Inception Phase

"The Problem Solvers"

CIS 320-01

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System Request

The University of Louisville's research and innovation department is currently lacking from getting enough funds from donors, external partnerships, companies, and more. The research and innovation page hasn't been able to showcase what it does in an appealing way that attracts donors, external partnerships, companies, and more. Hence, the webpage for research and innovation needs updates and modifications. Currently, it is complicated to navigate throughout the website and hard to find what you are looking for because there is no clear direction. The wordiness of the webpage is also unattractive and doesn't showcase the great things that UofL research has done.

Reaching out to the public with information such as what research can UofL do and what they have done would attract the companies and donors. So online Marketing strategy is very important in helping students understand the benefits of research and innovation. As an undergraduate student, it took a little more searching on the website to find an opportunity such as the "Undergraduate Summer Research Program".

There are lots of opportunities that could bring millions of dollars in funds to the UofL Research and Innovation department. Improvements to the webpage has the potential to attract companies, donors, and the general public. In turn, these stakeholders could have a long-term relationship with UofL and bring in more revenue for the University.

“The Problem Solvers”

UofL’s Research & Innovation Revamp

Vision Document

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Revision History

Date	Version	Description	Author
01/26/2020	1.0	Iteration #1	“The Problem Solvers”
02/19/2020	2.0	Iteration #2	“The Problem Solvers”

Table of Contents

Vision (Small Project)

1. Introduction

The purpose of this document is to collect, analyze, and define high-level needs and features of the UofL research website. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how the UofL research website fulfills these needs are detailed in the use-case and supplementary specifications in the below sections.

1.1 References

Feasibility Analysis - Appendix A

2. Positioning

2.1 Problem Statement

The problem of	The U of L research and innovation website.
affects	The University and researchers.
the impact of which is	The University is missing out on additional cash flows and grants.
a successful solution would be	Redesigning the University Research and Innovation website.

2.2 Product Position Statement

For	Researchers, companies, and the community.
Who	The website is preventing U of L from gaining additional profits from grants.
The Research and Innovation Website	Is a website that matches researchers with grants and researchers with industry partners.
That	Brings in additional revenue to the university, helps the university keep its Carnegie 1 status, and provides researchers with necessary funds and resources.
Unlike	Other major university Research and Innovation programs.
Our product	Matches researchers with grants, provides IP protection, matches researchers with Industry partners, and brings in revenue for the University.

3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
● Invested Partners ● Students ● Employees ● The Government ● The Community	● Industries that invested money towards a grant that interests them ● Students attending the school seeking grants/research help ● Employees directly in the research and innovation department ● External grants come in from government facilities ● With medical research among other things assisting the public and community around us	● Invested partners provide funding for research projects. ● The students create more projects to be invested in/work on already existing research ● Employees monitor progress and help to ensure there will be a market demand for the final product if possible. ● The government provides funding for research projects ● The community is the reason a lot of the medical research is done, to help the greater community.

3.2 User Summary

Name	Description	Responsibilities	
● Researcher ● Industrial partner	● The reason to provide funding ● The funding	● accepting research grants and finding new ones ● generating a profit and providing a starting fund for researchers	

3.3 User Environment

The working environment for the target users varies drastically. Since the target users are industries looking to invest and researchers. The amount of researchers needed for a task depends on what the task is since it could range from medical science to working with snails. Since every answer would consist of something along these lines we will look exclusively at the working environment of the website to apply for a grant of industrial partnership. Each of these tasks only requires one person and can take anywhere from 5 minutes to a few hours depending on if you can find what you are looking for and know what to apply for. Instead of keeping all of the users interaction on the website though the grants must be done either by emailing a PDF document out after downloading and completing it or following instructions on an external website. While there's not much that can be done about the external websites, internal grants can and should be handled entirely on the website out of convenience and efficiency sake.

3.4 Summary of Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
1. Easier to understand pages 2. Not as many hyperlink dumps 3. User friendly website structure 4. Ease of access to important features	1. Medium 2. Low 3. High 4. High	1. Users can get lost in the overwhelming information 2. Because there are so many hyperlinks on each page that don't pertain to what the average user needs they can get lost easily 3. Because it's difficult to navigate the website it can dissuade potential clients from wanting to use it leading in loss of revenue 4. Because it is difficult to locate and apply for grants (the most profitable part of U of Ls research department) it can result in us not receiving grants due to researchers not being able to easily locate proper grants	1. None 2. None 3. None 4. None	1. Making the language easier to understand and the pages easier to read 2. Consolidating hyperlinks instead of making a long list or getting rid of ones that do not pertain to the page 3. Restructuring the website to make it more efficient for the user and easier to understand where you are trying to reach 4. Make it extremely clear where you can locate grants/apply to become an industry partner since those are the 2 key pieces to the financial success of the research department

3.5 Alternatives and Competition

Due to the poor fashion of the website and researchers/Industrial partners not being obligated to come to our university it could easily cause them to choose any other school to provide funding to. The strengths of these other universities would be more clarity in their website and possibly better labs for the research. A weakness of theirs is that while they may have some labs that we don't the same could be said for us. Each university has certain departments where they accel and falter causing these strengths and weaknesses at a base level.

4. Product Overview

4.1 Product Perspective

UofL's research and innovation website is a component of the larger UofL system. It is just one facet of how the University generates revenue. Other outlets in which the University generates revenue is through academics and athletics. The interface that serves as the jumping off point for the other systems is the UofL main webpage. The ULRI website serves as a place researchers, students, and industries can find funding and support. This will result in a ULRI database to keep track of the data of students, researchers,

industries, administrators, and community members, and data of grants. This will funnel into the Main UofL database.

