Spring | 17

Iteration 2

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Vision Document

1. Introduction

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

1.1 References

Please reference Appendix A for the feasibility analysis related to this system.

2. Positioning

2.1 Problem Statement

The problem of	• Outdated system • Lacking functionality • Inability to perform critical business processes online • Lack of business continuity – business will not continue if the paper system were compromised, there is a need to transfer critical information online
affects	• Members • National HBPA • Employees • Potential donors • Interested parties
the impact of which is	• Not engaging for site visitors • Inability to process payments/donations online • Inability to complete forms online • Cannot register for membership on website • Lack of information about the organization • Overspending on website maintenance for poor results ($30,000 annually)
a successful solution would be	• Improved engagement from visitors • Improved marketability • Reduce operational costs

	• Increase donations • Increase benevolence services requested • Increased community and industry awareness about organization • Increased community and industry awareness about relevant issues

2.2 Product Position Statement

For	KYHBPA
Who	Requires a comprehensive content management system that is user-friendly and supports desired business processes
The (product name)	Is a software product
That	Is user-friendly and integrates seamlessly with social media platforms. Additionally, it should effectively market their cause to potential members and donors and allow KYHBPA to transfer critical business processes to an online platform.
Unlike	For-hire website designers
Our product	Is cost-effective and ensures ease of use and the ability to easily update the website.

3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
Organization	End user	Provide requirements of new system Provide additional information required to transition organization to become more online-based Provides domain and host for desired website
System Analyst	Integrates the needs of the organization with the capabilities of technology	Ensures the system meets the organization's desires and maintains the system
Software		

Architect	Responsible for creating system	Create system in manner that is user-friendly and intuitive Ensure system is capable of performing desired business processes

3.2 User Summary

Name	Description	Responsibilities	Stakeholder
Organization	Create and push the content the website will house	• Produce information required on website to process applications • Maintain training to keep employees informed as to how to use the website • Keep website's content up-to-date • Ensure submitted applications and requests are being processed in a timely fashion • Ensure software is up to date	Sarah Tooney, Jenny Rees, KYHBPA volunteers

3.3 User Environment

The users interacting on the management side of the system are Sara Tooney and Jennie Rees. The users interacting with the front end of the system are members, donors, and interested parties. The website should also be optimized for mobile use and able to accessed via any operating system.

3.4 Summary of Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
Secure member information	High	Manage private information	Excel spreadsheet	Manage member information via database on cloud server
Process payments online	High	None	In-person/mailed-in checks and cash	Payment processing system (E.G. Paypal)
User-friendly	High	May be a learning curve for both administrators and users	None	Create training program and manual on the system for the administrators

3.5 Alternatives and Competition

KYHBPA can hire an external website developer to provide this service and required updates. While this option puts all of the website concerns on a capable third-party, it brings a hefty cost along with it which would increases costs. Additionally, there is potential problem that the developer doesn't understand the business needs of KYHBPA, therefore producing a product that is not optimally suited for KYHBPA.

4. Product Overview

4.1 Product Perspective

This product is completely independent and self-contained. There currently do not appear to be more systems implemented in the organization.

4.2 Assumptions and Dependencies

- Content management system is accessible on all operating systems
- Content management system can run on mobile and older devices
- The system has an Internet connection to connect to
- The system can be altered to be more user-friendly
- The administrators will be adequately trained to use the system effectively

5. Product Features

- Ability to apply for membership online
- Ability to send email directly to KYHBPA via embedded contact form
- Embedded social media feeds
- Calendar management system that allows users to view and RSVP to events
- Mission statement page
- Detailed Board of Directors page
- Meeting minutes page
- Benefits of joining KYHBPA page
- Benevolence benefits available page
- Ability to apply for benevolence benefits online
- Ability to request reports online
- Ability to pay fees online
- Ability to donate online
- Content editors (WYSIWYG, i.e. what you see is what you get)
- Security (firewalls, ID verification, security certificate)
- Add and edit pages
- Spell check
- File uploading
- File downloading

6. Other Product Requirements

The basic requirements for this system are an Internet connection and relatively updated laptop that is capable of handling Internet processing. The system also has to be capable of handling a moderate traffic load.

