric value If anything more than 3 is entered, then the system displays an automatic message saying: "A Company that has been awarded more than three (3) SIBR/STTR Phase II federal grants or contracts is ineligible to apply to the ETF."</p> <p>* Agree to truthfulness* – Check Box with link to certificate</p> <hr/> <p>I have the ability to Re-upload/Edit any documents in the event they were inadequate</p> <ul style="list-style-type: none"> • Have you used any portion of your SBIR/STTR as qualifying match for another state program? (Ex: Michigan PreSeed Capital Fund) – Numeric • Provide confirmation of Michigan registered business <p>* A certification box. The company must certify that it is registered in Michigan and has and intends to have during the five year reporting period following receipt of</p>	<p>Request ETF Award</p>
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			<p>an ETF award, all or substantially all of its operations and employees located within Michigan.</p> <p>* Tech companies located outside of Michigan can submit an ETF application but they must establish Michigan as a principal place of business prior to requesting an ETF award. For this reason, the profile page would not be the point of request.</p> <ul style="list-style-type: none">•Formation/Qualification Date <p>* A date field. The company must enter the Formation/Qualification Date it registered with the Michigan Department of Licensing & Regulatory Affairs (LARA). (This is a public information that I look up using the LARA database and report to the MEDC).</p> <ul style="list-style-type: none">•Have you used any portion of your SBIR/STTR as qualifying match for another state program? (Ex: Michigan PreSeed Capital Fund) – Yes/No	
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<p>MSBD E-18</p>	<p>As an ETF user requesting an ETF Award, I can download a use of funds template</p>		<p>As an ETF user who has been approved by SBIR/STTR and has selected the application with a Request ETF Award status, I can download a use of funds template and re-upload my completed version.</p> <p>Provide a Use of funds editable template provided to the company (see attached 2016 Use of Funds Template - No auto-fill on this form) - We want the Use of Fund template to be an online form that is downloaded, completed, and then uploaded along with the Notice of Award/Contract and third party funding. Right now, Sara and I are sending the template separately via email. Having the template on-line would eliminate this step. We foresee a “click here for Use of Funds Template” tab.</p> <p>I have the ability to Re-upload/Edit any documents in the event they were inadequate</p>	<p>Request ETF Award</p>
<p>MSBD E-17</p>	<p>As an ETF user who has been approved by SBDC for the ETF Award, I login to my account on ETF and see my application with a status of Request ETF Award.</p>		<p>Status: *Request ETF Award*</p>	<p>Request ETF Award</p>
<p>MSBD E-27</p>	<p>As an ETF user who has submitted ETF agreement and W9 forms, I want to see an email sent to my account that notifies me my files</p>		<p>When I click "submit" - a modal will prompt me to review and verify my submission. There will be two button options. 1.) Confirm - will take me to my application overview page 2.) Cancel - will close the modal</p> <p>When a user Confirms the submission an email will be sent to my account</p>	<p>Sign ETF Agreement</p>

	have been sent.			
MSBD E-26	As an ETF user who has been approved for an ETF Award, when I navigate to that application, I want to view/download the ETF agreement so that I can upload the signed ETF agreement and a place to upload my W-9		http://share.myhealthux.com/GFQLYH/#p=etf_agreement Three uploaded documents are already auto-populated inside the ETF agreement. 1 SBIR/STTR Contract 2 Proof of third party match 3 Use of funds report	Sign ETF Agreement
MSBD E-25	As an ETF user who has been approved by SBDC for the ETF Award, I can get an email of approval for ETF application sent to my primary email address, along with a link to fill out my ETF agreement		The user is told that the ETF agreement should be completed once they have been approved for their SBIR federal grant as well I can click a link and be brought to my account to sign the ETF agreement and upload my W9.	Sign ETF Agreement
MSBD E-67	System will provide a means to migrate all the			Technical Requirements