4.2 Assumptions and Dependencies

Assumptions	Dependencies
Databases to fulfill requests are fully operational and team that addresses requests respond with clear/concise information in a timely manner	Industry Request Form User Funding Form Translational Research
The Web Server is fully operational	Runs on Windows, Linux, and Mac OS X environments.
Regular updates to news, announcements, and events	Calendar of Events News/Announcements
Regular updates to funding opportunities	User Funding Form

5. Product Features

- Industry request form
    - Ability for industry professionals to be able to fill out a form requesting for equipment, assistance, lab space, access to technologies, etc. It is important to include this feature on the website because industry support helps the University build mutually beneficial relationships within the research field. Currently, the website does include an industry request form which is very advantageous in streamlining the process, however this means the staff responsible for fulfilling these requests must be providing vital information to the requestor.
    -
- Feature to help the user find funding (form)
    - In the form, the user should be able to select what type of funding he/she is looking for (Federal Grants, Foundations/Non-Profit Agencies), and internal grants, as well as a way to select research areas. For example: I am a researcher looking for funding for my project regarding diabetes. The form should in theory, match grants that I can apply to based on my criteria. One result may be the "American Diabetes Association". It is important to include this because funding is the primary way that researchers are able to complete their research. Funding for their projects garners more attention and revenue for the university.

- Calendar of events feature

  On the landing page, there should be a calendar events that is regularly updated. The user should be able to click on the event to find more details on the event. This is important to include because it helps the community stay engaged with UofL's research department. And as the community is more engaged, this can create more partnerships and funding opportunities which in turn positively impact the university.

- Research news/announcements feature (tab)

  When the user selects the news tab, there should be a page filled with updated news and announcements. This feature should also having searching functionality so the users can find articles from years past. This is important to include because all stakeholders get some benefit out of it, to figure out what UofL is doing and why they are a trailblazer in research. This section is really important in showing what UofL is doing that other universities are not.

- Translational Research Resources Feature

  The feature should allow the user to select whether they need funding opportunities, facilities/equipment, commercialization support, or training for their translational research. Possibly coming in a drop-down format. This is important to include because translational research is a really important facet of the research sector in which inventions/technology actually have the potential to be used, through patents. Again, translational research separates the University of Louisville from other universities.

6. Other Product Requirements

Current hardware can be used to support a full redesign. Current standards for fault tolerance and performance can also be maintained. The usability of an updated website needs to be a high priority. As it stands, the website is difficult to use effectively; usability will play a key role in bringing in additional revenue for the University.

Design constraints for the website are also important to note. Any changes will need to adhere to the strict policies that the University must follow. This will likely limit what shape the website will take. Going against University policy is not an option, so great care must be taken when presenting possible designs.

It may become necessary to develop some kind of instruction for how to find or fill out grants, depending on what the client deems necessary. Since current hardware may be used to implement the redesign, it is not necessary to worry about physical installation or labeling of equipment.

The website needs to be available as close to one hundred percent of the time as possible. Since the website being down loses the university opportunity costs, it is largely important to put systems in place to prevent the website from being down for extended periods.

7. Appendix A - Feasibility Analysis

7.1 Technical Feasibility

Familiarity with function area	We understand the needs of ULRI and are familiar with their business functional area.
Familiarity with technology	Our technical experience is what will allow us to create the redesign. Working with students who have taken CIS courses, they have learned coding languages and business functions/processes to reach the level of expertise for this redesign. As end-users themselves, they've been using and gathering information from different online websites for years, combining this skill while learning new concepts can maximize feasible and functional ideas for the redesign. As every student has a computer, no new hardware will be needed but a passion for generating technical solutions.
Project Size	The project size is large in relation to the previous ULRI website. The original ULRI website has a lot of content that just needs to be condensed, efficient, and easier to navigate. This will enhance user experience and the operation of business functions.
Compatibility	All data from the website will come in the form of creating, editing, and deleting students, researchers, industries, community, and administrators. This information will be stored on SQL Server.

7.2 Economic Feasibility

7.2.1 Costs and Benefits

Developmental Costs	Operational Costs
Software Licenses	Software Licenses
Developmental Labor	Operational Labor
Content Management System	Database Server
Database Server	Maintenance Fee

Tangible Benefits	Intangible Benefits
Increased Revenue	Increased Name Recognition
Increased Grants	Increased Role in Louisville Community

7.2.2 Costs and Benefits Values

Developmental Costs

Labor Costs	total	per/hr	hours/wk	duration (weeks)	total pay
Developers	2	$ 32.69	16	15	$ 15,691.20
Database Admin	1	$ 36.56	8	15	$ 4,387.20
Project Manager	1	$ 54.79	8	15	$ 6,574.80
Systems Analyst	2	$ 32.91	16	15	$ 7,898.40
					$ 34,551.60

software liscenses (wordpress)				$ 300.00
database server (SQLserver)				$ 1,859.00
maintenance fee				$ 2,000.00
				$ 4,159.00
			Total	$ 38,711

Annual Costs				
Content Management System (wordpress)				$ 300
Database Server (SQLserver)				$ 1,859
Maintenance Fee				$ 2,000
Total				$ 4,159

Total Benefits	
average number of donations/month	71
average value of donations/month	$ 204,282.00
University takes 40%	$ 81,712.80
remainder for research & innovation	$ 122,569.20

Assumption Table	
increase in donations/month	5
donation value	122,569
total for 5 donations	$612,846.00
yearly total	$7,354,152.00

7.2.3 Cost Benefit Analysis

Cost-Benefit Analysis							
Year	**0**	**1**	**2**	**3**	**4**	**5**	**Total**
Benefits							
Total Benefits*	-	7,354,152	7,501,235	7,651,260	7,804,285	7,960,371	
PV of Benefits	-	6,847,441	6,503,157	6,176,182	5,865,648	5,570,727	**$ 30,963,155**
*adjusted for 2% inflation							
Costs							
Developmental	38,711						
Annual		4,159	4,159	4,159	4,159	4,159	
Total Costs*	38,711	4,159	4,242	4,327	4,414	4,502	$ 60,355
PV of All Costs	38,711	3,872	3,678	3,493	3,317	3,150	**$ 56,222**
Net Benefit	(38,711)	7,349,993	7,496,993	7,646,933	7,799,871	7,955,869	
Yearly NPV	(38,711)	6,843,569	6,499,479	6,172,689	5,862,331	5,567,577	**$ 30,906,934**
ROI	-100%	176725%	176725%	176725%	176725%	176725%	
Breakeven Point		Year 1					

