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# ITERATION 5

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KY HBPA IT Project



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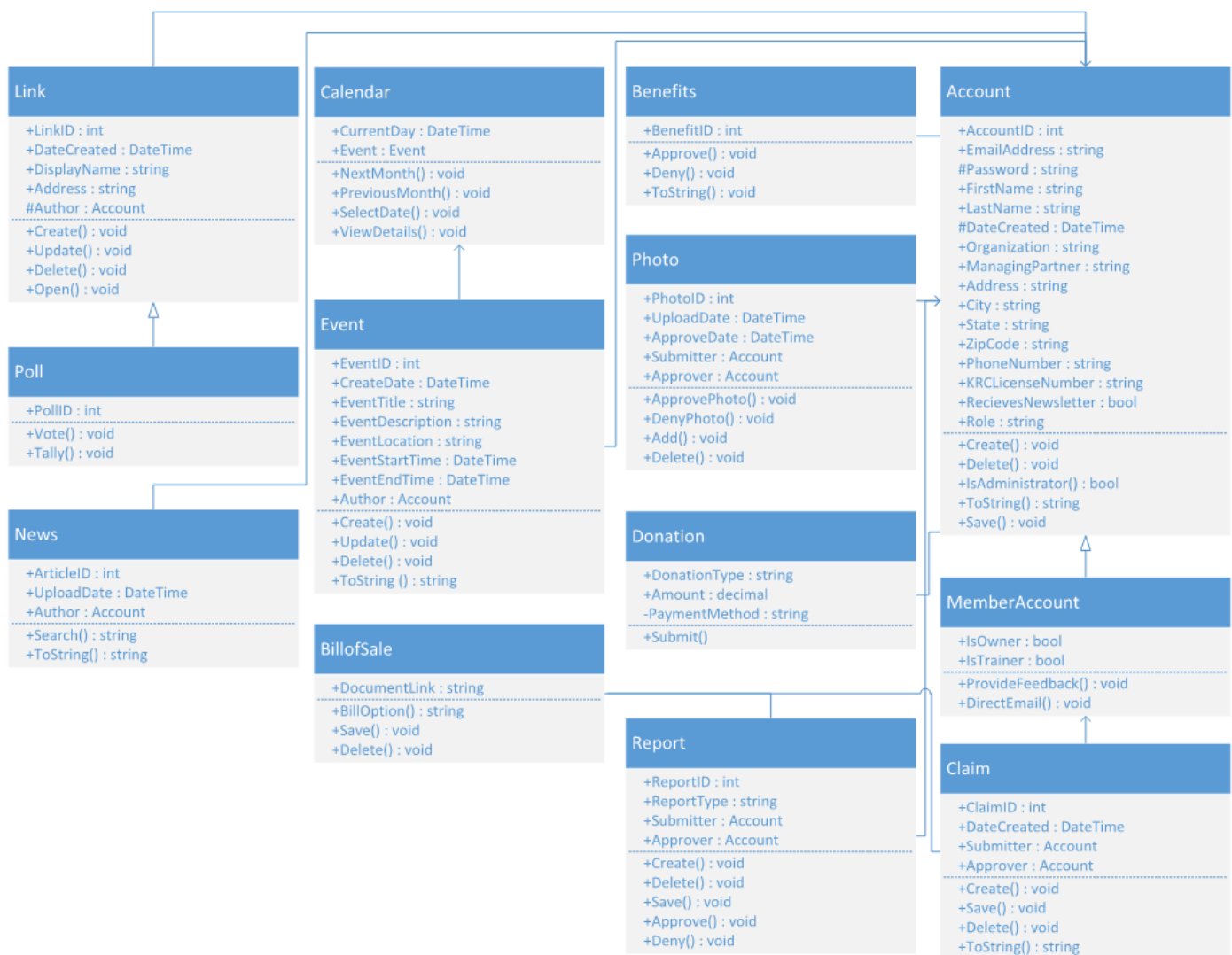
*Serious Business*

# Class Diagram

## Explanation

The class diagram is a visual representation of the classes that will be used to build the system. Below, we model the classes and their relationships to visually demonstrate the interconnectivity of this system. This class diagram is dependent on the 'Account' class leaving signatures in other classes to mark who authored and approved what. It was derived using noun-verb analysis.

## Diagram

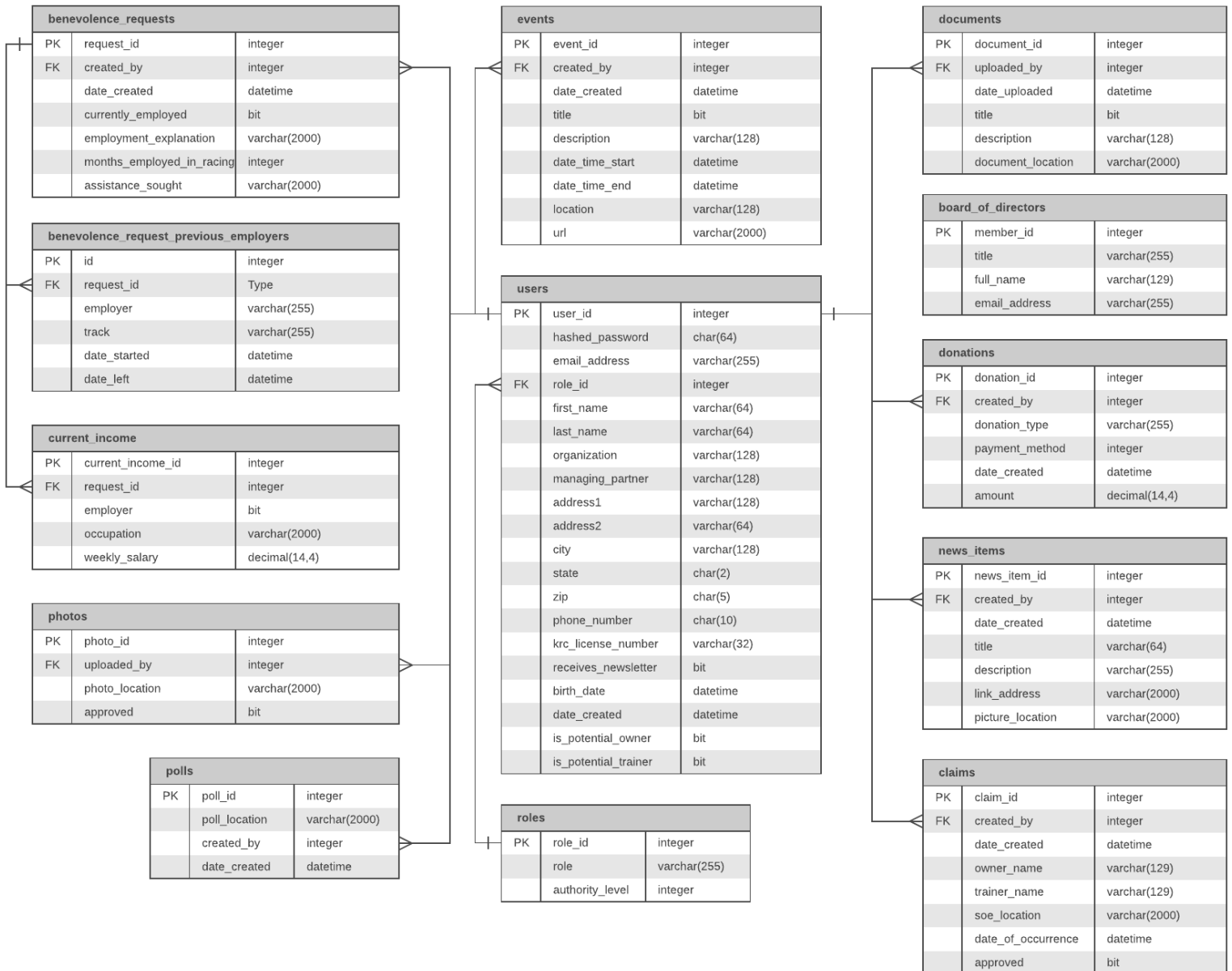


## Database Design

### Explanation

The database design below is in the third normal form (abbreviated 3NF). In simple terms, this means that each field in each table depends directly on the primary key and only on the primary key. Attributes related to each atomic entity are stored in their own tables. For example all users have roles, and roles have authority levels. So you could say that all users have authority levels, but the authority level is dependent on the role, **not** on the user. For this reason *roles* is its own table, and each user has a role id. Doing this eliminates transitive dependence which is very important for ensuring data consistency.