Appendix A

7. Feasibility Considerations

7.1 Technical Feasibility

There are four concerns with the technical feasibility of the system, including familiarity with the functional areas, familiarity with the technology, the project size, and compatibility. The technical risk analysis has revealed the following:

- Familiarity with functional areas
    - The organization is familiar with their organizational functionalities. However, they are unfamiliar with the new system that will be implemented. The analysts have been well informed in the business processes and functional areas of the organization and are familiar with the new system that will be implemented.
- Familiarity with the technology
    - The organization is unfamiliar the technology that will be used for the new system, increasing the potential for problems and delays. However, with training, the technology will be relatively straightforward and user-friendly.
- Project size
    - The new system will be a complete overhaul of the old system, only keeping key features and adding in additional features that will assist in business processes. Old organizational data can be seamlessly integrated into the new system. The group sizes are to be kept to 4-5 people, maintaining close contact and communication between all members.
- Compatibility
    - The new system can easily integrate all old organizational data. Since the old system had very basic functionality, it will not be difficult to build on the functionality of the old system to create a new system that is more comprehensive, effective, and efficient in performing all necessary business processes.

The financial feasibility of the project has been outlined below in a cost-benefit analysis:

- Costs
    - Total maintenance and operations cost - $149.32 annually (outlined in the Business Case)
    - Time will be required to train employees and volunteers to become comfortable with the system
    - Potential for rejection from audience base because they are not tech-savvy
- Benefits
    - Reduction in cost because resources are being used efficiently
        - Migrating paperwork online reduces overall office supply costs
    - Better communication with members

- Increased internet presence combined with general marketing through social media and word-of-mouth leads to greater reach, creating the potential to:
  - Increase donations
  - Increase members
  - Increase volunteers
  - Increase political reach
- Security in storing membership information in database, data consolidation
  - Ensures business continuity in the event of natural disaster or theft
  - Reduces likelihood of legal issues if data is physically compromised
  - Information accessible remotely
- Online payment processing

7.2 Organizational Feasibility

Organizational feasibility addresses how well the system will ultimately be accepted by its users and incorporated into the ongoing operations of the organization. These considerations have been outlined below:

- A comprehensive training program aimed at familiarizing employees and volunteers with the system will alleviate discomfort with the dramatic transition
  - Ensure training program includes:
    - How to update and manage the website
    - How to update and manage website content
    - How to update social media feeds through widget
    - How to integrate and update document forms on website as needed
    - How to pull information from submitted forms
- The new system will assist in making business processes more efficient
  - All member contact information will be consolidated online
    - Send newsletter blasts with the click of a button
    - Send updates or important information with the click of a button
  - All application processes moved online
    - All information consolidated in one place
    - Easier to process each application
    - Ability to include different parties in different processing areas (E.G insurance, doctors for approving certain requests)
  - View engagement statistics and adjust approaches accordingly
  - Poll membership base to see their opinions
  - Reaches out to a fresh, broader audience
    - Tech-savvy, younger generation
    - Out-of-state parties interested in organization
- Since most business operations have become integrated with technology, this transformation will not be as shocking

7.3 Economic Feasibility

Economic feasibility, or a cost-benefit analysis, identifies the financial risk associated with the project. The anticipated costs and benefits have been outline below in a NPV analysis using the following figures.

Inflation rate		102.1%		
Initial donation increase	$	312		Conservative
Maintance cost decrease	$	35,740		
Resource usage decrease	$	6,000		
Systems analyst labor	$	35	hourly	DPT Labor Stats, mean hourly wage for Louisville/Jefferson County
Systems developer labor	$	43	hourly	
Database admnistrator labor	$	36	hourly	
Domain fee	$	10		
Hosting fee	$	120		
License	$	300		SQL Server, user client access license
Maintenance	$	900		Annually, $75 monthly
Consumables	$	1,000		

It is clear the project will bring in a return on investment of 382% with an expected net present value of $152,068.56, meaning the projected earnings exceed anticipated costs. Therefore, it is economically feasible to invest in creating a new content management system for KYHBPA.