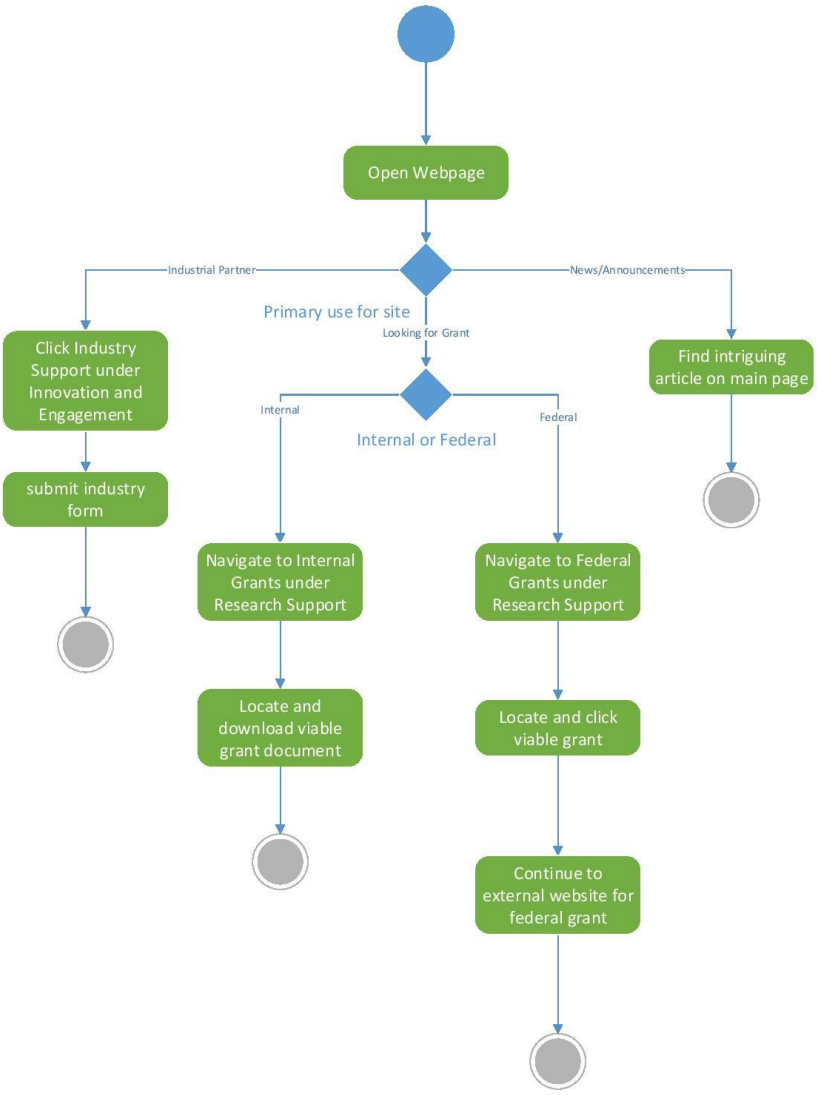
7.3 Organizational Feasibility

The website would be highly used by the ULRI staff and anyone who visits the website. Our university provides the redesign with the equipment and labor needed. We have a number of hard working students that have taken business and technical courses who have a passion for learning and innovating, turning their knowledge into new and exciting projects. Here they manifest their skills that will please both themselves and their clients with on-campus computer labs and campus free internet, free access to paid applications and virtual environments, and access to teachers and researchers who can give guidance to new ideas. Our student's experience and technical resources available is what will make this redesign into a proper and working website. Most importantly, when we redesign the website we will submit our design to the ULRI department for approval which allows for CIS classes to then begin constructing the website.