## Data Management Layer Diagram



## Data Dictionary

### benevolence\_request\_previous\_employers

| KEY | ATTRIBUTE NAME | DESCRIPTION   | DATA TYPE | SIZE |
|-----|----------------|---|-----------|------|
| PK  | id             | auto-numbered unique identifier for a benevolence_request_previous_employers record | integer   |      |
| FK  | request_id     | unique identifier of the related benevolence request                                | integer   |      |
|     | employer       | name of previous employer   | varchar   | 255  |
|     | track          | name of track where requestor was previously employed                               | varchar   | 255  |
|     | date_started   | the date employment started with this employer                                      | datetime  |      |
|     | date_left      | the date employment ended with this employer  | datetime  |      |

## benevolence\_requests

| KEY | ATTRIBUTE NAME            | DESCRIPTION  | DATA TYPE | SIZE |
|-----|---------------------------|--|-----------|------|
| PK  | request_id                | auto-numbered unique identifier for a benevolence request                                    | integer   |      |
| FK  | created_by                | user_id of benevolence request creator   | integer   |      |
|     | date_created              | date and time of benevolence request creation  | datetime  |      |
|     | currently_employed        | true if the requestor is currently employed, false otherwise                                 | bit       |      |
|     | employment_explanation    | text explanation of the reason the requestor is not employed, if currently_employed is false | varchar   | 2000 |
|     | months_employed_in_racing | total number of months the requestor has been employed in racing                             | integer   |      |
|     | assistance_sought         | the type of assistance the requestor is seeking  | varchar   | 2000 |

board\_of\_directors

| KEY | ATTRIBUTE NAME | DESCRIPTION                         | DATA TYPE | SIZE |
|-----|----------------|-------------------------------------|-----------|------|
| PK  | member_id      | unique identifier of a board member | integer   |      |
|     | title          | board member's title                | varchar   | 255  |
|     | full_name      | board member's full name            | varchar   | 129  |
|     | email_address  | board member's email address        | varchar   | 255  |

claims

| KEY | ATTRIBUTE NAME     | DESCRIPTION                                      | DATA TYPE | SIZE |
|-----|--------------------|--|-----------|------|
| PK  | claim_id           | unique identifier of a claim                     | integer   |      |
| FK  | created_by         | user_id of the claim creator                     | integer   |      |
|     | date_created       | date and time of claim creation                  | datetime  |      |
|     | owner_name         | name of horse owner involved in claim            | varchar   | 129  |
|     | trainer_name       | name of horse trainer involved in claim          | varchar   | 129  |
|     | soe_location       | statement of euthenasia location in UNC format   | varchar   | 2000 |
|     | date_of_occurrence | date and time of claim-relevant event occurrence | datetime  |      |
|     | approved           | true if claim is approved, false otherwise       | bit       |      |



current\_income

| KEY | ATTRIBUTE NAME    | DESCRIPTION   | DATA TYPE | SIZE |
|-----|-------------------|---|-----------|------|
| PK  | current_income_id | auto-numbered unique identifier for a current_income record | integer   |      |
| FK  | request_id        | unique identifier of the related benevolence request        | integer   |      |
|     | employer          | name of current employer                                    | varchar   | 255  |
|     | occupation        | title of current occupation                                 | varchar   | 2000 |
|     | weekly_salary     | weekly salary in dollars                                    | decimal   | 14,4 |

## documents

| KEY | ATTRIBUTE NAME    | DESCRIPTION  | DATA TYPE | SIZE |
|-----|-------------------|--|-----------|------|
| PK  | document_id       | unique identifier of a document                                | integer   |      |
| FK  | uploaded_by       | user_id of document uploader                                   | integer   |      |
|     | date_uploaded     | date and time document was uploaded                            | datetime  |      |
|     | title             | title of document  | varchar   | 255  |
|     | description       | description of document  | varchar   | 128  |
|     | document_location | location of document in UNC format ex:<br>\\Server\Volume\File | varchar   | 128  |

donations

| KEY | ATTRIBUTE NAME | DESCRIPTION                                   | DATA TYPE | SIZE |
|-----|----------------|---|-----------|------|
| PK  | donation_id    | unique identifier of a donation record        | integer   |      |
| FK  | created_by     | user_id of donator                            | integer   |      |
|     | donation_type  | type of donation (one time, recurring, etc..) | varchar   | 255  |
|     | payment_method | method of payment (credit card, paypal)       | varchar   | 255  |
|     | date_created   | date and time donation was made               | datetime  |      |
|     | amount         | donation amount                               | decimal   | 14,4 |

## events

| KEY | ATTRIBUTE NAME  | DESCRIPTION                          | DATA TYPE | SIZE |
|-----|-----------------|--------------------------------------|-----------|------|
| PK  | event_id        | unique identifier of an event record | integer   |      |
| FK  | created_by      | user_id of event creator             | integer   |      |
|     | date_created    | date and time of event creation      | datetime  |      |
|     | title           | title of event                       | varchar   | 64   |
|     | description     | description of event                 | varchar   | 128  |
|     | date_time_start | start date and time of event         | datetime  |      |
|     | date_time_end   | end date and time of event           | datetime  |      |
|     | location        | location (address) of event          | varchar   | 128  |
|     | url             | url of event website, if relevant    | varchar   | 2000 |

news\_items

| KEY | ATTRIBUTE NAME   | DESCRIPTION  | DATA TYPE | SIZE |
|-----|------------------|--|-----------|------|
| PK  | news_item_id     | unique identifier of a news item                                     | integer   |      |
| FK  | created_by       | user_id of the news item poster                                      | integer   |      |
|     | date_created     | date and time the news item was posted                               | datetime  |      |
|     | title            | title of the news item   | varchar   | 128  |
|     | description      | text description of the news item                                    | varchar   | 128  |
|     | link_address     | URL the news item points to where relevant                           | varchar   | 2000 |
|     | picture_location | location of news item related picture in UNC format (where relevant) | varchar   | 2000 |

photos

| KEY | ATTRIBUTE NAME | DESCRIPTION  | DATA TYPE | SIZE |
|-----|----------------|--|-----------|------|
| PK  | photo_id       | unique identifier of the photo   | integer   |      |
| FK  | uploaded_by    | user_id of the photo uploader  | integer   |      |
|     | photo_location | location of the uploaded photo in UNC format ex:<br>\\Server\Volume\File | varchar   | 2000 |
|     | approved       | true or false indicator of current approval status for a photo           | bit       |      |

roles

| KEY | ATTRIBUTE NAME  | DESCRIPTION   | DATA TYPE | SIZE |
|-----|-----------------|---|-----------|------|
| PK  | role_id         | unique identifier of a role                               | integer   |      |
|     | role            | name of the role (administrator, member)                  | varchar   | 255  |
|     | authority_level | numeric indicator of relative power level of a given role | integer   |      |

## users

| KEY | ATTRIBUTE NAME       | DESCRIPTION  | DATA TYPE | SIZE |
|-----|----------------------|--|-----------|------|
| PK  | user_id              | auto-numbered unique identifier for a user   | integer   |      |
|     | hashed_password      | hashed password tied to user account   | char      | 64   |
|     | email_address        | email address of user  | varchar   | 255  |
|     | role_id              | user's role in system (member, administrator, etc...)  | integer   |      |
|     | first_name           | user's first name  | varchar   | 64   |
|     | last_name            | user's last name   | varchar   | 64   |
|     | organization         | user's organization (stable, corporation, syndicate, farm)                                   | varchar   | 128  |
|     | managing_partner     | user's managing partner  | varchar   | 128  |
|     | address1             | user's street address  | varchar   | 128  |
|     | address2             | line 2 of user's address (apt / suite / bldg)  | varchar   | 64   |
|     | city                 | user's city  | varchar   | 128  |
|     | state                | user's state   | char      | 2    |
|     | zip                  | user's zip code  | char      | 5    |
|     | phone_number         | user's phone number  | char      | 10   |
|     | krc_license_number   | user's Kentucky racing commission license number   | varchar   | 32   |
|     | receives_newsletter  | true if the user has checked that they would like to receive the newsletter, false otherwise | bit       |      |
|     | birth_date           | user's date of birth   | datetime  |      |
|     | date_created         | date user account was created  | datetime  |      |
|     | is_potential_owner   | true if the user has indicated that they are a potential owner                               | bit       |      |
|     | is_potential_trainer | true if the user has indicated that they are a potential trainer                             | bit       |      |