	0	1	2	3	4	5	Total
Benefits							
Donation increase	312	319	326	333	340	347	1,977
Maintenance cost decrease	35,740	36,491	37,257	38,039	38,838	39,654	226,019
Resource usage decrease	6,000	6,126	6,255	6,386	6,520	6,657	37,944
Total benefits	42,052	42,935	43,837	44,758	45,698	46,658	**$ 265,938**
Costs							
Developmental costs							
Systems analyst labor	2,078	2,122	2,167	2,213	2,259	2,306	13,145
Systems developer labor	2,572	2,626	2,681	2,737	2,794	2,853	16,263
Database administrator labor	2,147	2,192	2,238	2,285	2,333	2,382	13,577
Annual costs							
Domain fee	0	10	10	10	10	10	10
Hosting fee	0	120	123	126	129	132	135
License	0	300	306	312	319	326	333
Maintenance	0	900	919	938	958	978	999
Consumables	0	1,000	1,021	1,042	1,064	1,086	1,109
Total costs	6,797	9,270	9,465	9,663	9,866	10,073	**$ 55,134**
ROI	**382%**						
NPV of Project	$ 152,068.56						

System Requirements

System requirements are the functional and non-functional components of a system. These requirements are necessary for the system to perform desired business processes effectively. Functional requirements are defined as the physical components within the system. Non-functional requirements are defined as the virtual components within the system.

Functional Requirements

1. Website
    a. The website will allow members to log into a membership portal.
    b. The website will allow members to fill out forms.
    c. The website will allow members to apply for benevolence benefits online.
    d. The website will allow members to request reports online.
    e. The website will allow interested parties to apply for membership online.
    f. The website will allow visitors to send messages directly to KYHBPA.
    g. The website will allow visitors to view KYHBPA's social media feeds.
    h. The website will allow visitors to view events.
    i. The website will allow visitors to RSVP to events.
    j. The website will allow visitors to view a detailed board of directors page.
    k. The website will allow visitors to view meeting minutes.
    l. The website will allow visitors to view benefits of joining KYHBPA.
    m. The website will allow administrators to add pages.
    n. The website will allow administrators to edit pages.
    o. The website will allow administrators to delete pages.
    p. The website will allow members and administration to upload files.
    q. The website will allow members and administrators to download files.
2. Database
    I. The database will membership information input by members into forms.
    II. The database will manage the calendar functions.
    III. The database will manage payment information submitted by donors.
    IV. The database will manage payment information submitted by members.
    V. The database will store benevolence information.
    VI. The database will store report information.
    VII. The database will store information about the organization.
    VIII. The database will manage and store member and employee login information.
    IX. The database will allow management to send information to their mailing list.
3. Payments
    I. The website will allow donors to submit donations online.
    II. The website will allow members to submit payments for reports online.

Nonfunctional Requirements

1. Operational
    I. The system will integrate with the current system.
    II. The system will be able to operate in the Windows environment.
    III. The system will be able to operate in the Mac OSX environment.
    IV. The system will automatically back up according to a weekly schedule.
    V. The system will be optimized to operate on all web and mobile browsers.
2. Performance
    I. The system will be operational 24/7.
    II. All interactions with the system will execute in two seconds or less.
    III. The system will update social media feeds every 5 minutes.
    IV. The system will update member information in less than 2 seconds.
    V. The system will have a hot-site.
3. Security
    I. All accounts will require a secure password.
    II. Only administrators will have access to member information.
    III. The system will have industry-standard security.

Use Cases

Use cases represent major business processes the system will perform that benefit the actor(s) in some manner.

ID: 1

Use Case: Online Membership
Primary Actor: Future Members
Brief Description: Interested members enter and fill out the necessary information to become a member

ID: 2

Use Case: Online Donations
Primary Actor: Donors
Brief Description: Interested parties make donations through the website via PayPal

ID: 3

Use Case: Online Payments
Primary Actor: Members
Brief Description: People interested in the organization and members make payments or donations through the Internet by using a debit or credit card.

ID: 4

Use Case: Contact
Primary actors: Visitors, members, and administration
Brief Description: Visitors and members sends emails directly to KYHBPA through an embedded contact form

ID: 5

Use Case: Social Media Feed
Primary actor: Administration
Brief Description: Social media feeds from KYHBPA's platforms embedded into website for easy viewing.

ID: 6

Use Case: Calendar Management
Primary Actors: Administration
Brief Description: Manage the events of the organization and letting people aware of the event. Also, trying to determine the amount of people that would be attending.

ID: 7

Use Case: Member Login
Primary Actors: Members
Brief Description: Members login and see information relevant to them, including submitted forms, payments, and requests

ID: 8

Use Case: Administrator Login
Primary Actors: Administrators
Brief Description: Administrators login to maintain member records, member payments, and member requests

ID: 9

Use Case: Create a Member
Primary Actors: Administrators
Brief Description: Administrators create member in database

ID: 10

Use Case: Update a Member
Primary Actors: Administrators and members
Brief Description: Administrators and members edit member information

ID: 11

Use Case: Delete a Member
Primary Actors: Administrators
Brief Description: Administrators delete member

ID: 12

Use Case: Request Reports
Primary Actors: Members
Brief Description: Members select report that best suits their needs

Trace Matrix

The trace matrix is used to show how business processes tie into use-cases, displaying how each use-case is developed from KYHPBA's business processes.

