

SEBA Master - Web Application Engineering

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Assignment 3

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Budgetly is an expense tracking web app to help private customers with many monthly transactions or critical budgets to keep track of their finances with automated bank transaction analysis, customizable budget categories, and special attention to data security.

Screenshot of Homepage

The screenshot shows the Budgetly application interface. On the left is a sidebar titled "Categories" with sections like Overview, Sport, Tennis, Jogging, Boulder, Party Life, Job, Food, and Uncategorized. Each section has edit and delete icons. A "New Category" button is at the bottom. The main area displays a table of transactions with columns: Date, Category, Account, Partner, Type, Reference, Amount, and Verified. The table shows various entries such as "Job" and "Food" transactions from different accounts and partners. At the top right is a "New Transaction" button, and below the table are "Charts" and "Table" tabs. At the bottom are pagination controls and a "Rows per page" dropdown.

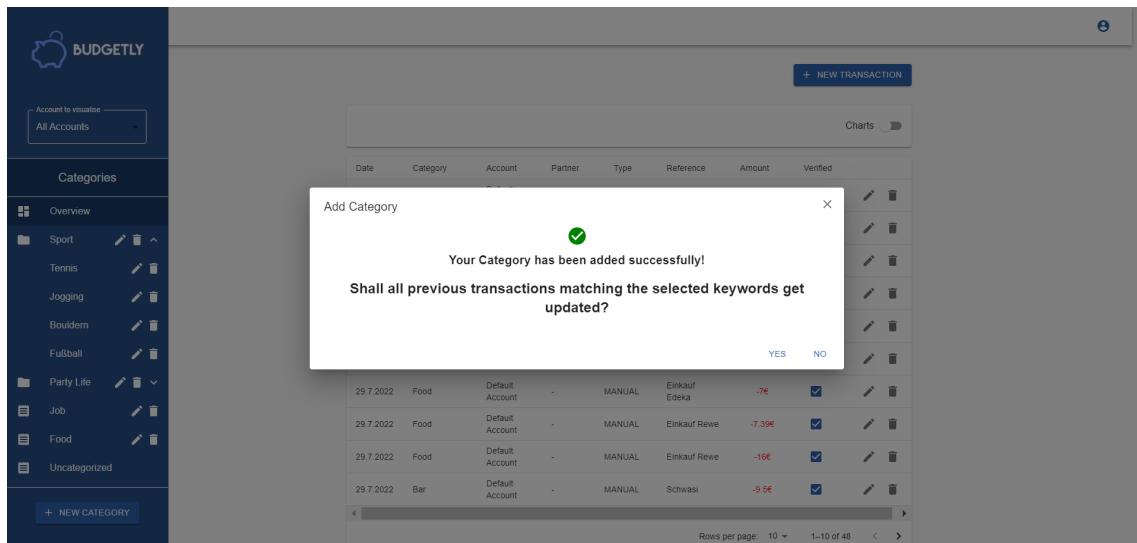
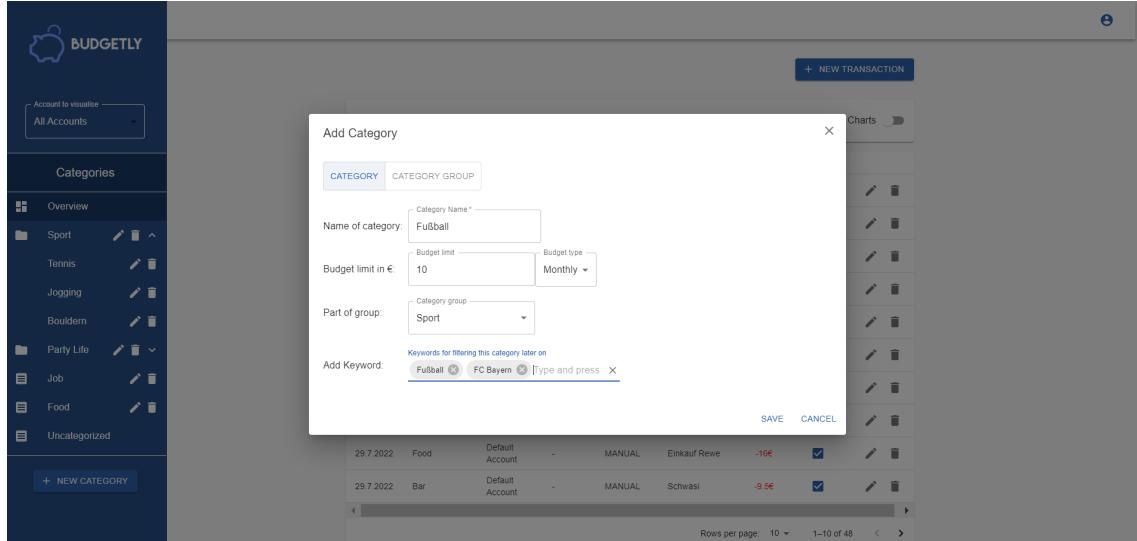
Date	Category	Account	Partner	Type	Reference	Amount	Verified	Actions	
29.7.2022	Job	Default Account	-	MANUAL	SEBA Gehalt	450€	<input checked="" type="checkbox"/>		
29.7.2022	Uncategorized	Default Account	-	MANUAL	Starbucks Coffee	-8€	<input checked="" type="checkbox"/>		
29.7.2022	Uncategorized	Default Account	-	MANUAL	Bubble Tea	-7€	<input checked="" type="checkbox"/>		
29.7.2022	Jogging	Default Account	-	MANUAL	Strava Premium	-5,99€	<input checked="" type="checkbox"/>		
29.7.2022	Club	Default Account	-	MANUAL	Neuraum	-32€	<input checked="" type="checkbox"/>		
29.7.2022	Bar	Default Account	-	MANUAL	Bar Bingogewinn	15€	<input checked="" type="checkbox"/>		
29.7.2022	Food	Default Account	-	MANUAL	Einkauf Edeka	-7€	<input checked="" type="checkbox"/>		
29.7.2022	Food	Default Account	-	MANUAL	Einkauf Rewe	-7,39€	<input checked="" type="checkbox"/>		
29.7.2022	Food	Default Account	-	MANUAL	Einkauf Rewe	-16€	<input checked="" type="checkbox"/>		
29.7.2022	Bar	Default Account	-	MANUAL	Schwasi	-9,5€	<input checked="" type="checkbox"/>		