	information from the previous version of ETF.			
MSBD E-66	System will have the ability to provision users both consumers and admins. (User login management)		This will include. Creating a user. Fogot password. Security around password.	Technical Requirements
MSBD E-65	System will provide a means to edit and update static web content on the site			Technical Requirements
MSBD E-64	System will provide a user interface that will be consumed on the internet.			Technical Requirements
MSBD E-63	System will allow ETF requests to be saved and retrieved at a later date			Technical Requirements
MSBD E-62	System will provide a means to update content in a pdf based on user entered information		Right now a stock pdf or word document is used and the fields are updated manually. Need to have functionality that the system will provide a finished pdf or word document with the fields already pre filled in and ready to print.	Technical Requirements
MSBD E-61	System will provide a means to track the health of the system (new relic, pingdom)		System needs to have analytics and tracking to assure that the website is up and healthy. Systems such as new relic and pingdom can be provided for this means	Technical Requirements
MSBD E-60	System will provide a means to			Technical Requirements

	track site analytics (google analytics)			
MSBD E-59	System will provide a means to upload and save files on the server			Technical Requirements
MSBD E-58	System will provide a secure (https) method for transferring information.			Technical Requirements
MSBD E-57	System will provide a means for an admin to add new fields to forms that users fill out.		There are many instances in which the admin will need to add new fields to the forms. For the most part these fields are only needed for reporting purposes and will need to be added excel spreadsheets	Technical Requirements
MSBD E-56	System will provide a means to download data in excel format.		The old system had means to download sharepoint lists as excel spreadsheets. The new system has to be able to download the data in the database in excel format.	Technical Requirements
MSBD E-55	System will provide a means to notify users(admin or consumer) by email			Technical Requirements
MSBD E-54	System will provide a mobile (responsive) interface for both admin and consumer			Technical Requirements
MSBD E-51	As an admin, I want an audit trail of all transactions for reporting		As an ETF admin, I want some sort of an audit trail to retain information <ul style="list-style-type: none"> • Improve data collection, if any, for reporting purposes. 	Technical Requirements
MSBD E-47	As an admin, I want to login one			Technical Requirements

	time (Single Sign On)			
MSBD E-7	As an ETF user, when I search on Google for the ETF application, I want to find the correct link to the site, So that I can easily find and use this tool.		SEO (search engine optimization) Meta data (tags) embedded in the application	Technical Requirements
MSBD E-6	As an ETF user, I want to see all the same SBDC branding that I know and love from the existing site.		Enhanced MI SBDC brand	User Experience

Wireframes and Visual Design

The following high-fidelity wire frames are a representative sample of the visual design completed for the new ETF. It was not practical to insert every wireframe into this document due to size constraints. A complete set of Administrative and End User wireframes can be found here:

User side: <http://gfqlyh.axshare.com/>

Admin side: <http://tb54ry.axshare.com/>

ETF Home Page

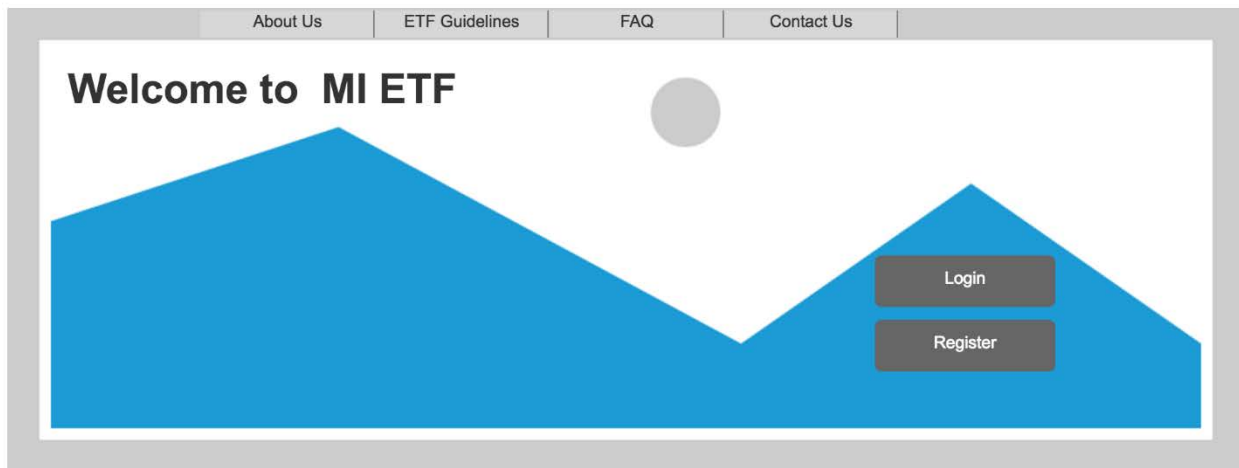
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- FAQ
- Contact Us