		System Requirements					
		Website	Database	Payments	Operational	Performance	Security
Use Cases	Online Membership	x	x		x	x	x
	Online Donations	x		x	x		x
	Online Payments	x		x	x		x
	Contact	x			x	x	
	Social Media Feed	x			x	x	
	Calendar Management	x	x		x		
	Member Login	x	x		x	x	x
	Administrator Login	x	x		x	x	x
	Create a Member	x	x		x		x
	Update a Member	x	x		x		x
	Delete a Member	x	x		x		x
	Request Reports	x			x		

Initial Architecture Considerations

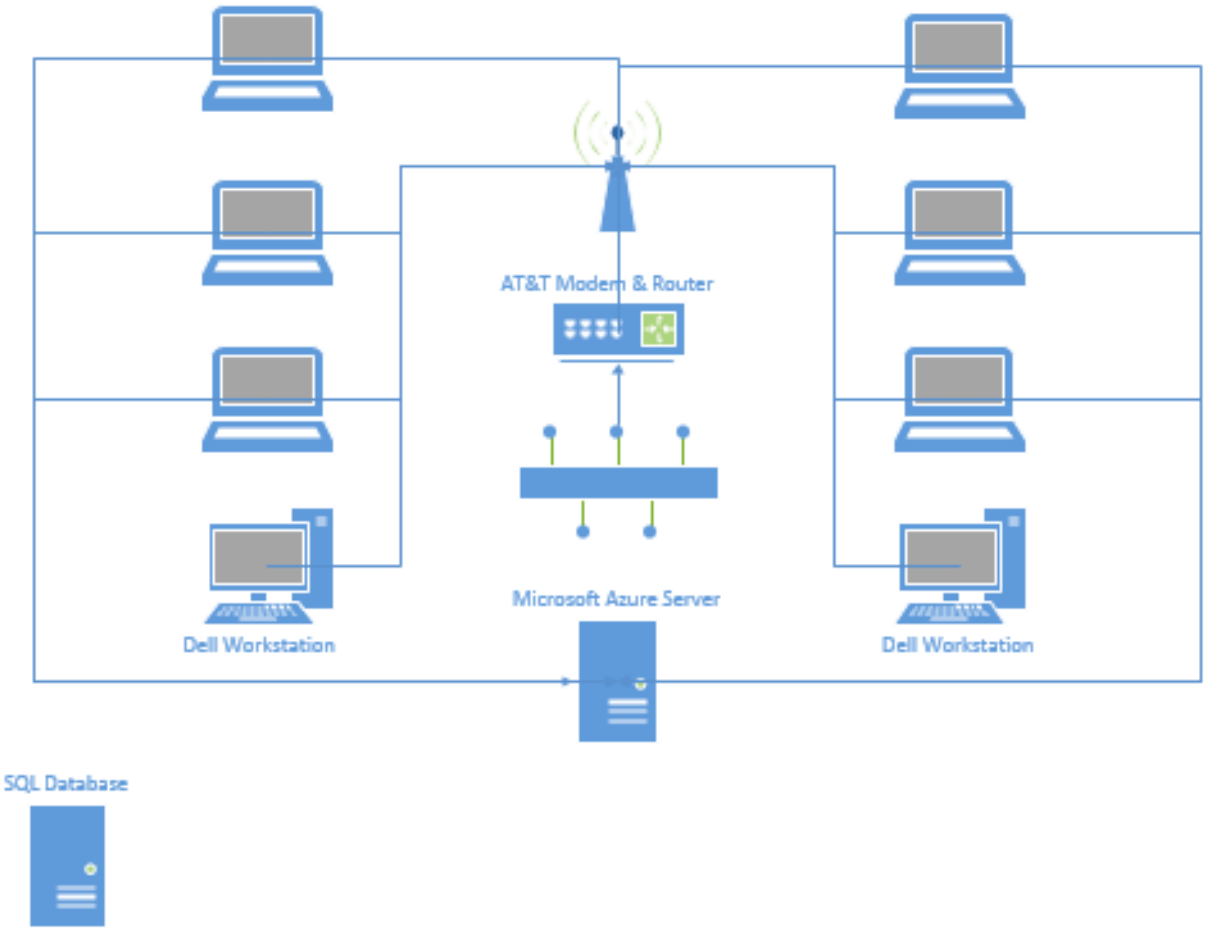
Initial architecture considerations provide descriptions and representations of system options from the design viewpoint and the realization viewpoint.

