

Javascript β (2 Points)

Empathy-Driven Redesign Using Component Libraries

[GitHub Classroom Starter Code for JavaScript \$\beta\$](#)

In this assignment, you will practice design thinking and visual design methods to improve upon Badger Bank. You will complete this assignment in three parts.

In the **first** part, you will practice using the "empathy" method (the think-aloud protocol) that we have discussed in class as a method that will give you the most bang for the buck in terms of understanding user needs, preferences, and behavior. Specifically, in the think aloud, you will (1) identify users who represent your target group of users, (2) identify/develop tasks that represent the functioning of the target system, (3) observe users as they perform the tasks, and (4) analyze your data to develop design insight.

In the **second** part, you will practice the ideation and visual design principles you have learned in class to turn your design insight in the first part into a redesign of the Badger Bank website you have created, expressed in a layout sketch.

Finally, in the **third** part of the assignment, you will implement the design you created in the second part using the Bootstrap component library. This three part assignment will take you through user research to ideation and from sketching to implementation of user-facing elements. Follow the instructions below to complete the assignment.

Part 1: Think-aloud

(0.1 Points) **Step 1. Identify users.** Who uses online banking? Describe below the characteristics of this user group, identify one person (a roommate, a friend, or a family member) who might be willing to take part in your user research, and ask the person for their interest/availability. (If the person you identified is in this class, it is acceptable to swap roles.)

Nowadays, many people choose to use online banking to conveniently and remotely control transactions and monitor money activities. The user group has the below characteristics: most of them are middle-age and young-age who are exposed to and willing to use and trust technology, while older people may fail to learn how to use online banking; they are literate and educated without eye disability, so that they can read instructions on the website, though they can speak different languages; they live in modern places with easy access to Internet; they have stable money source either from jobs and families, so they need bank accounts. I identified my friend Lingzheng He who is interested and available in participating in my user research. She is a junior student majoring in computer science at UW-Madison.

(0.1 Points) **Step 2. Develop tasks.** Study the new Badger Bank application, Javascript **β**, to develop a set of tasks that users might perform with the system. Rank your list in terms of importance (simultaneously considering impact, frequency, prevalence) and identify the top three tasks. Describe each task in 1–2 sentences in a way that your users can understand.

Note: As banking involves private and sensitive data, be sure that your tasks do not require your user to reveal private information (e.g., login credentials, bank balance) to you or anything else that may make them uncomfortable. Your tasks can focus on the general visual and click-through navigation of the site and interact with personal information in a very limited sense.

Tasks & Ranking (1 highest, 5 lowest):

Tasks	Importance	Impact	Frequency	Prevalence
Log out - # 1	1	1	1	2
Enroll/unenroll from paperless statements - # 3	3	1	5	1

Download account statements - # 2	1	1	2	1
Download tax statements	1	3	5	1
Add beneficiaries	1	3	4	4

Task 1: Download your bank account statement for March 2020.

Task 2: Find out if you have enrolled in paperless statements or not. If yes, unenroll from paperless statements. If not, please enroll in paperless statements.

Task 3: Log out from your banking account.

(0.2 Points) **Step 3. Perform think-aloud.** Hold a think-aloud session with your representative user (e.g., over Zoom using screen sharing) *on a real banking website*. First describe to your user how the think-aloud will work (refer to the reading and class notes), describe the tasks one at a time (answer any questions you might have), and ask them to perform each task while they say out loud what they are thinking.

Pro tip: If you see your user performing the task but not speaking, probe them by asking what they are thinking or reminding them that they should be describing.

As you observe your user performing the tasks, take notes (using the other sheet) of important actions, problems they encounter, confusions they might voice, and so on. For anything that stands out, after each task, ask your user why they did that or said that. Your observations and notes will form your data. Include your data below.

Note: If your tasks involve entering or reviewing personal information, you can ask your user to stop screen sharing while they perform these actions in order to preserve their privacy.