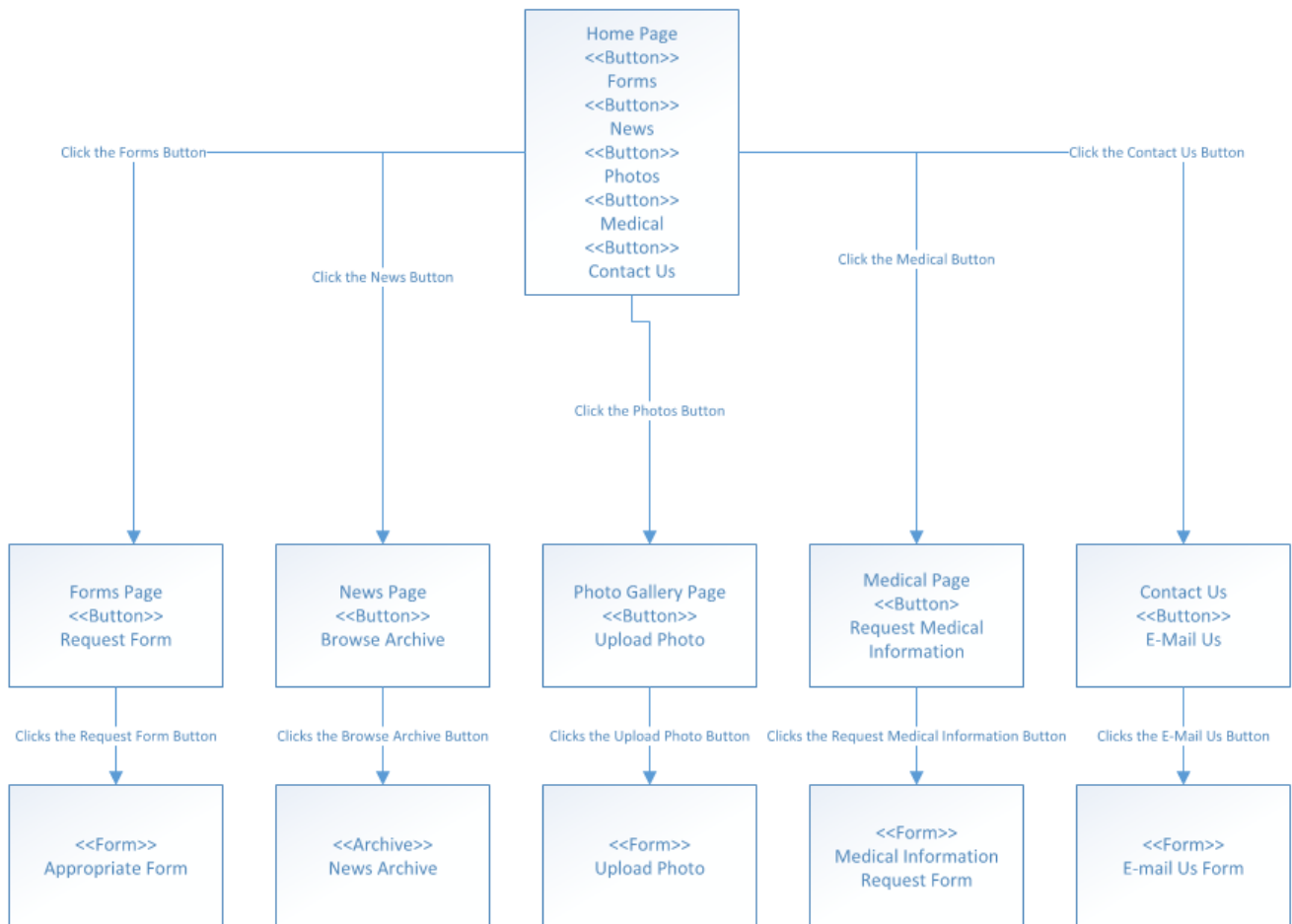


links

| KEY | ATTRIBUTE NAME | DESCRIPTION                      | DATA TYPE | SIZE |
|-----|----------------|----------------------------------|-----------|------|
| PK  | link_id        | unique identifier of a link item | integer   |      |
| FK  | created_by     | user id of the link creator      | integer   |      |
|     | date_created   | date and time link was created   | datetime  |      |
|     | title          | title of the link                | varchar   | 128  |
|     | href           | URL reference the link points to | varchar   | 2000 |

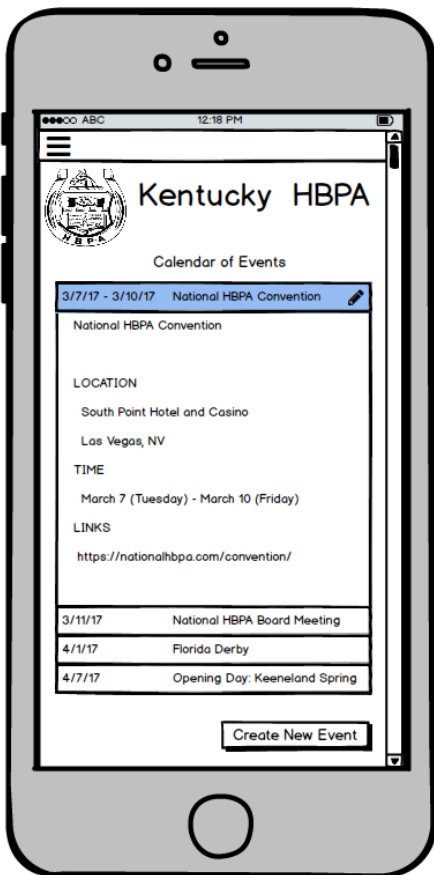
## User Interface

### Navigation Diagram

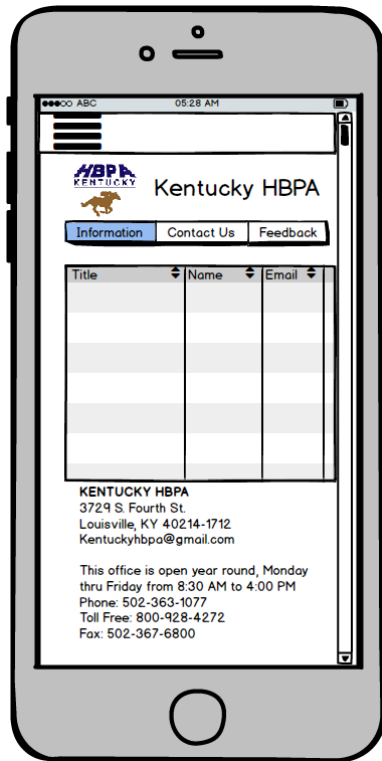


## Screen Layouts

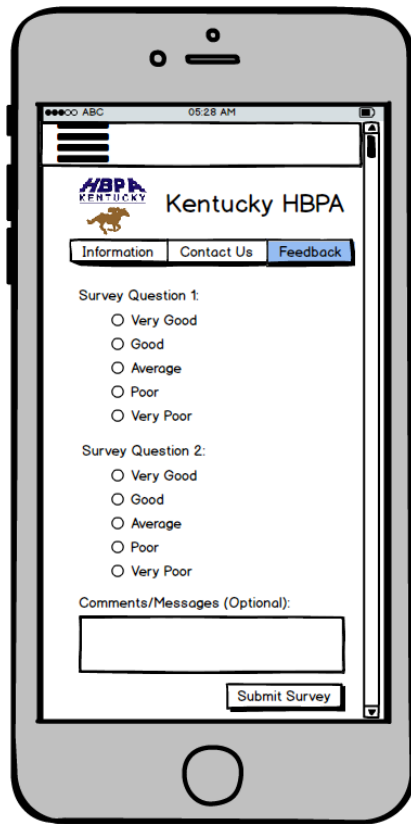
This following section will be featuring screen layouts, this is how we imagine the site to look when taking in and displaying information that either the user or admin gives. We divide these prototypes into two different kinds, reports which give information, and forms which need to be given information.