Design Viewpoint

Regarding design, KYHBPA would greatly benefit from system architecture based in the cloud. Cloud-based storage and operations could enable KYHBPA to operate and manage the content management system without much technical training and hardware investment. All workstations will have the database software installed and will connect to a cloud-based database hosted in an off-site location.

Realization Viewpoint

From the realization viewpoint, it would be beneficial for the cloud server to be implemented through Microsoft Azure and the database implemented through SQL Server.



Risk Analysis

Risks are analyzed and assign risk levels of “high” or “low” to ensure efforts are focused on high-risk processes. This ensures the most critical aspects of the system are completed correctly in a timely manner.

Use Case Risks

Use case risks are assessed based on the number of system requirements needed to perform an action on the system (reference trace matrix).

Low Risk (1-2 requirements)	Medium Risk (3-4 requirements)	High Risk (5+ requirements)
Request reports	Online donations	Online membership
	Online payments	Member login
	Contact	Administrator login
	Social media feed	
	Calendar management	
	Create member	
	Update member	
	Delete Member	

Other Risks

Other risks associated based on the technical environment, architectural considerations, and other potential risks associated with similar systems.

Low Risk	Medium Risk	High Risk
Operational errors	Hacking	Human error
Vendor failure	Connectivity	Hardware failure
	Viruses	System software failure

Addressing Risks

To address risks during elaboration phase, detailed requirements will be created to ensure each facet of the business process and all possibilities have been accounted for. Creating a strong, secure architecture is key to implementing a successful system.

Gantt Chart

The Gantt chart determines the tasks of a project and how long each task will take as well as task dependencies.

Task ID	Task Name	Task Responsibility	Start	Finish	Duration
1	I1: Vision Document (completed feasibility analysis)	Emlly	2/7/2017	2/8/2017	2d
2	I1: System Requirements	Nicole	2/9/2017	2/10/2017	2d
3	I1: List of Use Cases: Actors and Feature Use	All	2/11/2017	2/16/2017	6d
4	I1: Initial Architecture Considerations	Daniella	2/17/2017	2/18/2017	2d
5	I1: Risk Analysis	Daniella	2/19/2017	2/20/2017	2d
6	I1: Gantt Chart	Manoj	2/7/2017	2/7/2017	1d
7	I1: Inception Phase Prototype	Emily	2/13/2017	2/15/2017	2d
8	I2: Use Cases	All	2/23/2017	3/3/2017	8d
9	I2: Use Case Diagram	Nicole	3/3/2017	3/5/2017	2d
10	I2: Gantt Chart (w/ use case assignment and explanation)	Manoj	2/23/2017	2/25/2017	2d
11	I2: Use Case Prototype, Version 1	Emily	3/5/2017	3/8/2017	3d