Process Models

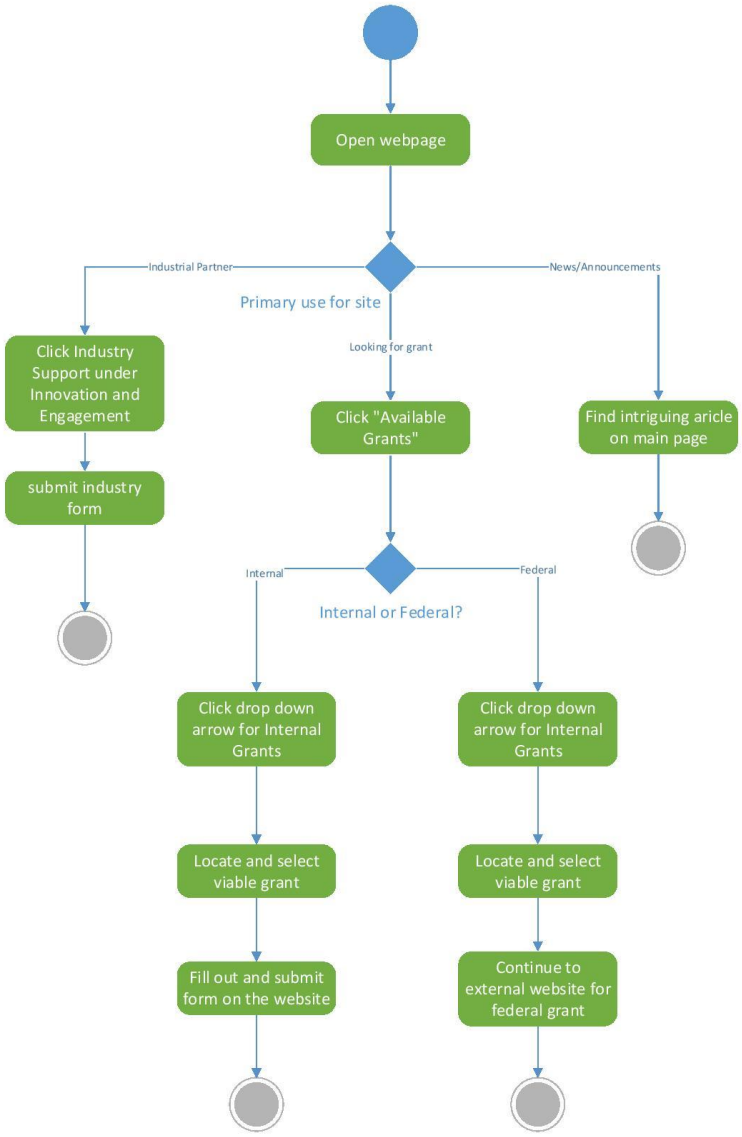
As-Is Model

In the as-is model we show the current steps that it would take users (industry, researchers, and students/community) to reach their end destination. The main issues with the website were efficiency and the difficulty of understanding each page. While it can't be illustrated well in this diagram how these issues affect the user it does show required steps to go through which depending on how necessary will be changed or modified in the to-be diagram/prototype.



To-Be Model

In the to-be model not much has changed due to the issues with the current (or as-is) website not being based on the process of how to get from point a to point b but more so on what happens in between each action, meaning how difficult it may be for a user to find what they need on each page but not what they would end up having to click on. Having this be the case it will be prevalent in the prototype what the necessary changes are required to be.



System Requirements

For any business system to succeed it must have its necessary requirements to function for its users and stakeholders. Our group analyzed the current system for requirements that already serve our users and sorted out the major functional and smaller non-functional requirements. Major functional requirements would include the need for the system to create, edit, and delete each of our stakeholders while a non-functional requirement needed the system to follow our university's branding guidelines. We then began planning new requirements to implement into the redesign. Below you can find these diverse requirements and capabilities in an hierarchical order grouped by function and non-function.

System Requirements		
ID	**Requirement**	**Functional/Non-Functional?**
R1	The new system shall create a grant	Functional
R2	The new system shall create a student	Functional
R3	The new system shall create an industry	Functional
R4	The new system shall create an administrator	Functional
R5	The new system shall create a researcher	Functional
R6	The new system shall create a community member	Functional
R7	The new system shall have an industry request form	Functional
R8	The new system shall connect users with funding	Functional
R9	The new system shall include the policies and procedures of ULRI	Functional
R10	The new system shall include updated News & Announcements	Functional
R11	The new system shall create, edit, and delete events	Functional
R12	The new system shall showcase successful research & innovation	Non-functional
R13	The new system shall include a contact form	Functional
R14	The new system shall include contact information for ULRI staff	Functional
R15	The new system shall have user access privileges	Functional
R16	The new system shall include information on developing a proposal	Functional
R17	The new system shall showcase Metrics & Awards to all users	Functional

R18	The new system shall be easy to navigate	Non-functional
R19	The new system shall be made with WordPress	Non-functional
R20	The new system shall be efficient for users	Non-functional
R21	The new system shall follow UofL Branding Guidelines	Non-functional
R22	The new system shall edit a grant	Functional
R23	The new system shall delete a grant	Functional
R24	The new system shall edit a student	Functional
R25	The new system shall delete a student	Functional
R26	The new system shall edit an industry	Functional
R27	The new system shall delete an industry	Functional
R28	The new system shall edit an administrator	Functional
R29	The new system shall delete an administrator	Functional
R30	The new system shall edit a researcher	Functional
R31	The new system shall delete a researcher	Functional
R32	The new system shall edit a community member	Functional
R33	The new system shall delete a community member	Functional

Use Cases

With our business and technical requirements planned out, the use cases we created showcases the understanding between users and the system. The major functional requirements are implemented with the functionally that the system provides for each of our primary actors. We identified the major use cases and charted them with high-level requirements that will be used for the new system with special tags to also identify them in our trace matrix.

Use Cases			
ID	**Name**	**Primary Actor**	**Brief Description**
UC1	Request Support	Industry, ULRI system	The user will provide their contact information including name, phone number, email address, and company name. The user will also select whether he/she needs space, equipment, technology, research support, or other. The system will respond with a dialog box that says "Thank you for completing this form!". The system will store and forward this information ULRI staff so they can provide support for the user. The new system will create, edit, and delete an industry.
UC2	Find Funding	Researcher, ULRI system	The user will select what type of funding they are looking for (federal, foundations/non-profits, internal grants) and select applicable research areas. The system will then query through a database of grants and research areas to present the user with the most relevant grants. The new system will create, edit, and delete a grant.
UC3	Find Policies	Researcher, Admin	The system will present the user with information regarding the policies & procedures of ULRI
UC4	Find News/Announcements	Researcher, Student, Industry, Admin, Community	The system will present the user with news articles and announcements that are updated weekly. The user will select an article/announcement to receive detailed information. The system will create, edit, and delete articles/annoucements.
UC5	Find events	Researcher, Student, Industry, Admin, Community, ULRI system	The system will present the user with a calendar events that are updated weekly. The user will select an event to receive detailed information. The system will create, edit, and delete an event.