This is the layout we will use to display a calendar of events. In this prototype, we have already set up a fictitious event and filled in all needed areas. One of the big features that the Kentucky HBPA wanted was an easy to use calendar and we believe that this one will work just fine.



This will be what the contact us page will look like. This report will obviously be filled in with actual people from the Kentucky HBPA, but for now we have it as an unpopulated table. It will allow for easy lookup of Kentucky HBPA administrators.



This is a form for giving feedback to the administrators about whatever it is you may be asking. This will be very similar to the form that will be used to poll your membership basis. Surveying the membership population was certainly one of the main points they stressed as well.



This will be another contact us, this time in a form instead of a report. This will allow a user to send an e-mail to the Kentucky HBPA and ask them any potential questions they may have.

The image shows a smartphone screen with a web application for 'Kentucky HBPA'. The status bar at the top shows 'ABC' and '12:30 PM'. The app header features the Kentucky HBPA logo and the title 'Kentucky HBPA'. Below the header is a 'NEW EVENT' section. The form contains the following fields and values:

- Start Date:** 3/15/2017 (with a calendar icon)
- End Date:** 3/15/2017 (with a calendar icon)
- Event Title:** A Fun Event
- Event Description:** Getting together to do fun things
- Location:** 123 Fake St. Louisville, KY, 40208
- Link:** https://www.funHBPAevent.com
- Start Time:** 3:00 PM (with a dropdown arrow)
- End Time:** 5:00 PM (with a dropdown arrow)

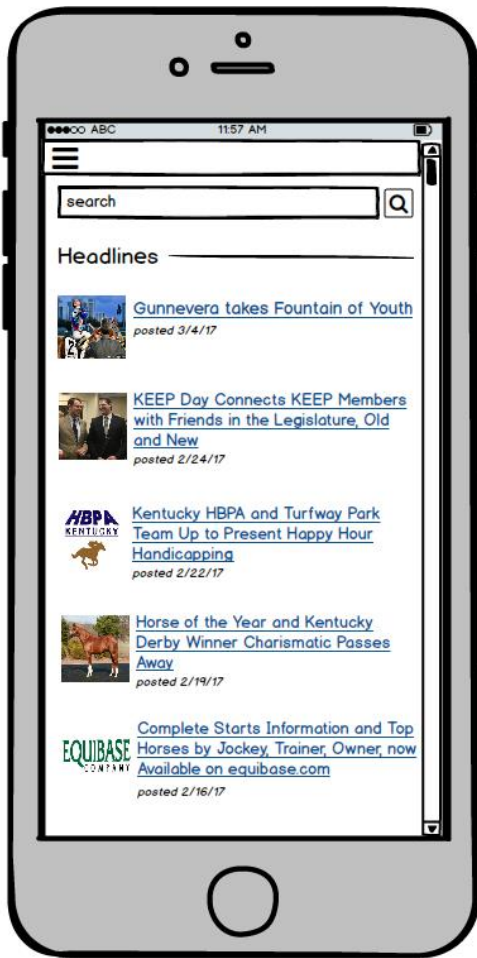
A 'Create Event' button is located at the bottom of the form.

Here we have the create an event in form, unlike the previous prototype, this will be what we imagine the screen will look like when someone is creating an event. It will be simple enough, just pick dates and give it a title and description with a location.

The image shows a smartphone screen with a web form titled "Kentucky HBPA". Below the title is the word "BENEFIT". The form contains several input fields: "Full Name", "Social Security #", "Address", "City", "State" (a dropdown menu showing "(State)"), "Zip Code", "Phone Number", and "Date of Birth". Below these fields is a section titled "Please list the employers for whom you have worked in the past 90 days:". This section contains a table with four columns: "Employer", "Track", "Date Started", and "Date Left". There is an "Add another employer" button at the bottom of this section. The smartphone has a home button at the bottom and a status bar at the top showing "ABC" and "08:20 AM".

Here is the form layout for the submit benefits. In this view you can see what will be needed, such as your name, SSN, address and so on. We believe that with the ease of access and use, it will encourage more people to sign up with the Kentucky HBPA.





This will be our report view for when a user searches through the news and what we believe the screen should look like afterwards. This page allows for a clean view of whatever articles a person may need, as well as a sample picture to help discern what the article may be about.

08:20 AM

**Horsemen Helping Horseman**

I AM A MEMBER OF THE KENTUCKY HORSEMAN'S BENEVOLENT AND PROTECTIVE ASSOCIATION. I UNDERSTAND THAT I AM ENTITLED TO ALL BENEFITS ESTABLISHED BY THE HBPA FOR ITS MEMBERS.

Name

First Name Last Name

Stable, Corporation, Syndicate, or Farm (if applicable)

Managing Partner

Address

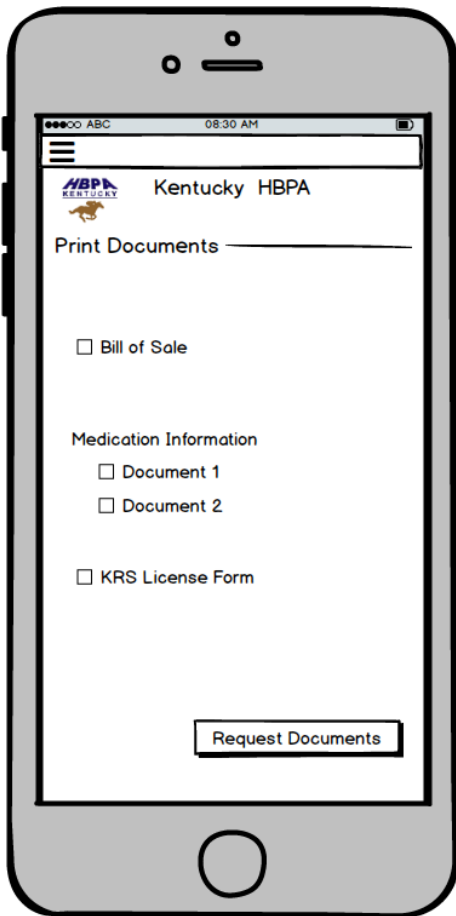
City State Zip Code

(State)

Primary Phone Number E-mail Address

Password

This will be our form view for joining the Kentucky HBPA, once again requiring people to input the information in the following fields. This will allow for administrators to easily pull up all needed info once the form is completed and let the back-end database store the new account easily.



This will be our form view for when the members want to find some document or report and be able to print it out. Being able to select multiple ones to download lets the user just have one quick trip to the site where he or she can get all the documents they may need in one go

## Gantt Chart

### Narrative

This Gantt Chart has been organized in chronological order of task assignments for each class deadline and the times we began the tasks and had them done by. Everyone in the group Serious Business was given their fair share of use cases and other deliverables to make this portion of the project successful, and organizing meeting times and spare time to work on these certain tasks was not a problem during this phase. We hope that we can keep our desired schedule the way it is leading up to the presentation date, and hope that our new ideas are worth implementing to the Kentucky HBPA.