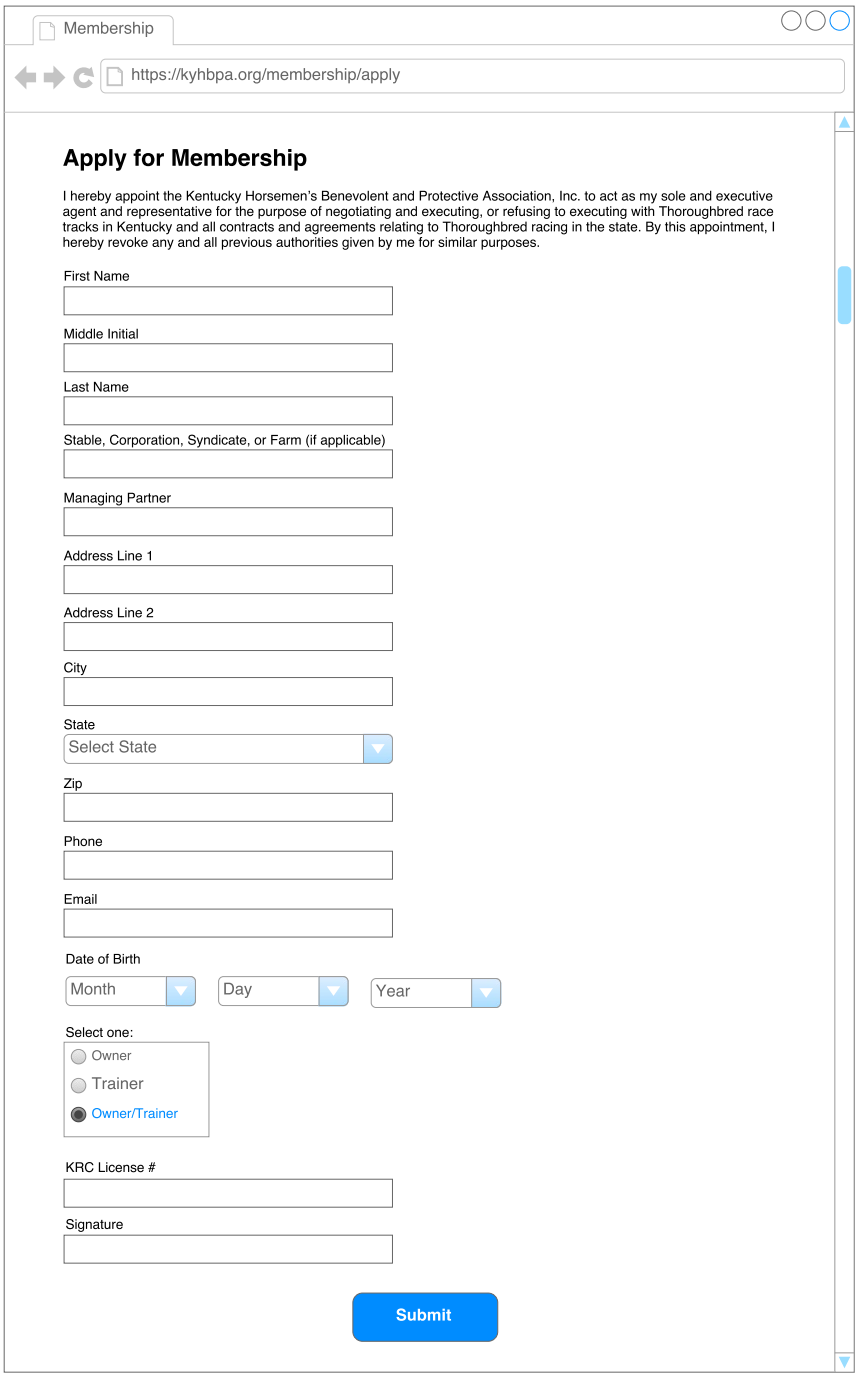
Task ID	Task Name	Task Responsibility	Start	Finish	Duration	Feb 2017																					Mar 2017								Task Dependency
						7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	
1	I1: Vision Document (completed feasibility analysis)	Emily	2/7/2017	2/8/2017	2d																													0
2	I1: System Requirements	Nicole	2/9/2017	2/10/2017	2d																													1
3	I1: List of Use Cases: Actors and Feature Use	All	2/11/2017	2/16/2017	6d																													2
4	I1: Initial Architecture Considerations	Daniella	2/17/2017	2/18/2017	2d																													3
5	I1: Risk Analysis	Daniella	2/19/2017	2/20/2017	2d																													4
6	I1: Gantt Chart	Manoj	2/7/2017	2/7/2017	1d																													0
7	I1: Inception Phase Prototype	Emily	2/13/2017	2/15/2017	2d																													5
8	I2: Use Cases	All	2/23/2017	3/3/2017	8d																													3
9	I2: Use Case Diagram	Nicole	3/3/2017	3/5/2017	2d																													8
10	I2: Gantt Chart (w/ use case assignment and explanation)	Manoj	2/23/2017	2/25/2017	2d																													0
11	I2: Use Case Prototype, Version 1	Emily	3/5/2017	3/8/2017	3d																													9

Inception Phase Prototypes

Inception phase prototypes are high-level prototypes that represent the data needs and process flows of the “to-be” business processes, with a focus on high-risk use cases.