UC6	Showcase Innovation	Researcher, Student, Industry, Admin, Community	The system will present the users with images of innovation taking place at the University.
UC7	Sign up for newsletter	Researcher, Student, Industry, Admin, Community, ULRI system	Users will be able to sign up for a newsletter to be updated with ULRI news, events, and announcements. The system will create, edit, and delete (emails of) researchers, students, industry, admin, and community.
UC8	Contact the ULRI office	Researcher, Student, Industry, Admin, Community, ULRI system	Users will be able to see information regarding the best ways to contact ULRI staff, as well as a contact form in which they can submit their questions. The system will create, edit, and delete researchers, students, industry, admin, and community.
UC9	Login to ULRI	Researcher, Student, Industry, Admin, ULRI system	The system will grant user access privileges. After logging in, researchers, for example, should be able to see the status of internal grants and their proposals. User privileges will determine who can edit the calendar of events, news, and announcements.
UC10	Find Metrics	Researcher, Student, Industry, Admin, Community	Users will be able to see information regarding the Metrics of the ULRI office.
UC11	Find Research Centers/Institutes	Researcher, Student, Industry, Admin, Community	Users will be able to find information regarding UL Researcher Centers and Institutes in an easy to navigate manner.
UC12	Get back to main UofL page	Researcher, Student, Industry, Admin, Community, ULRI system	Users should be able to get back to uofl.edu. The system will route back to the main UofL home page by selecting the UofL logo or tab in the header. In doing so, it must follow UofL branding guidelines.
UC13	Submit a proposal	Researcher	Users will be able to see information regarding developing a proposal. The system will have a drop down menu that shows them all the steps to develop a proposal. At the end there will be a button to submit a proposal in which the

			system will open route to an email such as outlook.
UC14	Backup information	ULRI system	The system shall backup data
UC15	Recover information	ULRI system	The system shall recover data
UC16	Sign up for account	Researcher	The researcher should be able to sign up for an account and be able to save incomplete information/documents
UC17	Take a survey	Researcher, Student, Industry, Admin, Community, ULRI system	The user should be able to take surveys whether that be on behalf of the office of research & innovation or for research purposes.

Trace Matrix

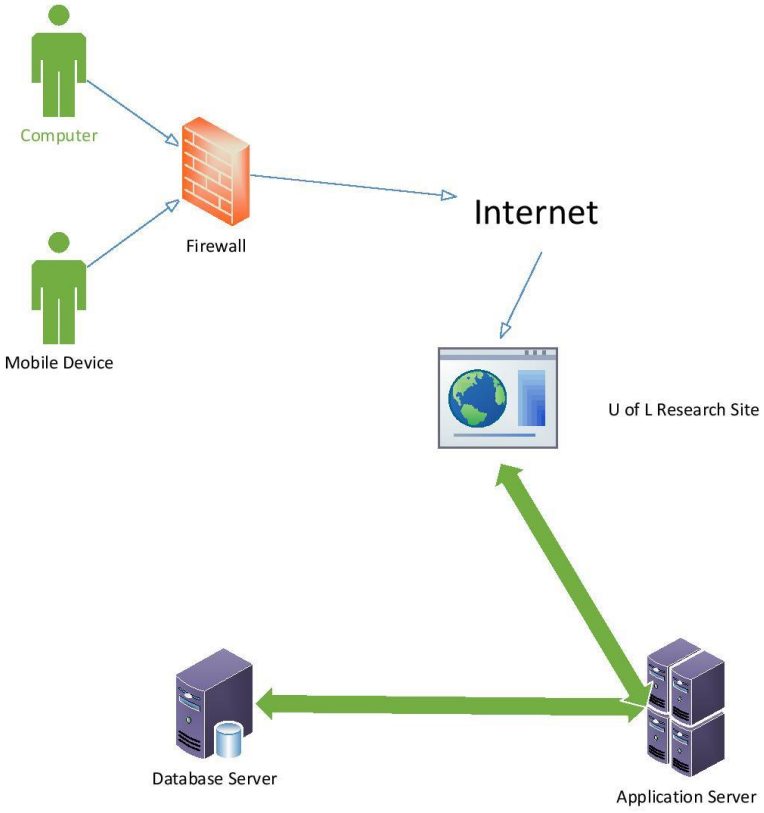
Traceability Matrix																																		
System Requirements																																			
Use cases	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33
UC1			x				x																			x	x						
UC2	x							x														x	x										
UC3									x																								
UC4										x																							
UC5											x																						
UC6												x																					
UC7		x	x	x	x	x																		x	x	x	x	x	x	x	x	x	x
UC8		x	x	x	x	x							x	x										x	x	x	x	x	x	x	x	x	x

UC9		x	x	x	x										x									x	x	x	x	x	x	x	x		
UC10																	x																
UC11																		x		x													
UC12																		x	x	x	x												
UC13																x																	
UC14	x	x	x	x	x	x	x															x	x	x	x	x	x	x	x	x	x	x	x
UC15	x	x	x	x	x	x	x															x	x	x	x	x	x	x	x	x	x	x	x
UC16					x																								x	x			
UC17		x	x	x	x	x	x																	x	x	x	x	x	x	x	x	x	x

Initial Architecture Considerations

Design Viewpoint

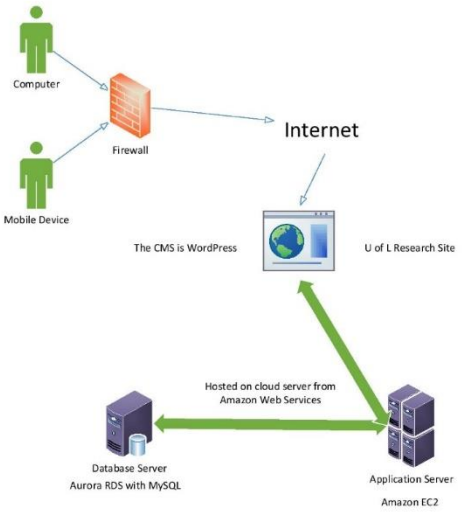
The design viewpoint diagram illustrates our thoughts on how the system would be run. Users (mobile or computer) would connect to the website and from there the website and application server communicate the information necessary to one another. While that's happening the application server is also communicating with the database server to retrieve any info necessary for the user (i.e. their login profile, any saved grants, or any news stories they may have pinned to follow). This setup is the most cost efficient and time efficient way to create and run the system. An important factor in these is where the servers would be run from, for reliability and security reasons we thought it best for these servers to run off of a cloud not knowing if the university has adequate servers to host the system. If the university has these capabilities then we would be able to cut down on costs even more by only needing a cloud database for backups of the system.