### Chart

| ID                                   | Tasks                             | Task Responsibility | Task Dependencies  | 20-Mar | 22-Mar | 29-Mar | 3-Apr | 5-Apr | 10-Apr | 12-Apr |
|--------------------------------------|-----------------------------------|---------------------|--------------------|--------|--------|--------|-------|-------|--------|--------|
| <b>Iteration 4</b>                   |                                   |                     |                    |        |        |        |       |       |        |        |
| 1                                    | Use Cases (Main Flows)            | All                 | Assigned Use Cases |        |        |        |       |       |        |        |
| 2                                    | Use Case Diagram                  | All                 | Assigned Use Cases |        |        |        |       |       |        |        |
| 3                                    | Class Diagram                     | All                 | Assigned Use Cases |        |        |        |       |       |        |        |
| 4                                    | Sequence Diagram                  | All                 | Assigned Use Cases |        |        |        |       |       |        |        |
| 5                                    | Use Case Prototypes               | All                 | Assigned Use Cases |        |        |        |       |       |        |        |
| <b>Iteration 5</b>                   |                                   |                     |                    |        |        |        |       |       |        |        |
| 6                                    | Class Diagram                     | Joe (assembles All) | ID_1               |        |        |        |       |       |        |        |
| 7                                    | Database Design                   | Alex                | ID_3               |        |        |        |       |       |        |        |
| 8                                    | Data Definitions                  | Alex                | ID_7               |        |        |        |       |       |        |        |
| 9                                    | User Interface Navigation Diagram | Evan                | ID_1, ID_5         |        |        |        |       |       |        |        |
| 10                                   | Screen Layouts                    | Evan                | ID_1, ID_9         |        |        |        |       |       |        |        |
| 11                                   | Gantt Chart                       | Kimberly            | (N/A)              |        |        |        |       |       |        |        |
| 12                                   | User Interface Prototypes         | All                 | ID_1               |        |        |        |       |       |        |        |
| 13                                   | Presentation                      | All                 | I5 deliverables    |        |        |        |       |       |        |        |
| <b>Iteration 6: Elaboration Spec</b> |                                   |                     |                    |        |        |        |       |       |        |        |
| 14                                   | System Requirements               | Alex                | Inception Spec     |        |        |        |       |       |        |        |
| 15                                   | Use Case Diagram                  | Kimberly            | ID_1, ID_2         |        |        |        |       |       |        |        |
| 16                                   | Trace Matrix                      | Alex                | ID_1, ID_14        |        |        |        |       |       |        |        |
| 17                                   | Use Cases                         | Evan                | (N/A)              |        |        |        |       |       |        |        |
| 18                                   | Sequence Diagrams                 | Kimberly            | ID_1, ID_4         |        |        |        |       |       |        |        |
| 19                                   | Class Diagram(s)                  | Joe (assembles All) | ID_1, ID_3         |        |        |        |       |       |        |        |
| 20                                   | Presentation                      | All                 | I6 deliverables    |        |        |        |       |       |        |        |

## User Interface Prototypes

### Prototype: Create Account

The image shows two mobile app prototypes for account creation, connected by a blue arrow indicating a flow from the registration form to the terms and conditions screen.

**Prototype 1: Registration Form**

Header: Horsemen Helping Horseman

I AM A MEMBER OF THE KENTUCKY HORSEMAN'S BENEVOLENT AND PROTECTIVE ASSOCIATION. I UNDERSTAND THAT I AM ENTITLED TO ALL BENEFITS ESTABLISHED BY THE HBPA FOR ITS MEMBERS.

Name

First Name Last Name

Stable, Corporation, Syndicate, or Farm (if applicable)

Managing Partner

Address

City State Zip Code

Primary Phone Number E-mail Address

Password

**Prototype 2: Terms and Conditions**

Which best describes you?

☐ Owner ☐ Trainer ☐ Owner & Trainer

KRC License #

Signature

[Click here to sign electronically](#)

I hereby appoint the Kentucky Horseman's Benevolent and Protective Association, Inc. to act as my sole and exclusive agent and representative for the purpose of negotiating and executing, or refusing to execute, with Thoroughbred race tracks in Kentucky any and all contracts relating to Thoroughbred Racing in the state. By this appointment, I hereby revoke any and all previous authorities given by me for similar purposes.

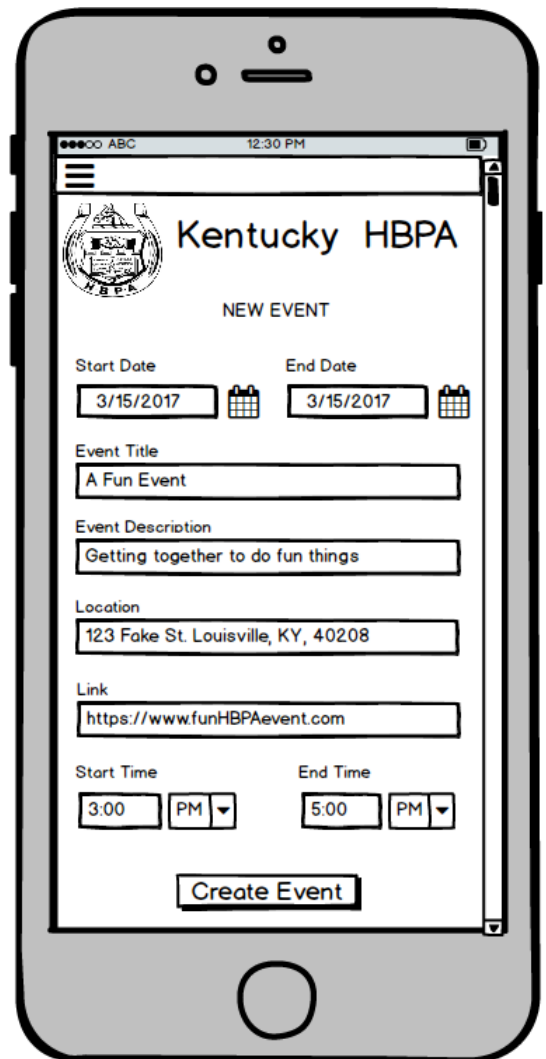
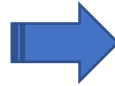
☐ I agree

Join Now

## Prototype: Create an Event

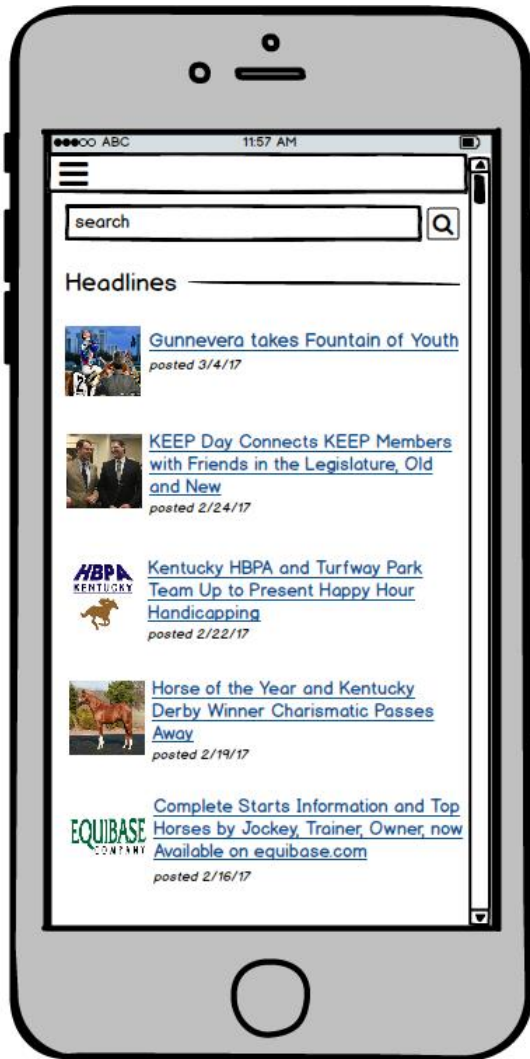


Screen 1

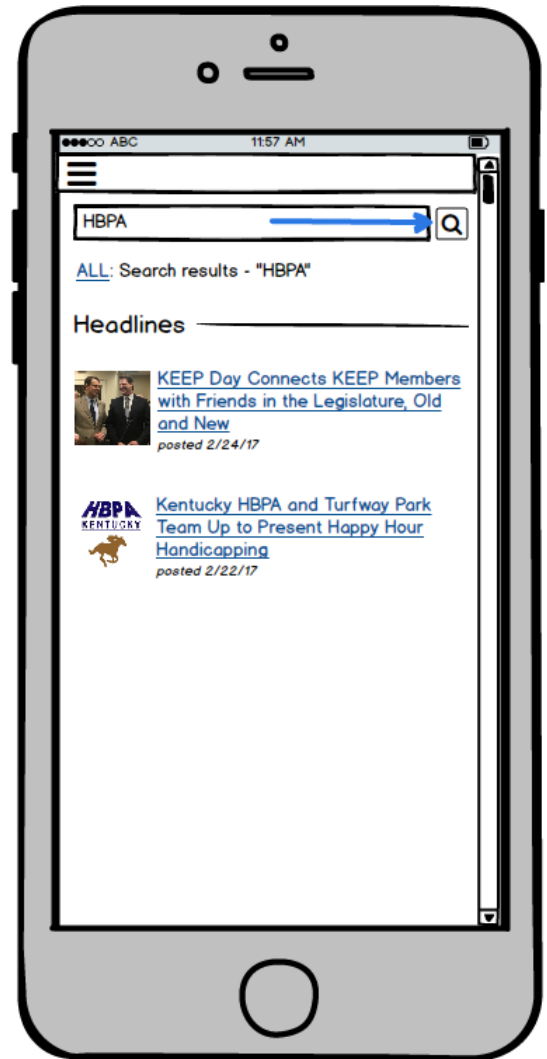
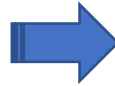