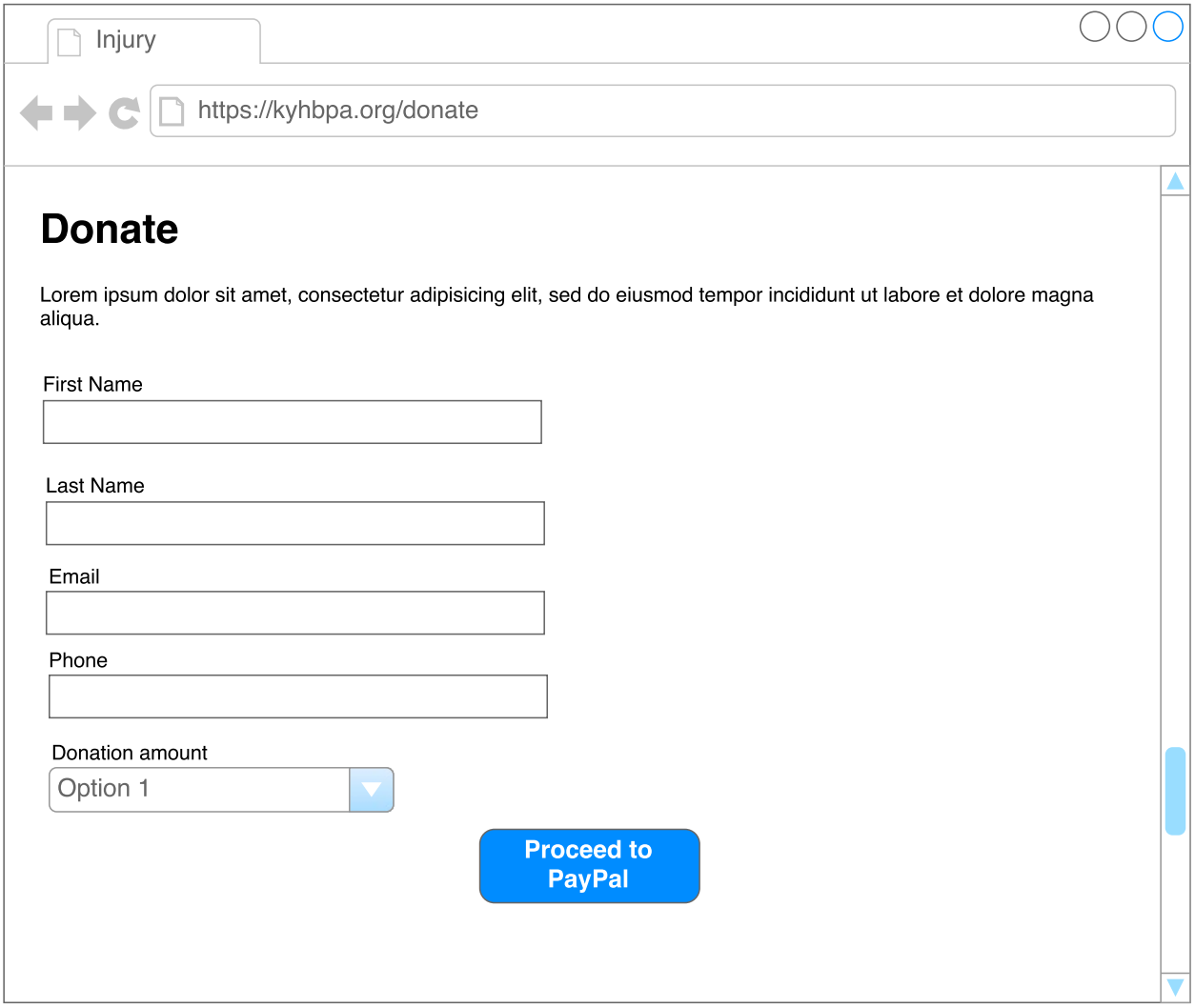
Membership

The membership prototype focuses on capturing data required from the current, physical membership card. It aims to capture all required information in an online format that can be filled out and accessed from any platform.