Application Approved 09/16/2015	Request Award Approved 09/28/2015	Agreement Approved 10/08/2015	
			Follow Up 1 Last Approved 10/13/2016

Year [1] Follow Up Report

[Project Title]

Phase I [agency name]

Due Date [00/00/0000]

[View an Example of a completed Annual Follow Up Report](#)

Additional Financing

Source	Amount
MEDC Funds Awarded to Companies ?	<input type="text"/>
SBIR, STTR, & Other Federal Funding	<input type="text"/>
Venture Capital	<input type="text"/>
Angel Funds	<input type="text"/>
Bank/Loan	<input type="text"/>
Owner Investment	<input type="text"/>
New Sales (Increase in Revenue)	<input type="text"/>
Other	<input type="text"/>
TOTAL	\$(0000)

How did you use the ETF Award?

Jobs Created

Jobs Retained

Summarize your next steps

Patents Issued

Patents Submitted

Work Summary

Apply for ETF

Michigan Emerging Technologies Fund

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- About Us
- ETF Guidelines
- FAQ
- Contact Us

<input checked="" type="checkbox"/> Application	<input checked="" type="checkbox"/> Request Award	<input checked="" type="checkbox"/> Agreement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Follow Up 1					

Apply for ETF Award

Program Name

How many SBIR/STTR Phase II awards has your company received?

A Company that has been awarded more than two (2) SBIR/STTR Phase II federal grants is ineligible to apply to the ETF. [Learn more](#)

I have read and agreed to the [Certification of Truthfulness](#)

Cancel

Next

Request ETF Award

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<input checked="" type="checkbox"/> Application Approved 09/16/2015	<input checked="" type="checkbox"/> Request Award	<input checked="" type="checkbox"/> Agreement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Follow Up 1
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Request ETF Award

[Project Title]
Phase I [agency name]

SBIR/STTR Contract/Award Information

Upload your SBIR/STTR Contract/Award No file chosen

SBIR/STTR Contract Date

SBIR/STTR Amount Awarded

Use of Funds Information

[Download Use of Funds Template](#)

Upload Completed Use of Funds No file chosen

Third Party Funding Information

Upload your Third Party Funding No file chosen

Source of Third Party Funding:

Angel	<input type="text" value="\$"/>
Venture Capital	<input type="text" value="\$"/>
Loan	<input type="text" value="\$"/>
Other	<input type="text" value="\$"/>

Total Third Party Funding \$[0000]
Your ETF Award is \$[0] ?

How many SBIR/STTR Phase II awards has your company received?

A Company that has been awarded more than two (2) SBIR/STTR Phase II federal grants is ineligible to apply to the ETF. [Learn more](#)

I have read and agreed to the [Certification of truthfulness](#).

<input type="button" value="Cancel"/>	<input type="button" value="Save"/>	<input type="button" value="Submit"/>
---------------------------------------	-------------------------------------	---------------------------------------

My Applications



Hello, Amanda ▾ | [Logout](#)

Michigan Emerging Technologies Fund



- Company Profile
- My Applications**
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- ETF Guidelines
- FAQ
- Contact Us










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Life Science (given by fed)				Submitted
FLI_01_001				
Program Name	SBIR Phase I	Topic	Bio-Research	
Department Name	National Science Foundation	Submitted Date	10/21/2015	
FLI_01_001				
Program Name		Topic		
Department Name		Submitted Date		