Screen 2

## Prototype: Search News Archives

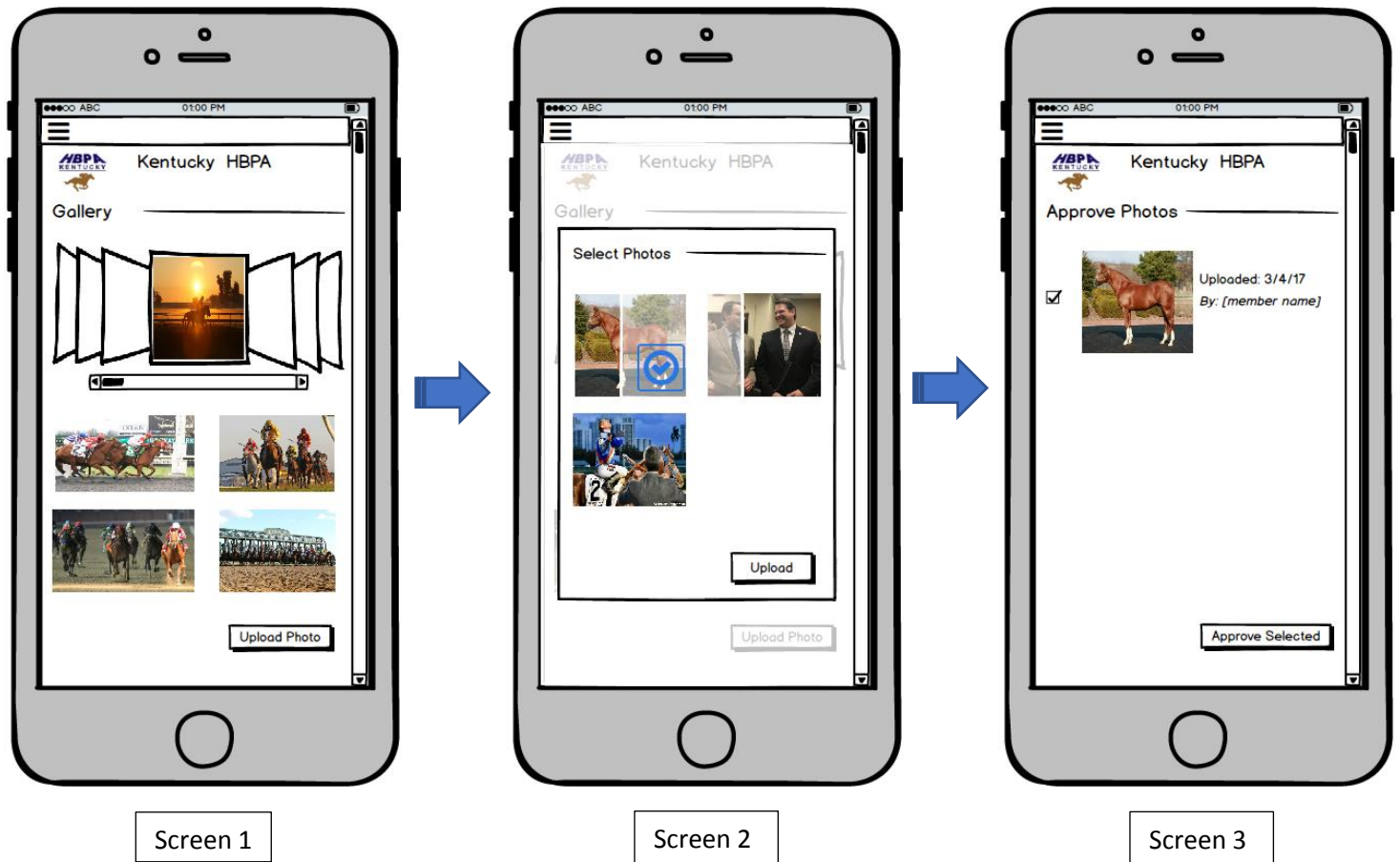


Screen 1



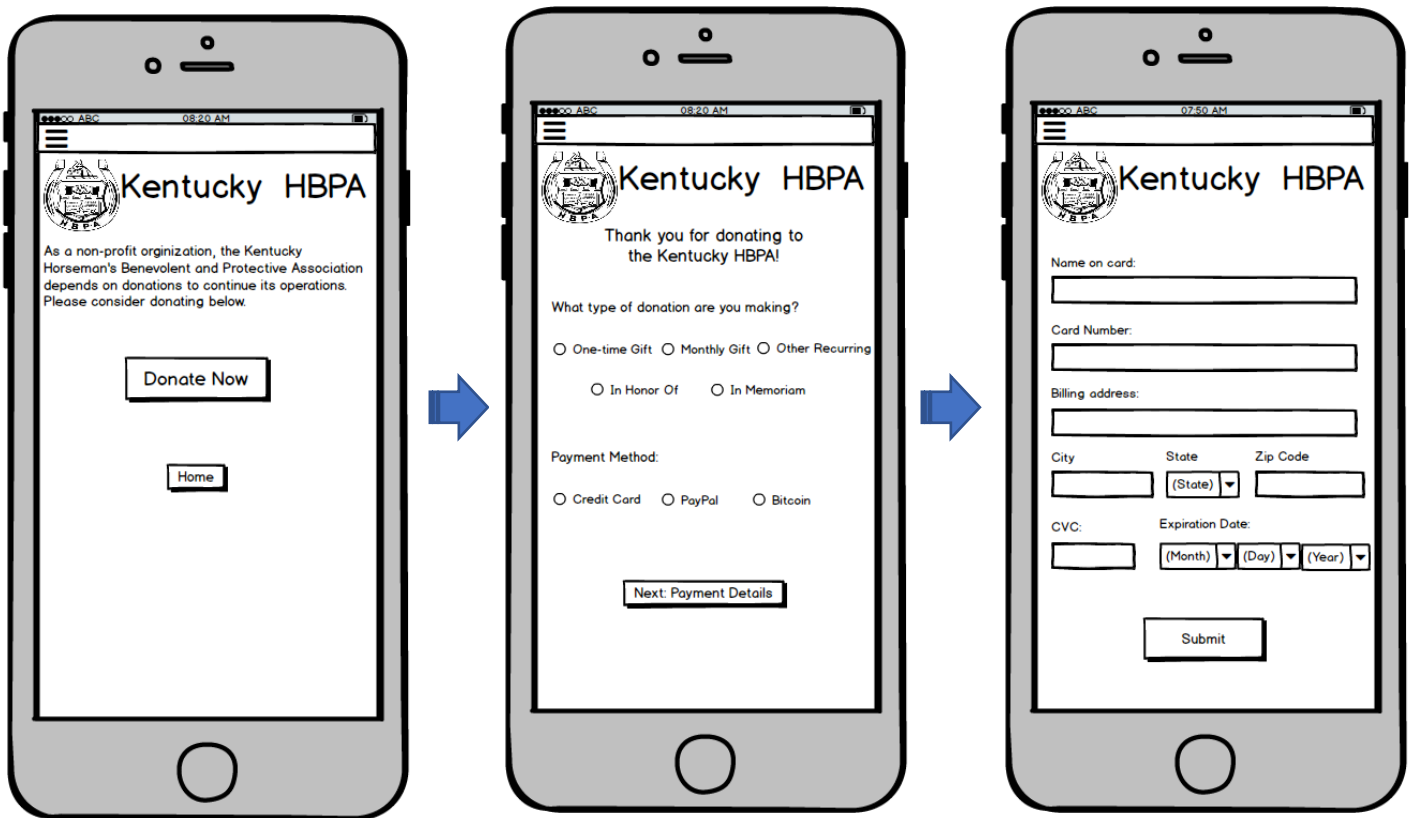
Screen 2

## Prototype: Upload a Photo





## Prototype: Makes a Donation



## Prototype: Posts a News Item



## Prototype: Submits a Claim

ABC 08:49 AM

**HBPA KENTUCKY** Kentucky HBPA

Submit Claim

Owner's Name

Trainer's Name

Statement of Euthenasia

*Please print the [statement of euthenasia](#) then have it signed by a licensed veterenarian before uploading it below*