Deviations:

- Instead of having to choose between “Table”, “Chart”, and “Insights”, users can decide to enable “Charts” and they can simultaneously see the table and charts. We removed “Insight” completely because we currently have no information that can be displayed there. Some insights are still showing via a Snackbar
- The table additionally displays the TransactionType such that users can see whether they added the transaction manually or it was automatically added. In the latter case, users are able to see if a transaction is an ingoing or outgoing transaction.

Use Cases with Screenshots

Use Case #1: Add a Category



BUDGETLY

Account to visualise
All Accounts

Categories

- Sport
 - Tennis
 - Jogging
 - Bouldern
 - Fußball
- Party Life
- Job
- Food
- Uncategorized

+ NEW CATEGORY

Add Category Group

CATEGORY CATEGORY GROUP

Name of category group: Sport Category group name*

Choose a unique Name!

Budget limit in €: Budget limit Budget type Monthly

Categories: Add categories

SAVE CANCEL

Date	Category	Account	Type	Reference	Amount	Verified
29.7.2022	Food	Default Account	MANUAL	Einkauf Rewe	-7.39€	<input checked="" type="checkbox"/>
29.7.2022	Food	Default Account	MANUAL	Einkauf Rewe	-16€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account	MANUAL	Schwasi	-9.5€	<input checked="" type="checkbox"/>

Rows per page: 10 1–10 of 48

BUDGETLY

Account to visualise
All Accounts

Categories

- Sport
 - Tennis
 - Jogging
 - Bouldern
 - Fußball
- Party Life
- Job
- Food
- Uncategorized

+ NEW CATEGORY

Add Category Group

CATEGORY CATEGORY GROUP

Name of category group: Transport

Budget limit in €: 100 Budget type Monthly

Categories: Add categories

Food
Job
Bar
Club
Tennis
Jogging
Bouldern
Fußball

SAVE CANCEL

Date	Category	Account	Type	Reference	Amount	Verified
29.7.2022	Food	Default Account	MANUAL	Einkauf Rewe	-7.39€	<input checked="" type="checkbox"/>
29.7.2022	Food	Default Account	MANUAL	Einkauf Rewe	-16€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account	MANUAL	Schwasi	-9.5€	<input checked="" type="checkbox"/>

Rows per page: 10 1–10 of 48

BUDGETLY

Account to visualise
All Accounts

Categories

- Transport
- Sport
 - Tennis
 - Jogging
 - Bouldern
 - Fußball
- Party Life
- Job
- Food
- Uncategorized

+ NEW CATEGORY

Add Category Group

✓ Your Category Group has been added successfully!