Realization viewpoint

We found that using Amazon Web Services (AWS) for cloud computing on the Database and Application Servers would work best. We decided to do this because of the services that are available within AWS allowing our CMS to be WordPress which is compatible with AWS's Aurora relational database which is easily compatible with MySQL and WordPress supports MySQL ensuring no compatibility issues with the software. We decided to use Aurora as the RDS due to its scalability, specifically with the serverless option which auto adjusts going up and down in vCPUs and memory along with the price as it sees fit I.e. a huge spike in usage came up or a tool update has a glitch in it causing the usage to be temporarily increased you can adjust the memory and vCPU's being used at your convenience resulting in maximum uptime and efficiency for unplanned incidents. MySQL was the obvious choice here as well due to it being easily compatible with all the other software unlike many other SQL services.

For the application server we decided to use Amazon EC2 seeing that it would easily mesh with all other software and having it offer on-demand services for fairly cheap. Since the exact usage may not be known immediately for the new site you could easily run the first month or two as tests off of an on demand price to discern what plan you would need resulting in a lower price when you stop using the on-demand feature and get a full contract. WordPress was chosen as the CMS due to its ease of access making it very simple and manageable to create and manipulate the research site with very intuitive controls in case there needs to be any overhauls in the future. Now for prices. Overall the first couple months would equal out to $140.20 each month. After establishing the amount of vCPU's and memory needed for AEC2 from tracking the stats of the site it would be approximately $79.41 monthly depending on the previously established amount of vCPU's and memory.



Risk Analysis

Use Case Risks:

A risk for use cases is when a problem could occur with the communication of system requirements to programmers who would write the system. If the system requirements made by the design team are vague or poorly communicate the system requirements, then the team who programs the system requirements could get lost or program requirements incorrectly. Use cases that could pose risk are:

- **(High)** Request Support
- **(High)** Find Funding
- **(Low)** Find Policies
- **(High)** Find news/announcements
- **(High)** Find events
- **(Low)** Showcase innovation
- **(Low)** Sign up for newsletter
- **(Low)** Contact ULRI office
- **(High)** Login to ULRI
- **(Low)** Find metrics
- **(Low)** Find research centers/institutes
- **(Low)** Get back to main UofL page
- **(Low)** Submit a proposal

Other Risk Area:

Any risks that could happen with the designing and programming phase of the website need to be evaluated as a mistake could set back the launch of the website or be perceived poorly if a user were to visit the website and see the mistake. These risks that are evaluated are focused less on the requirements of the website and more on look and accessibility for the user. These risks are:

- **(High)** Update, delete, and download documents
- **(High)** Creating, editing, and deleting of items (i.e. grants, students, industry, administrators, researcher, community member)
- **(Low)** Easy to navigate
- **(High)** Using WordPress to build website
- **(Low)** Efficiency of website for users
- **(Low)** Follows UofL branding guidelines

Addressing Risks

When it comes to assessing the risks, specifically in the Elaboration phase of the iterations, we will need to be specific and convey our intentions deliberately to the program team. We will need to emphasize what we need from the programmers to ensure the correct requirements are met.

“The Problem Solvers” Team Charter

Team Goals

The team for the CIS 320 project consists of Yamini Polcum, Laxmi Dahal, Hagan Artman, Jake Doyle, Eric Lopez-Gutierrez, and Miles Blomgren. The team wishes to produce the best possible website for our client, Bailey Pulliam, a representative of UofL’s Research and Innovation website. We want to produce a deliverable that best fits the needs and is very functional for the client, client’s users, and stakeholders. This means our passion, dedication, time and effort will be placed highly on producing the new redesigned website. As one of our goals we will be sure to coordinate our efforts into bringing not only the deliverable but our development and knowledge of information systems. As a team we hope to deepen our development throughout the semester, in hopes of creating new ideas and solutions to any obstacle we face.

Team Meetings

Team meetings will typically be scheduled in-class, conference calls, or over our preferred method of communication, GroupMe. Team meetings will typically be after class or any available time that works for all team members throughout the week. Meetings will be conducted in an orderly manner according to the point of discussion and pre-meeting agendas will broadcasted through GroupMe before any meetings. All team members must contribute to team discussions and be present at the agreed time and location. Team meeting decisions will be documented as a task list sent out over GroupMe or be written down in our joint CIS 320 folder on Google Drive.

When making a team decision, everyone will contribute their thoughts and opinions in order to reach a consensus that we are all satisfied with. All team members will contribute equally to the

design and development of the website to ensure no one is slacking or doing more work than needed.

Team Communications

The team will communicate ideas during in-class work time and outside project time. Our chosen method of communication to discuss the project outside of class is GroupMe. Additionally, our team has a joint Google Drive folder in which project documents will be placed. Discussion and follow up questions with the client will be done over email and shared between group members. If any of us have questions for Dr. Barker, it will be asked during class time or over email and shared between group members if the questions are important or relevant.

Team Decisions

Team decisions will be made during meeting times when all team members are present. If at any point the team is indecisive on a certain task, everyone in the group will share their thoughts and opinions regarding the issue so we can build a mutual consensus on how to resolve the issue. Team decisions will be presented in a mannerly way and if there is criticism toward a team decision, it must be constructive.