[Upload File...](#)

☐ I agree to the [terms and conditions](#)

Submit

## Prototype: Signs In

ABC 09:01 AM

HBPA  
KENTUCKY

Kentucky HBPA

Sign In

E-mail Address

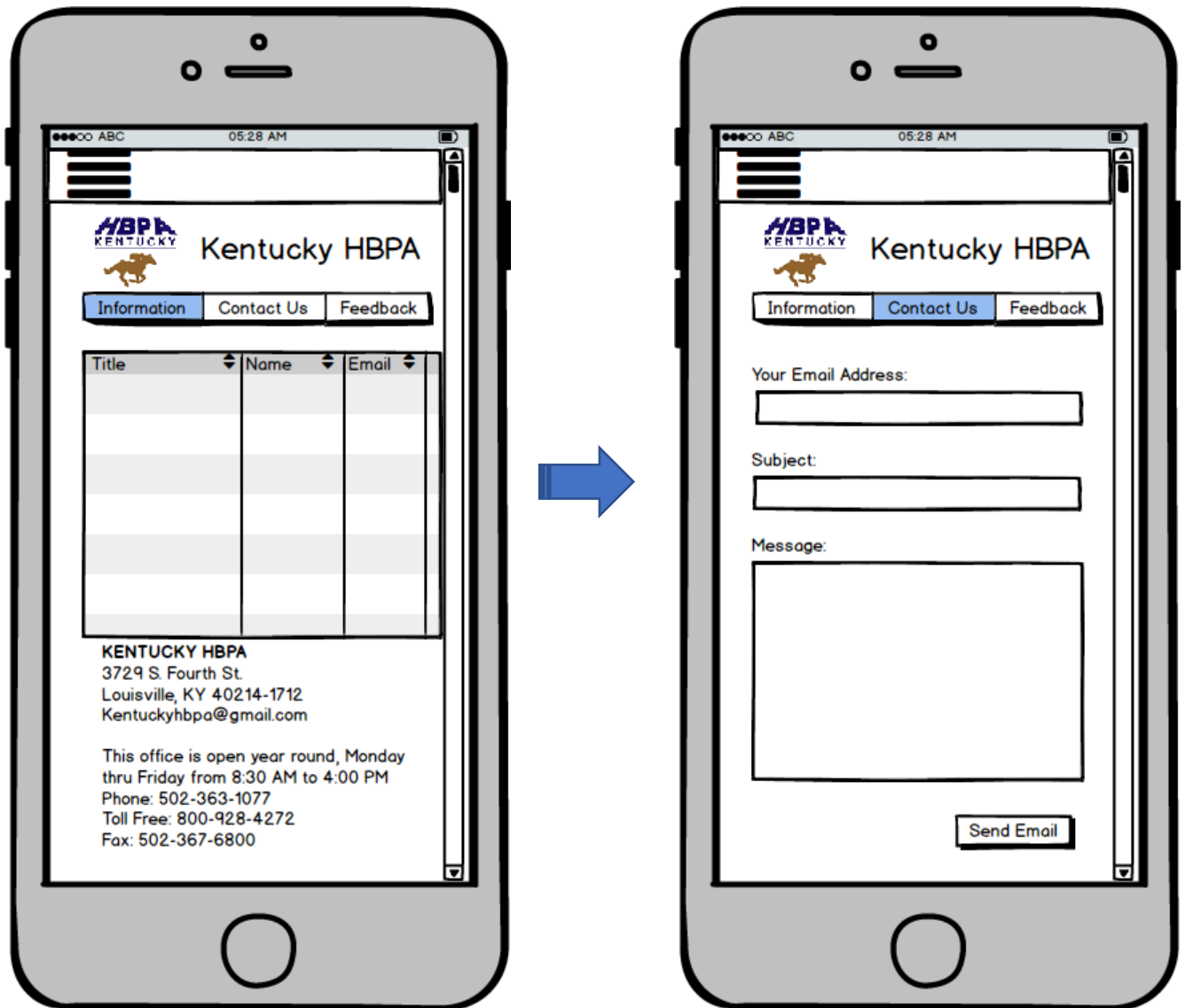
Password

Sign In

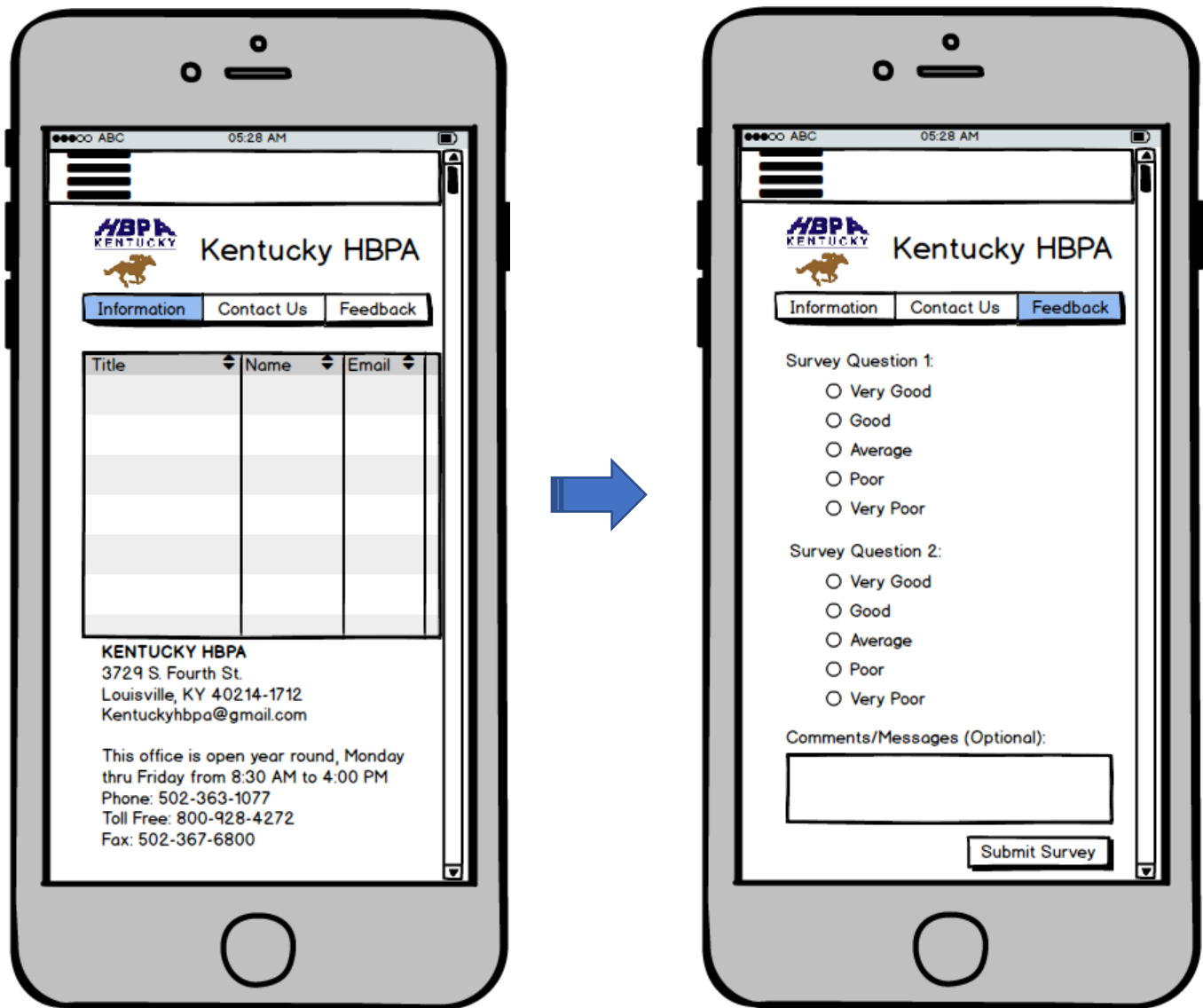
[Forgot Password?](#)

Create an Account

## Prototype: Contact KY HBPA



## Prototype: Provide Feedback





## Prototype: Request Contact Info

ABC 05:28 AM

**Kentucky HBPA**

Information Contact Us Feedback

| Title | Name | Email |
|-------|------|-------|
|       |      |       |
|       |      |       |
|       |      |       |
|       |      |       |
|       |      |       |
|       |      |       |

**KENTUCKY HBPA**  
3729 S. Fourth St.  
Louisville, KY 40214-1712  
Kentuckyhbpa@gmail.com

This office is open year round, Monday  
thru Friday from 8:30 AM to 4:00 PM  
Phone: 502-363-1077  
Toll Free: 800-928-4272  
Fax: 502-367-6800



## Prototype: Submit Benefits Form

The prototype consists of three mobile app screens for the 'Kentucky HBPA' application, connected by blue arrows indicating a sequential flow.