Sign Agreement

Michigan Emerging Technologies Fund

Company Profile	 Application <i>Approved 09/16/2015</i>	 Request Award <i>Approved 09/28/2015</i>	 Agreement						
My Applications	Complete ETF Agreement							 Follow Up 1	
About Us	[Project Title] Phase I [agency name]								
ETF Guidelines	ETF Agreement Download your ETF Agreement								
FAQ	Upload Completed ETF Agreement <input type="button" value="Choose File"/> No file chosen								
Contact Us	W9 Form Please ensure to complete the most current W9 version from IRS site								
	Upload W9 Form <input type="button" value="Choose File"/> No file chosen								

Technical Design

1. Executive Introduction

The ETF application will be written as custom web application and hosted in the cloud. This will allow the SBDC to craft the functionality of the application in line with the desired state and take advantage of the cloud services to reduce total cost of ownership.

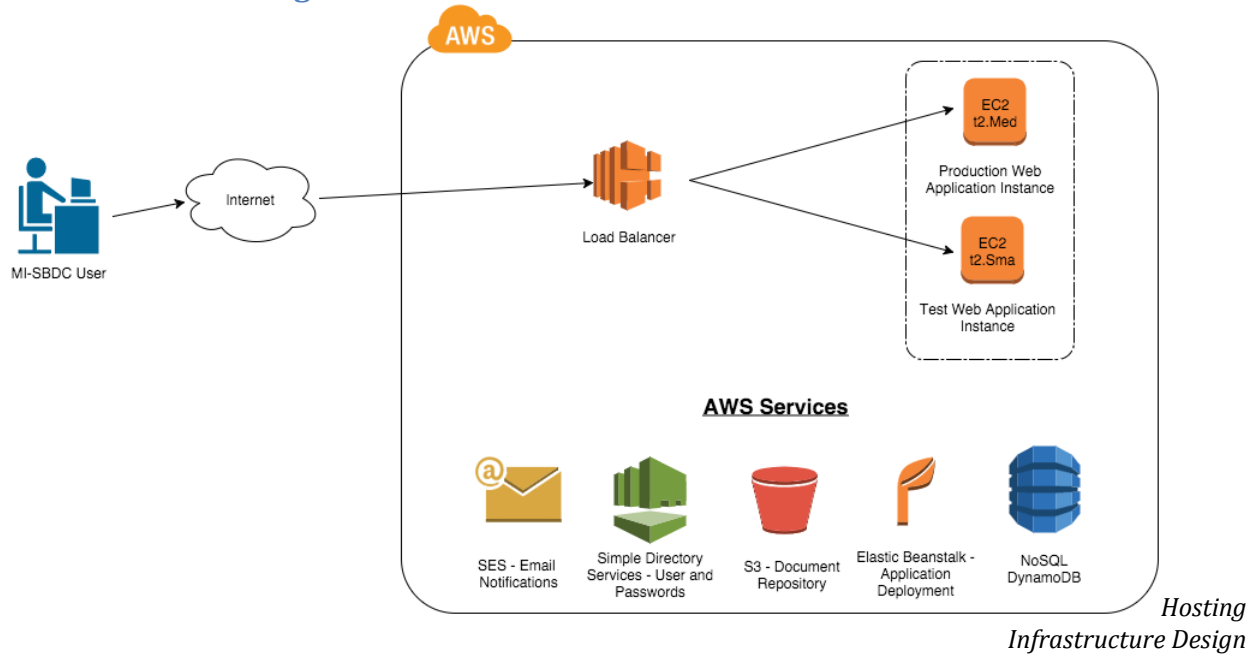
There are two proposed architecture solutions. One will utilize open source technologies on the Amazon Web Services cloud provider. The other will utilize all Microsoft tools on the Azure cloud provider. These options are discussed in detail and evaluated below, followed by the final recommendation to use Microsoft Azure Cloud Services.

2. Option One (Amazon Web Services)

2.1 Introduction

The application will be hosted at Amazon Web Services and utilize services. The build out will use a modern application architecture utilizing single page application framework for the front end and a web API as the business logic layer.