Project Repository

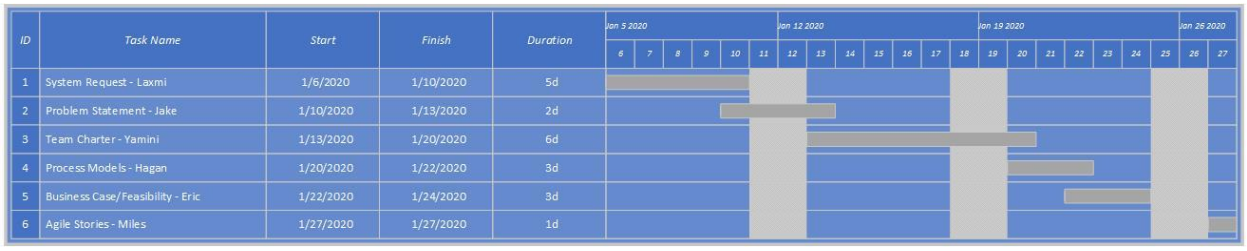
Our team has a google drive folder setup for project work and group assignments. When iterations are complete these will be printed and placed into a binder for documentation. Any and all project documentation must be uploaded in that folder in a plausible time, so every team member has access to it and modify it with team approval.

Gantt Chart

The Gantt Charts below follow our timeline for the ULRI project. The project is broken up into iterations. Here we have iteration 1-3 presented. Within each iteration, there are several different tasks that team members completed and will complete.

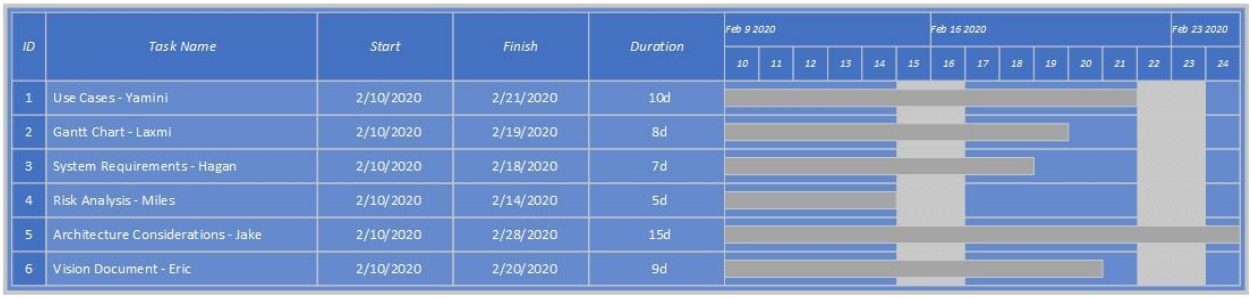
Iteration 1 (January 6th – 27th, 2020)

ID	Task Name	Start	Finish	Duration
1	System Request - Laxmi	1/6/2020	1/10/2020	5d
2	Problem Statement - Jake	1/10/2020	1/13/2020	2d
3	Team Charter - Yamini	1/13/2020	1/20/2020	6d
4	Process Models - Hagan	1/20/2020	1/22/2020	3d
5	Business Case/Feasibility - Eric	1/22/2020	1/24/2020	3d
6	Agile Stories - Miles	1/27/2020	1/27/2020	1d



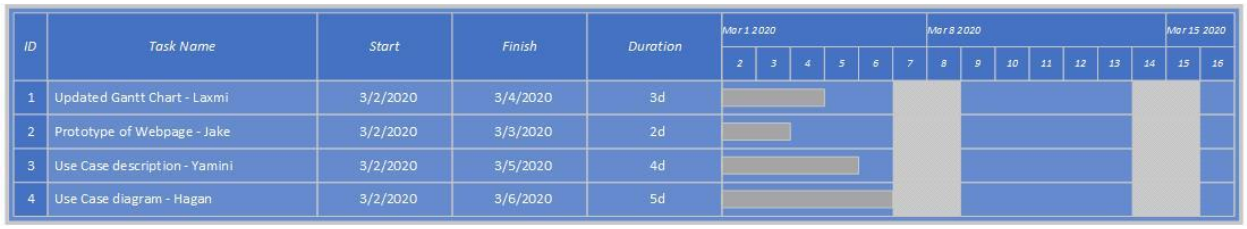
Iteration 2 (February 10th – 20th, 2020)

ID	Task Name	Start	Finish	Duration
1	Use Cases - Yamini	2/10/2020	2/21/2020	10d
2	Gantt Chart - Laxmi	2/10/2020	2/19/2020	8d
3	System Requirements - Hagan	2/10/2020	2/18/2020	7d
4	Risk Analysis - Miles	2/10/2020	2/14/2020	5d
5	Architecture Considerations - Jake	2/10/2020	2/28/2020	15d
6	Vision Document - Eric	2/10/2020	2/20/2020	9d