Banking website: Discover credit card

Task 1: Download your credit card account statement for March 2020

At first sight, the user was not sure where to download account statements. She scrolled the whole page, and clicked through the dropdown menus at the top of the page, read through many options, but did not find information related to account statements, so she read the homepage again. This time, she **clicked**

on the **“View Accounts & Statements,”** though she was not very sure about it. There, she saw and clicked the “Download” button, but that would download the current statement, so she clicked “Cancel”. She clicked on “Recent Activity (Date)” in an attempt to change the statement period, but no response. Then, she was not sure what to do. She looked at the page again, and on the left, she saw **“Advanced Search,”** so she clicked on it and was quite sure about it. She was directed to a new page, where she used the calendar and **chose the start date** to be 03/01/2020 and **end date** to be 03/31/2020. She used the **left arrow** to go from current month to March. She **clicked on the “Search”** button and was shown a long list of transactions. On the top left hand corner, she saw a **“Download”** button and **clicked** on that. Two options were shown, and she kept the default “Excel” option and **clicked the “Download” button** highlighted in orange.

Task 2: Find out if you have enrolled in paperless statements or not. If yes, unenroll from paperless statements. If not, please enroll in paperless statements.

She began by reading the homepage. Without seeing any highlighted buttons related to paperless statements, she read the homepage from the top. There, she **clicked the “Card Details” button** and was quite sure. A dialog box with only 6 pieces of information showed up: she found **“Paperless Statements: Signed Up.”** She knew that she had enrolled in paperless statements.

She **clicked on hyperlink “Manage Cards”** and was very sure, but there is not an option to unenroll paperless statements on the new page. She was frustrated, so went back to the homepage by clicking “Discover” at the top left corner. She **clicked on “Account”** on the top bar, since she thought paperless statements are related to “Account”, but she could not edit anything. Next to “Account,” she **clicked on “Profile” and then “Edit Account Profile,”** just for trying. Many information with small font sizes are shown. She read through the first part - “Account Information,” and found a row about “Paperless Statement,” so she **clicked the hyperlink “cancel”** in the same row. She was directed to a confirmation page, and she **clicked “Cancel Enrollment”** to confirm unenrolling from paperless statements.

Task 3: Log out from your banking account

She was aware that many online banking systems have “Log Out” button on the top right corner, so she directly looked at top right corner and found **“Log Out” button** and **clicked** on it. She successfully logged out.