OK

Date	Category	Account	Type	Reference	Amount	Verified
29.7.2022	Job	Default Account	MANUAL	SEBA Gehalt	450€	<input checked="" type="checkbox"/>
29.7.2022	Food	Default Account	MANUAL	Starbucks	-10€	<input checked="" type="checkbox"/>

Rows per page: 10 1–10 of 48

Deviations:

- General: we moved all “Save”, “Ok”, “Cancel”, and “Add” buttons to the bottom right corner of our pop ups such that a user always knows where to expect user interaction.
- Add Category: Keywords are no longer added with a button, because we are using the available Material UI components that allow a better UI experience
- Add Category Group: adding categories works with the Material UI component Textfield with Autocomplete instead of using Select in order to allow adding of multiple categories.
- Form validation: a category's/ category group's name is not only required but needs to be unique

Use Case #2: Add a New Transaction Manually

New Transaction

Reference: Feierabendbier

Amount of money in €: -4

Category of Transaction: Bar

Used Account: Default Account

Date	Category	Account	Type	Reference	Amount	Verified
19.7.2022	Bar	Default Account	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>
16.7.2022	Bar	Default Account	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>

Date	Category	Account	Partner	Type	Reference	Amount	Verified
29.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account	-	MANUAL	Bar Bingogewinn	10€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account	-	MANUAL	Schwasi	-9.5€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account	-	MANUAL	Bar Cocktailhouse	-13€	<input checked="" type="checkbox"/>
27.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-8€	<input checked="" type="checkbox"/>
23.7.2022	Bar	Default Account	-	MANUAL	Kneipentour	-18€	<input checked="" type="checkbox"/>
21.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>
20.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>
19.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-8€	<input checked="" type="checkbox"/>
16.7.2022	Bar	Default Account	-	MANUAL	Feierabendbier	-4€	<input checked="" type="checkbox"/>

You have currently spent 57.5€ of 75€ for "Bar" this month.

Deviations:

- Renaming from “Description” to “Reference” to make it consistent with the table on the homepage.
- Instead of sending an error message when a user does not enter a number for the amount, we directly only allow input that matches a regular expression for amounts of money (similar to the “Add Category/Category Group”).
- If a transaction is stored successfully, we do not display it in the pop up but send a notification via the Material UI component “Snackbar”, such that we can directly add the information that is needed for the Budget Alarm. This allows a smoother UI experience with fewer unnecessary clicks.

Use Case #3: Upgrade to a Premium Account

The screenshots illustrate the steps involved in upgrading to a Premium account:

- Screenshot 1: Overview of Premium Features**
A modal window titled "Overview of Premium Features" compares the "FREE PLAN" (€ 0 per month) against the "PREMIUM PLAN" (€ 2.99 per month). The "FREE PLAN" includes "Poor Overviews" (only well-constructed if carefully assigned), "Manual Transaction Input" (need to type each transaction), "Budget Alarm" (no warning if budget limit is exceeded), and "Banner Ads" (ads in the app). The "PREMIUM PLAN" includes "Graphical Overviews" (automatically generated from transaction history), "Automated Transaction Input" (directly generated from bank account), "Budget Alarm" (immediate notification if budget limit is exceeded), and "No Banner Ads" (no ads in the app). A "PROCEED TO PAYMENT" button is at the bottom.
- Screenshot 2: Payment method**
A modal window titled "Payment method" shows a form for entering a credit card number (4242 4242 4242) and expiration date (01 / 23). It also shows the "SEPA-Lastschrift" option and a "Prüfziffer" field (123). Below the form, it says "Mit der Angabe Ihrer Kartendaten erklären Sie sich damit einverstanden, dass localhost:3000 Ihre Karte für zukünftige Zahlungen gemäß seinen Bedingungen belastet." A "UPGRADE NOW" button is at the bottom.
- Screenshot 3: Payment Confirmation**
A modal window titled "Payment Confirmation" displays a green checkmark icon and the message "Thanks a lot for subscribing to Budgetly Premium!". It states that the user profile has been successfully upgraded and a confirmation mail has been sent. It includes a "Shoot us an Email" link and an "Order Review" section showing a 1 Month plan for € 2.99. The background shows the main Budgetly dashboard with transaction history.