2.2 Architecture Diagrams



User Interface
Single Page Application (JS, HTML, CSS)



Business Layer
WebAPI (.NET)



Data
NoSQL Database



Application Frameworks and Stack Design

2.3 Estimated Yearly Hosting Costs

The hosting provider will be Amazon Web Services. The following chart outlines all of the hosting cost line items costs associated with ETF application. Amazon gives a cost break if you reserve instances by year. The following takes advantage of the cost savings by buying all of the instances by year. This yields a 60% cost savings instead of doing a month-by-month subscription.

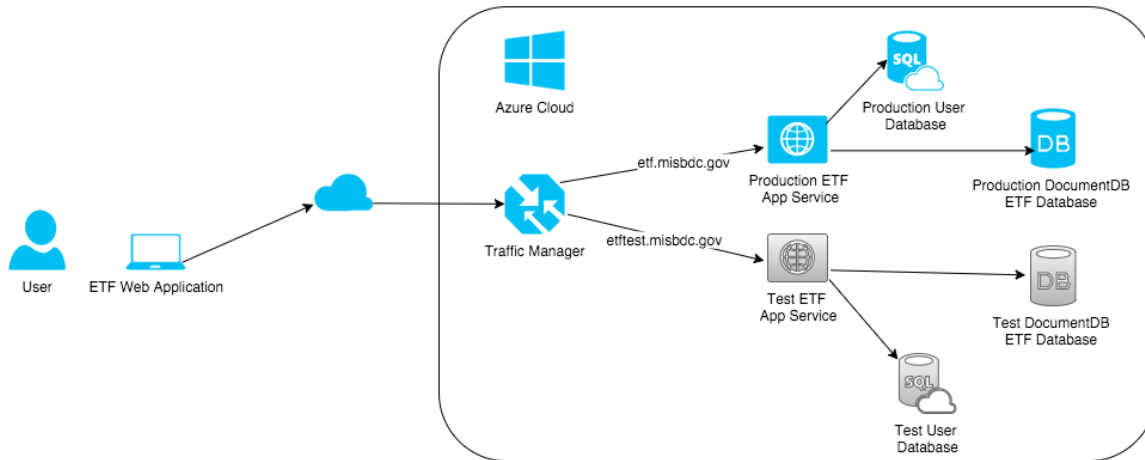
Service	Description	Yearly Cost
EC2 Production	Production virtual machine	\$302
EC2 Test	Test virtual machine	\$151
SES	Email Notifications	\$20
SNS	Mobile Notifications	\$20
Dynamo DB	NoSQL Data Repository	\$100
S3 Storage	Document Repository	\$20
Simple Directory Services	User profile storage including usernames and passwords	\$432
Elastic Beanstalk	Application Deployment	Free
Total		\$1045 annually

3. Option Two (Microsoft Azure Cloud Services)

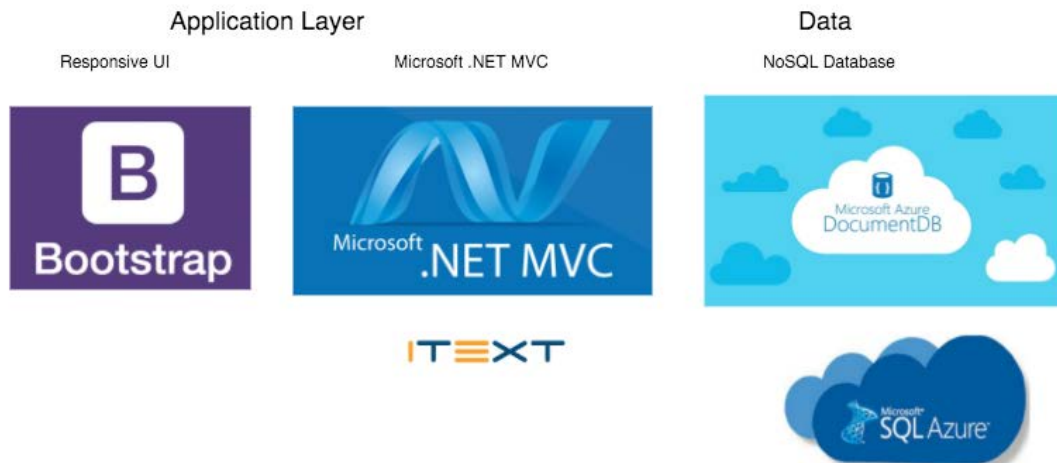
3.1 Introduction

The application will be hosted at Microsoft Azure Cloud Services. The build out will utilize all Microsoft technologies. This architecture takes advantage of Azure's software as a service (SaaS) options including SQL Database, Application Service, and NoSQL Database Service.