**Screen 1: Personal Information and Employment History**

Header: Kentucky HBPA

Section: BENEFIT

Fields:

- Full Name
- Social Security #
- Address
- City
- State (dropdown menu)
- Zip Code
- Phone Number
- Date of Birth

Section: Please list the employers for whom you have worked in the past 90 days:

| Employer | Track | Date Started | Date Left |
|----------|-------|--------------|-----------|
|          |       |              |           |

Buttons: Add another employer

**Screen 2: Current Employment and Income**

Header: Kentucky HBPA

Section: Are you currently employed?

Options: ☐ Yes ☐ No

If no, please explain:

Text area for explanation.

Section: Please list all income that you currently earn on and off the racetrack:

| Employer | Track | Weekly salary before taxes: |
|----------|-------|-----------------------------|
|          |       |                             |

Buttons: Add another source of income

**Screen 3: Assistance and Submission**

Header: Kentucky HBPA

Section: How long have you been employed in the racing industry in Kentucky?

Options: (X) Years and/or (X) Months

Section: What sort of assistance are you seeking?

Text area for assistance request.

Button: Submit Form

Prototype: Request Medication Information

Prototype: Request Medication Information

The image shows a mobile application prototype on a smartphone. The screen displays the following elements:

- Header:** Kentucky HBPA logo and text.
- Section:** Print Documents
- Form Elements:**
  - ☐ Bill of Sale
  - Medication Information**
    - ☐ Document 1
    - ☐ Document 2
    - ☐ KRS License Form
- Button:** Request Documents



Prototype: Request License Form

Prototype: Request License Form

The image shows a mobile app prototype on a smartphone. The screen displays the following elements:

- Status Bar:** Shows signal strength, 'ABC', time '10:04 AM', and battery level.
- Navigation:** A hamburger menu icon in the top left corner.
- Header:** The 'HBPA KENTUCKY' logo and the text 'Kentucky HBPA'.
- Section:** 'Print Documents' with a horizontal line.
- Form Elements:**
  - ☐ Bill of Sale
  - Medication Information**
    - ☐ Document 1
    - ☐ Document 2
  - ☐ KRS License Form
- Action:** A button labeled 'Request Documents' at the bottom.

Prototype: Request Bill of Sale

ABC 10:04 AM

HBPA KENTUCKY Kentucky HBPA

Print Documents

☐ Bill of Sale

Medication Information

☐ Document 1

☐ Document 2

☐ KRS License Form

Request Documents

Prototype: Request Profile Info

HBPA KENTUCKY Kentucky HBPA

Edit Profile

First Name Last Name

Stable, Corporation, Syndicate, or Farm (if applicable)

Managing Partner

Address

City State Zip Code

Primary Phone Number E-mail Address

KRC License Number: I am an:


☐ Owner ☐ Trainer

☐ Owner & Trainer

Update Profile

Prototype: Edit Profile Info

AT&T 4G 10:15 AM

 Kentucky HBPA

Edit Profile

First Name Last Name

Stable, Corporation, Syndicate, or Farm (if applicable)

Managing Partner

Address

City State Zip Code

(State)

Primary Phone Number E-mail Address

KRC License Number: I am an:

☐ Owner ☐ Trainer

☐ Owner & Trainer

Update Profile

Prototype: Creates a Poll

ABC 11:11 AM

Should there be more lax rules on drug testing

☒ Yes(selected)

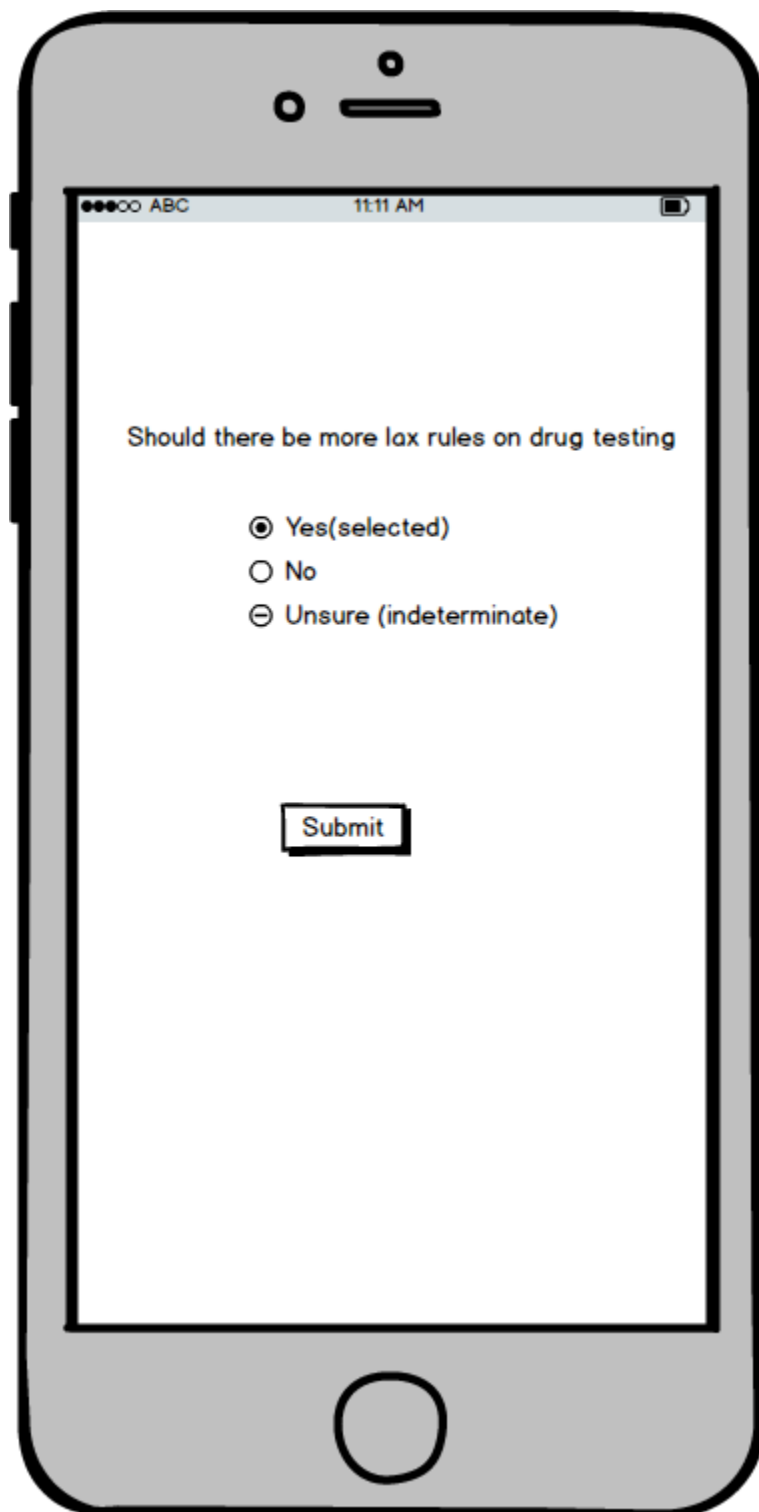
☐ No

☐ Unsure (indeterminate)

Submit



## Prototype: Votes on a Poll



Prototype: Posts a Link