Deviations:

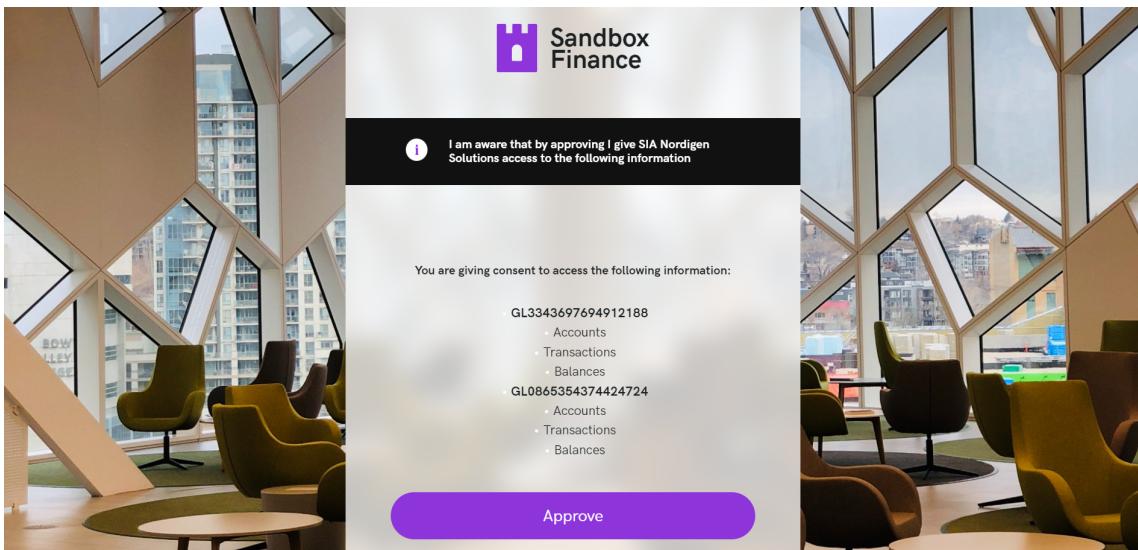
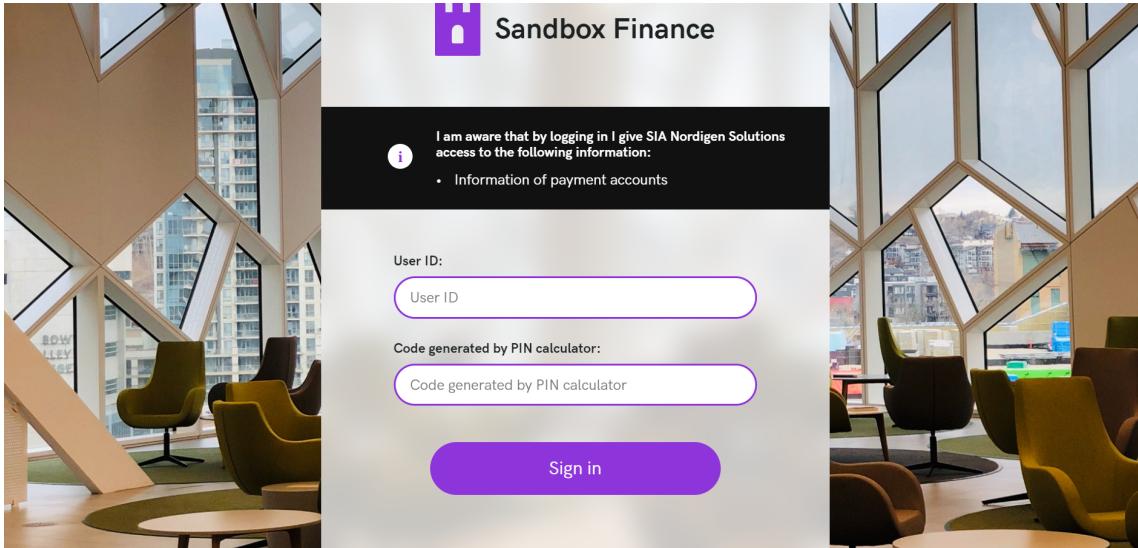
- We abstained from having banner ads because we currently have no real partners for advertisements
- The style of the pop up for upgrading to premium subscription is adapted to be consistent with other pop ups