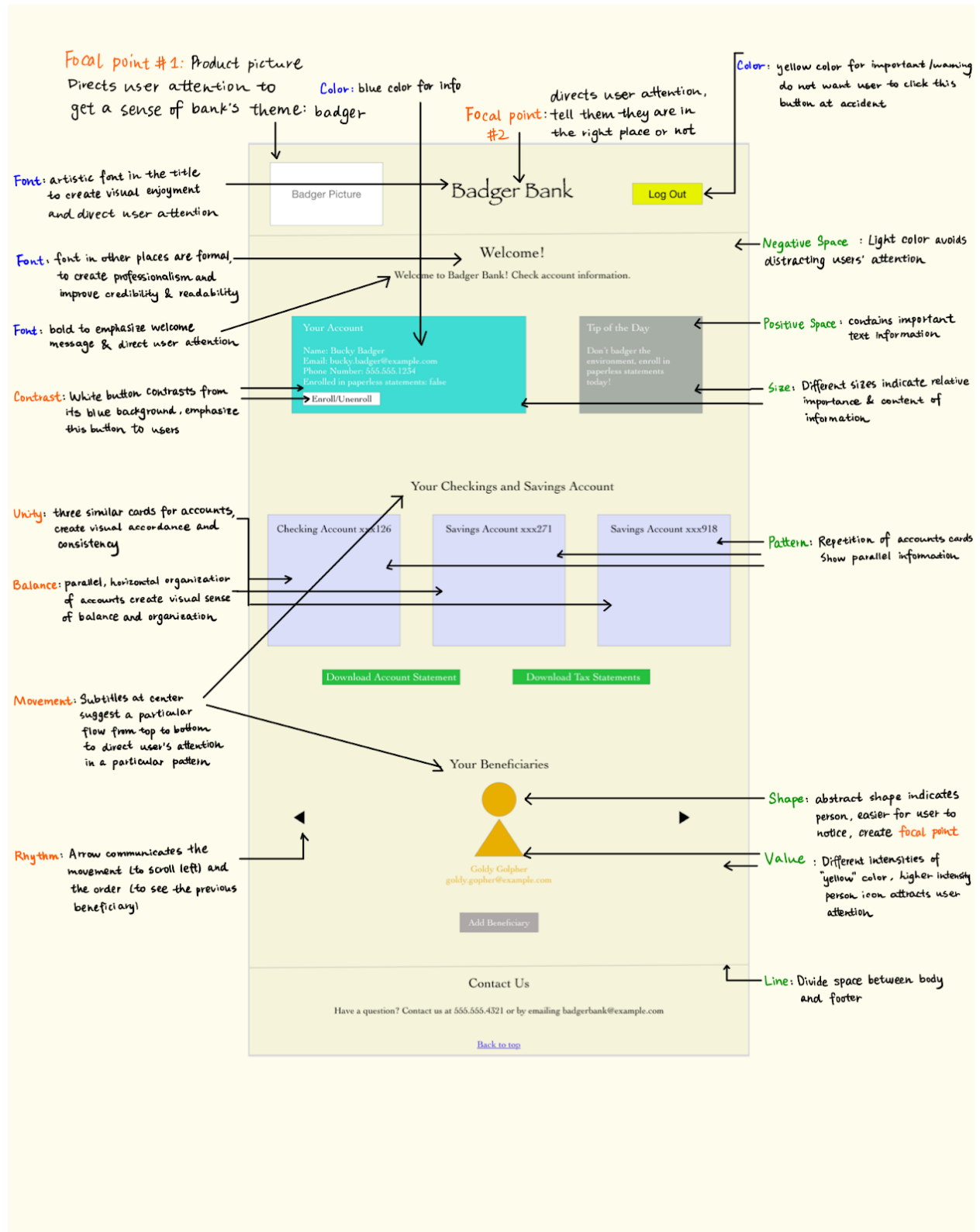
(0.2 Points) **Step 4. Create insight.** In your data (e.g., notes), highlight where you saw significant breakdowns in functioning, need for better functioning, or user preferences that would require an alternative design. Make a list of your findings as design recommendations.

Findings	Design Recommendations
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Homepage is not intuitive in showing user where to download account statements	In the homepage, create a “Download Statements” option in the “Shortcuts” panel, so that users are aware of this option.
Transaction page is not intuitive in showing user how to search transactions by date	On the transaction page, on top of all transactions, make “Recent Activity (Time period)” clickable, where users can choose a specific time range to see transactions during that time.
Could not enroll/unenroll paperless statements after viewing that information on the “Card Details” page and clicking “Manage Cards.”	On the “Manage Cards” page, make all (6) information on the “Cards Details” page be editable.

Part 2: Design

(0.4 Points) **Step 1. Visual Design.** Next, using knowledge of banking operations from the think-aloud, you will redesign JavaScript **β** with the goal of improving its visual design. First consider what elements you must place on the canvas. All elements should have a function. If the original design included elements with no function or use, you can exclude them in your redesign. Next, consider the design principles, and ask yourself, “how can I direct user attention appropriately,” “do I need to create contrast between elements,” “how do I achieve unity,” and so on. You will need to go back and forth between the elements and principles. For example, you must determine what user attention should be directed to, such as a product photo, a button, or a paragraph of text, in order to place the focal point to it. Similarly, you should think about the composition of elements to create an appropriate level of balance on the page. Your redesign should be in the form of a digitally- or hand-drawn wireframe with annotations that justify the use of the elements and principles.



(0.2 Points) **Step 2. Specify color and type choices.** Finally, determine what color palette your redesign should follow. How many colors/shades will you use? Why will you use these colors? Keep design

principles in mind when you are choosing colors. For example, using contrasting colors, you can create contrast and manage user attention. Additionally, determine what category of typeface and what font you will use, whether or not you will use multiple fonts on the page, and how you will parameterize each font. You may review the fonts in your computer's fonts folder (on Windows, go to "My Computer > Control Panel > Fonts" and select "View > Details;" on the Mac use the Font Book app) or the [Google Fonts collection](#) to give you ideas and get familiar with available typefaces.