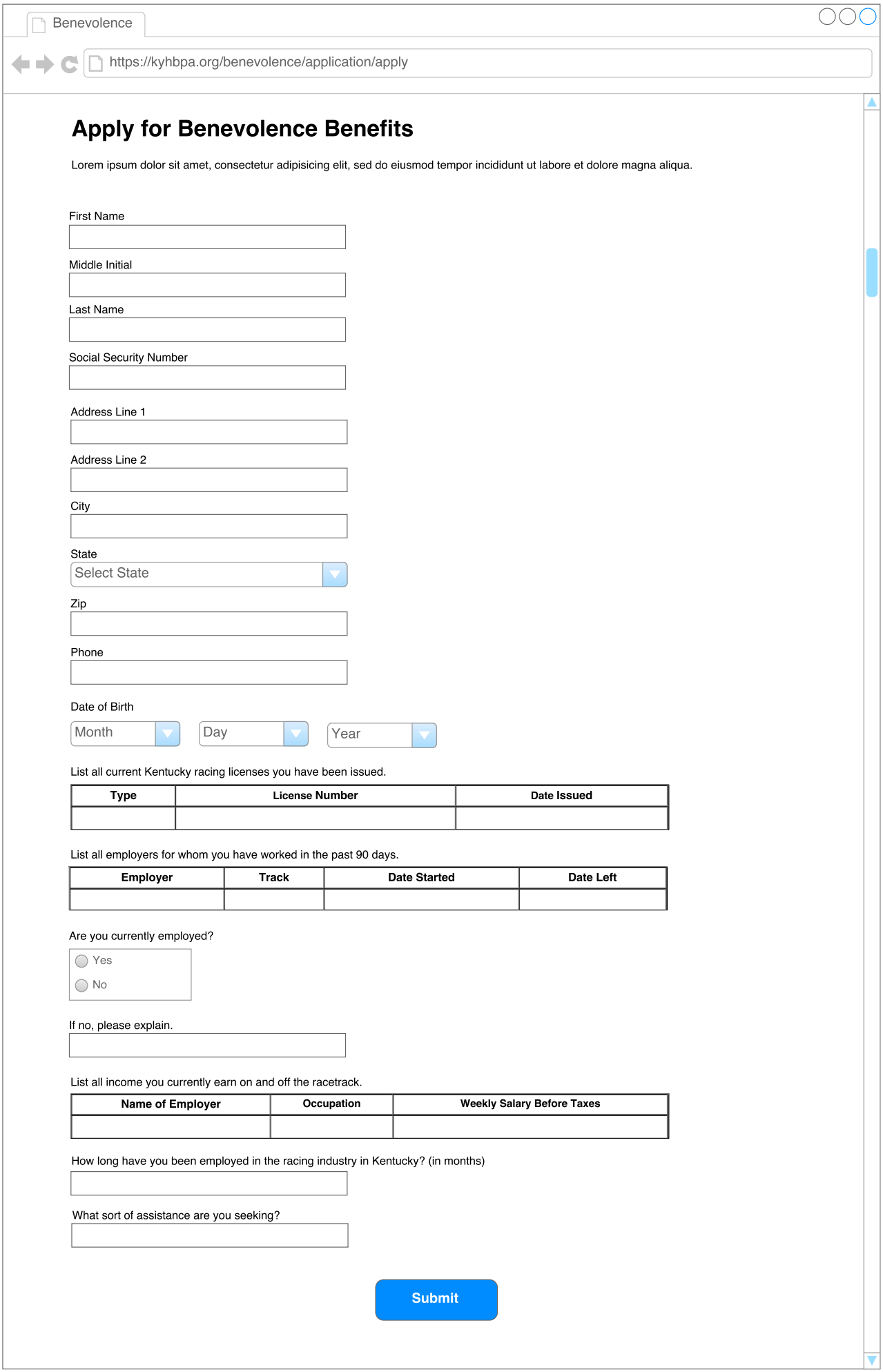
Donations

The donation prototype focuses on capturing necessary donor information before redirecting the donor to PayPal and pulling billing information directly from PayPal's output.



Benevolence

The benevolence benefit form is a direct transposition of KYHBPA's current paper form and captures all required information to process a benefit request. It aims to capture all required information in an online format that can be filled out and accessed from any platform.



Apply for Benevolence Benefits

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

First Name

Middle Initial

Last Name

Social Security Number

Address Line 1

Address Line 2

City

State

Select State

Zip

Phone

Date of Birth

Month Day Year

List all current Kentucky racing licenses you have been issued.

Type	License Number	Date Issued

List all employers for whom you have worked in the past 90 days.

Employer	Track	Date Started	Date Left

Are you currently employed?

- Yes
- No

If no, please explain.

List all income you currently earn on and off the racetrack.

Name of Employer	Occupation	Weekly Salary Before Taxes

How long have you been employed in the racing industry in Kentucky? (in months)

What sort of assistance are you seeking?

Submit

Claims

The claims form is, again, a direct transposition of the paper form KYHBPA currently uses. It aims to capture all required information in an online format that can be filled out and accessed from any platform.