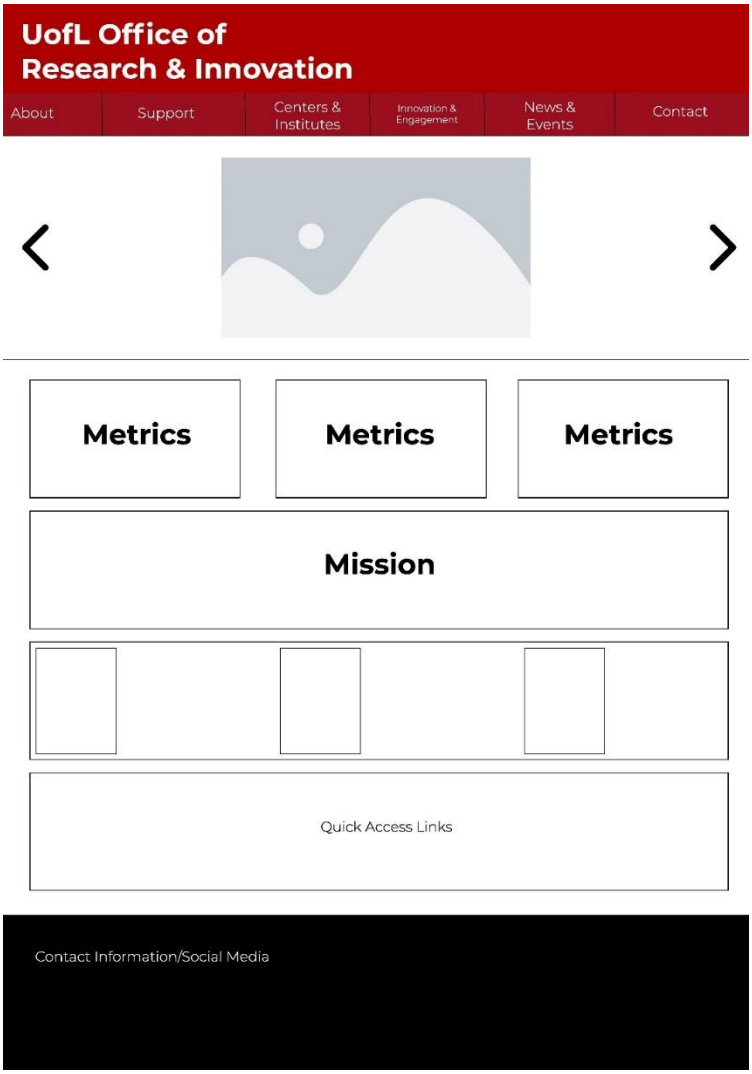
Iteration 3 (March 2nd – 6th, 2020)

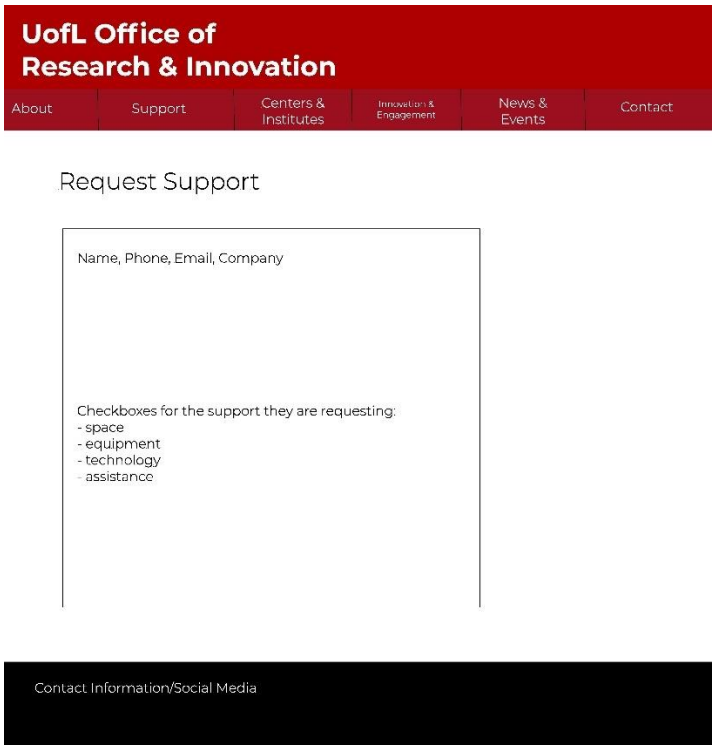
ID	Task Name	Start	Finish	Duration
1	Updated Gantt Chart - Laxmi	3/2/2020	3/4/2020	3d
2	Prototype of Webpage - Jake	3/2/2020	3/3/2020	2d
3	Use Case description - Yamini	3/2/2020	3/5/2020	4d
4	Use Case diagram - Hagan	3/2/2020	3/6/2020	5d



High-Level Prototype

This is a high-level prototype for the UofL Research & Innovation website. The first figure is a prototype of the landing page. The landing page will include a slider of images/news, office metrics, office mission, a calendar of events, and quick access links. The second figure is a prototype of the Request Support feature. The purpose of this feature is to allow an industry to request support from the ULRI office whether it be lab space, assistance, or technology. The third figure is a prototype of the Find Funding feature. The purpose of this feature is to allow users searching for funding to select what types of funding they would like, and it will match funding results based on the selected filters.

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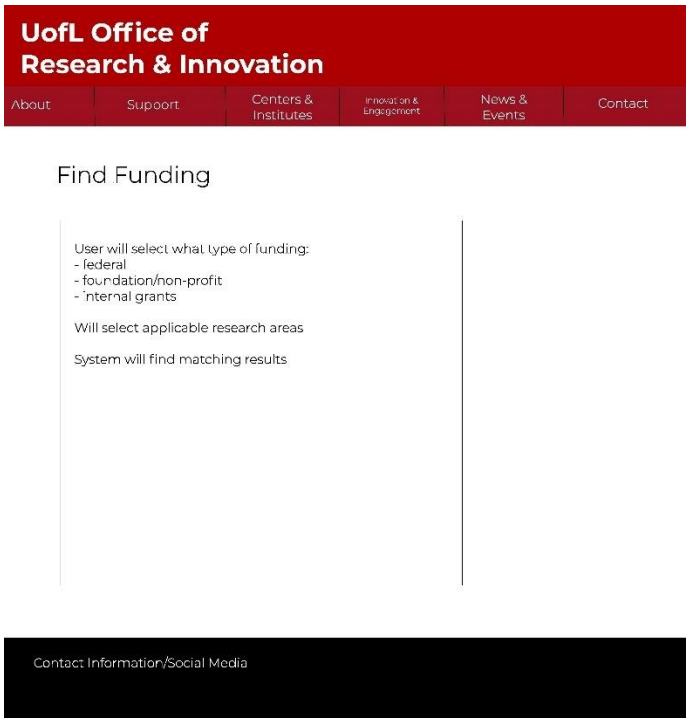
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