Color:

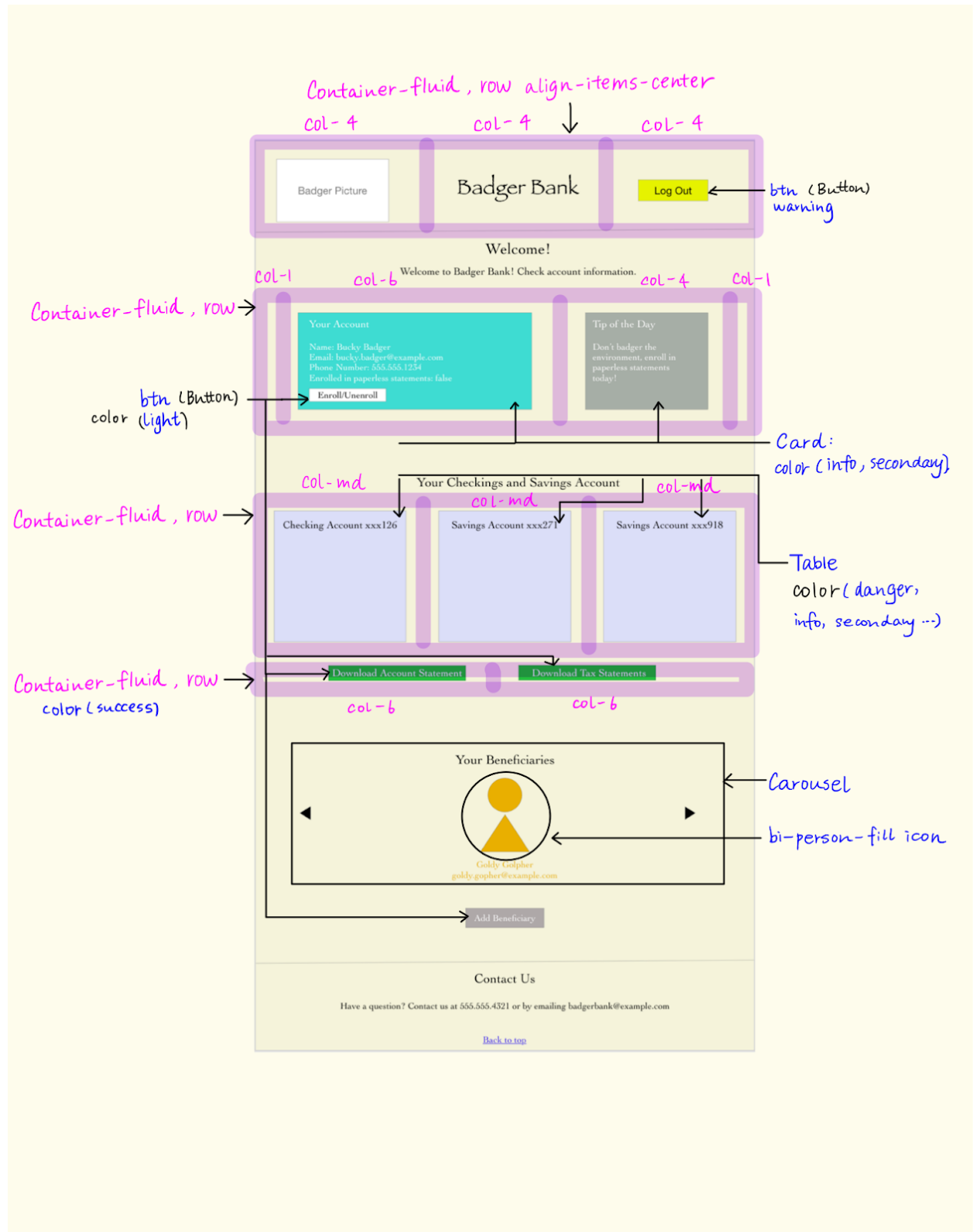
I decided to use a color palette with light value and middle saturation. I will use 5 colors from 8 shades: light yellow for canvas, bright yellow for logout button and a person icon, bright blue for account info, grey for tip and add beneficiary button, light blue for account details, purple for another person icon, white for enroll/unenroll button, and green button for downloading account and tax statements. Many of my choices follow color conventions: bright yellow for warning information, blue for financial information, green for downloading, and grey for secondary information, etc. My choices also follow principles: light yellow background for other information to contrast strikingly to it; bright blue background to contrast white button on it, and so on, to manage user attention appropriately.