3.2 Architecture Diagrams



Hosting Infrastructure Diagram



Application Frameworks and Stack Design

3.3 Hosting Pricing

The following are the monthly hosting costs for the Azure option.

Prod App Service	\$83.40
Prod DocDB	\$25.00
Prod User DB	\$15.03
Test App Service	\$12.00
Test User DB	\$1.07
Test DocDB	\$5.38
Support Options	\$0.00

\$141.88

Estimated monthly cost

<p>Prod App Service</p> <p>REGION: East US TIER: Standard</p> <p>INSTANCE SIZE: S1 1 cores 1.75 GB RAM 50 GB Storage \$0.100/hr</p> <p>1 Instances × 744 Hours = \$74.40/MO</p> <p>SSL Connections</p> <p>Sub-total \$83.40/MO</p>	<p>Prod DocDB</p> <p>REGION: East US</p> <p>PERFORMANCE LEVEL: S1 10 GB SSD Request units 250/sec \$0.034/hr</p> <p>1 Collections × 744 Hours = \$25.00/MO</p>
<p>Prod User DB</p> <p>REGION: East US TYPE: Single Database</p> <p>PRICING TIER: Standard</p> <p>INSTANCE SIZE: S0 10 Data throughput units 250 GB Database \$0.020/hr</p> <p>1 Databases × 744 Hours = \$15.03/MO</p>	<p>Test App Service</p> <p>REGION: West US TIER: Basic</p> <p>INSTANCE SIZE: B1 1 cores 1.75 GB RAM 10 GB Storage \$0.075/hr</p> <p>1 Instances × 160 Hours = \$12.00/MO</p> <p>SSL Connections</p> <p>Sub-total \$12.00/MO</p>
<p>Test User DB</p> <p>REGION: East US TYPE: Single Database</p> <p>PRICING TIER: Basic</p> <p>INSTANCE SIZE: B 5 Data throughput units 2 GB Database \$0.007/hr</p> <p>1 Databases × 160 Hours = \$1.07/MO</p>	<p>Test DocDB</p> <p>REGION: East US</p> <p>PERFORMANCE LEVEL: S1 10 GB SSD Request units 250/sec \$0.034/hr</p> <p>1 Collections × 160 Hours = \$5.38/MO</p>

4. ETF Architecture and Hosting Recommendation

4.1 Solution Pros and Cons

The following table outlines the pros and cons of each option.

Option	Pros	Cons
Amazon Web Services	<ul style="list-style-type: none">• Attractive yearly pricing discounts• Amazon has strong services to do cloud email and storage.• Single Page Application gives more flexibility for user experience.	<ul style="list-style-type: none">• As this is an infrastructure as a service, there will be more server maintenance and patching required by SBDC.• The solution is more complicated and uses many different technologies, which will make it harder to develop and maintain in the long term.
Azure Cloud Services	<ul style="list-style-type: none">• As this is a software as a service solution, no server maintenance is needed resulting in reduced Total Cost of Ownership.• Use all Microsoft .NET technology, which will make development faster, taking advantage of a single platform.	<ul style="list-style-type: none">• The yearly cost for Azure is slightly higher than the Amazon solution.

4.2 Recommendation

Use the **Microsoft Azure Cloud Services for the hosting of the Michigan SBDC ETF application**. Azure will provide Michigan SBDC a solution that will reduce the total cost of ownership by providing software as a service for all of the components. The Michigan SBDC will not have to maintain any infrastructure.