Use Case #4: Add a New Bank Account

The screenshot shows the Budgetly application interface. On the left is a sidebar with categories: Overview, Sport, Party Life, Bar, Club, Job, Food, and Uncategorized. A button '+ NEW CATEGORY' is at the bottom. The main area displays a table of bank accounts with columns: Date, Category, Account, Partner, Type, Reference, Amount, and Verified. One row is selected, showing 'Default Account - Cash' with a balance of '-57.50€'. The table includes a header row and four data rows. At the top right of the main area are buttons '+ NEW TRANSACTION' and 'Charts'. Below the table is a modal window titled 'Bank Accounts' with the Budgetly logo. It shows 'Default Account - Cash' with 'CURRENCY: EUR' and 'Sam Carter' as the owner. A button 'ADD BANK ACCOUNT' is at the bottom right of the modal. The background table has a footer with 'Rows per page: 10' and '1-10 of 10'.

A modal window titled 'Select Bank' is open, showing a dropdown menu set to 'Germany'. Below it is a list of banks with their logos: 1822direkt, Aachener Bank, ABN AMRO Bank Commercial, Abtsgmündner Bank, Airbus Bank, Airwallex, Aktivbank, Allgäuer Volksbank Kempten-Sonthofen, Alzing-Brucker Genossenschaftsbank, and apoBank. The background table from the previous screenshot is visible behind the modal.

A consent screen from Nordigen is shown. At the top, it says 'tobias.vitt requests access to your **Sandbox Finance** account information'. A note below states: 'This entity has not been verified and can use this service only for development purposes. Do not use this service unless you trust this entity.' Two dropdown menus are present: 'What tobias.vitt will receive' and 'Access details'. At the bottom is a large blue button labeled 'I AGREE'. Below the button, a small note says: 'By using this service and clicking "I Agree", you agree to Nordigen's Terms and Conditions and Privacy Policy.'



BUDGETLY

Overall Balance: -57.50€ Available Balance: 17.50€ Limit: 75€ monthly

Date	Category	Account	Partner	Type	Reference	Amount	Verified
29.7.2022	Bar	Default Account		MANUAL		-13€	<input checked="" type="checkbox"/>
27.7.2022	Bar	Default Account		MANUAL	Feierabendbier	-0.4€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account		MANUAL	Bingogewinn	15€	<input checked="" type="checkbox"/>
29.7.2022	Bar	Default Account		MANUAL	Feierabendbier	-0.4€	<input checked="" type="checkbox"/>

Rows per page: 10 | 1-10 of 10

Select Accounts

Account	
IBAN: GL3343697694912188 Main Account	<input type="checkbox"/>
IBAN: GL0865354374424724 Main Account	<input type="checkbox"/>

SAVE CANCEL

Deviations:

- The list of a user's bank accounts does not present a picture of bank cards but the logo of the bank. Furthermore all necessary information is directly shown in the list such that an additional button is not needed. Edit and Delete buttons are now consistent to the other buttons for editing and deleting by using respective icons.
- If a user chooses to add a bank account, they can select a bank from a list that is filtered by one of five European countries.
- After selecting a bank, the user is forwarded to Nordigen where they can give Budgetly access to chosen bank accounts. In order to conceal sensitive information within the project, we chose to only allow access to the "Sandbox Bank" that holds mock data. Still, the integration with real banks is fully working once the sandbox overwrite flag is removed from the code. In contrast to the mockups, the authentication process with the bank does not take place in our app but users are forwarded to Nordigen and the bank website instead and are redirected to Budgetly when the process of authentication is completed.
- Because the descriptions of Bank Accounts are sufficient to understand, we have omitted the table heads such that the view looks less crowded (i.e. if only one bank account exists for a specific bank).