TypeFace:

I will use "old style" as my typeface and multiple fonts within it on the page: *fantasy* HTML built-in font family for the title, and *Cambria*, *Cochin*, *Georgia*, *Times*, *'Times New Roman'* for other text. I use the artistic-looking *fantasy* font as the title to create visual enjoyment for users and direct user attention, letting them make sure that they are in the right place - "Badger Bank". I use *Cambria*, *Cochin*, *Georgia*, *Times*, *'Times New Roman'* fonts to create professionalism and improve credibility and readability, since those fonts are usually used in formal occasions. For parameterization, I made the welcome text to be bold to direct user attention.

Part 3: Implementation


(0.2 Points) **Step 1. Inspect component library elements.** In this step, you will inspect the [Bootstrap](#) component library to see how you can realize the layout, visual-element, and color/type choices you have made in the previous part using the component library. You are not expected to change the library components to exactly match your design choices, but to identify which component elements might best meet your design goals. Below, copy the design and the choices you generated in Part 2 and annotate them to describe which components from the library you will use to accomplish your design goals.



(0.6 Points) **Step 2. Implement your redesign.** The last step of this part will involve implementing the layout and components you had identified in the previous step. You will include Bootstrap in your project

and use it to implement your design. You do not have to implement new *functionality*; focus on implementing your *design*.

Your deliverable will be a completed version of this document, attached to the canvas assignment as a PDF, and the GitHub Classroom repository name and latest commit hash.



Badger Bank

[Logout](#)

Welcome!

Welcome to Badger Bank! Check out your account information.

Your Account

Name: Bucky Badger
Email: bucky.badger@example.com
Phone Number: 555.555.1234
Enrolled in paperless statements: false

[Enroll/Unenroll](#)

Tip of the Day

Don't badger the environment, enroll in paperless statements today!

Your Checkings and Savings Accounts

Checking Account xxx126

Balance: 472.61 Interest Rate: 0.00%

Date	Description	Amount	Balance
09/13/2020	CHECK 192	-30.82	472.61
09/02/2020	MONTHLY DPST UW PAYROLL	321.87	
08/27/2020	CHECK 191	-750.00	
08/14/2020	CHECK 188	-10.00	
08/02/2020	MONTHLY DPST UW PAYROLL	637.91	
07/18/2020	VENMO	-25.00	

[Download Account Statements](#)

Savings Account xxx271

Balance: 248.34 Interest Rate: 0.06%

Date	Description	Amount	Balance
07/21/2020	TRANSFER FROM EXT. ACCT	67.23	248.34
07/01/2020	TRANSFER FROM EXT. ACCT	52.68	
04/06/2020	TRANSFER TO EXT. ACCT	-127.63	
03/11/2020	TRANSFER FROM EXT. ACCT	100.00	
02/14/2020	TRANSFER TO EXT. ACCT	50.00	
01/01/2020	INTEREST PAID	0.06	

[Download Tax Statements](#)

Savings Account xxx918

Balance: 5027.03 Interest Rate: 0.06%

Name	Description	Amount	Balance
01/01/2020	INTEREST PAID	3.01	5027.03
09/01/2020	TRANSFER TO EXT. ACCT	-5000.00	
01/01/2019	INTEREST PAID	6.01	
01/01/2018	INTEREST PAID	6.01	
01/01/2016	INTEREST PAID	6.00	
01/01/2015	INTEREST PAID	6.00	

[Download Tax Statements](#)

Your Beneficiaries



Pioneer Pete
pioneer.pete@example.com

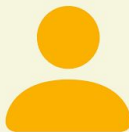
Add Beneficiary

Contact Us

Have a question? Contact us at 555.555.4321 or by emailing badgerbank@example.com

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Your Beneficiaries



Goldy Golpher
goldy.golpher@example.com

Add Beneficiary

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