



SwipeSonic User Guide

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Table of Contents

1. Introduction	3
2. The use case.....	3
3. Installation of the mobile application.....	4
3.1 Step-by-step installation procedure for Android.....	4
3.2 Step-by-step installation procedure for iOS	5
4. Accessing the demo website.....	6
5. Reproducing the demo	6
5.1 Payment service	10
5.2 3DSecure service.....	14
5.3 ShareBill service	18
5.3.1 Free mode	18
5.3.2 Item mode	22
5.3.3 Percent mode	24
6. Support and F.A.Q.....	26



1. Introduction

The purpose of this application is to enable the carrying out of demos based on data transmission through sound waves as a means of communication between devices. It integrates Copsonic technologies for ultrasound (hereinafter called "US").

SwipeSonic is a demo application highlighting the use of the CopSonic US technology for mobile payments. This payment solution is ideal for secured financial services. It is an additional cyber defense tool against phishing, brute force attacks and trackers. In addition to increased security, the end-user experience is simplified.

This demonstration has been developed for Android and iOS environment. It is NOT a final product or a service. This application must be considered as a valid support to enable testing.

In addition to this user guide, a general introduction to ultrasounds is available on the following link:

➤ [Ultrasound General Introduction](#)

2. The use case

The illustrated use case is the online payment between the smartphone and e-merchant website, specifically an online ticketing website open in the browser of a device that can be a computer, smartphone, tablets.

For online payment using US, we currently distinguish two specifics use cases where US bring a major added value:

- The payment process, where US are useful to automatically fill payment form with the credit card information.
- The improvement of 3D Security, using US to generate and automatically fill a 3D Secure code after having manually filled credit card information.

To perform this demo, you will need:

- 1) Smartphone with the mobile application "SwipeSonic". This app is available for Android and iOS. It's specially designed and integrated with CopSonic US technology. The installation process will be explained further in this document.
- 2) Device where the demo website can be opened from a navigation browser.

Website: <https://swipesonic.copsonic.com/>

Internet connection (WiFi, 3G, 4G...) is required on both devices.



3. Installation of the mobile application

The compatible Operating System versions for the smartphone applications are:

Smartphone OS	Android	iOS
Version	4.0+	8.0+

3.1 Step-by-step installation procedure for Android

- 1- Downloaded the demo application using the following link:

CopSonic Store: <https://apps.copsonic.com/ApplicationDetails.aspx?ApplicationId=257>

- 2- Launch the downloaded .apk file to start the installation process.

Before installation from CopSonic Store, your smartphone may inform you that the source is unreliable as it is not downloaded from an official App Store. See more about this issue in the following link:

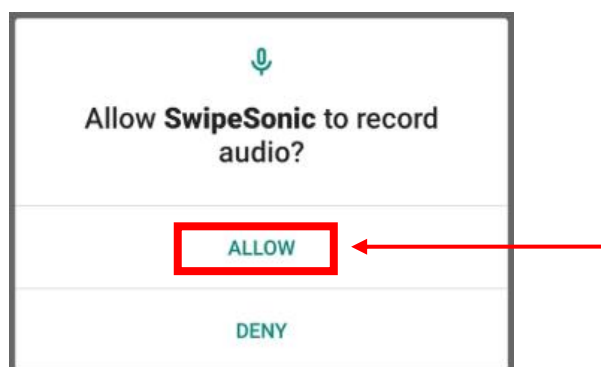
- ⚙️ Allow the installation of external applications.

Once installed, this icon will appear on your device:



- 3- When starting each of the application options, all the necessary permissions will be requested:

- Record Audio: Since the application needs to receive the audio signals through the microphone, this permission must be added.





CopSonic technology is capable of generating ultrasonic audio signals with messages encoded within them, as well as detecting and reconstructing said messages by recording and analysing audio samples that contain them. Typically, the messages are encoded using very high inaudible frequencies and is just those frequencies that are scanned. So, even though the recorded audio covers the whole spectrum of frequencies, CopSonic only looks through the inaudible bands once and does not keep any kind of record whatsoever of any processed audio.

3.2 Step-by-step installation procedure for iOS

- 1- Install the demo application using the following link:

CopSonic Store: <https://apps.copsonic.com/ApplicationDetails.aspx?ApplicationId=265>
- 2- Once the app is installed, when trying to run it, a warning will probably appear that the certificate is not reliable since the app has not been downloaded from Apple's App Store.



The steps to solve this issue are described in the following link:

[Allow the installation of external applications. Activate trusted certificate.](#)

The required permissions are the same as for the Android application. [See the description in the previous section.](#)



4. Accessing the demo website

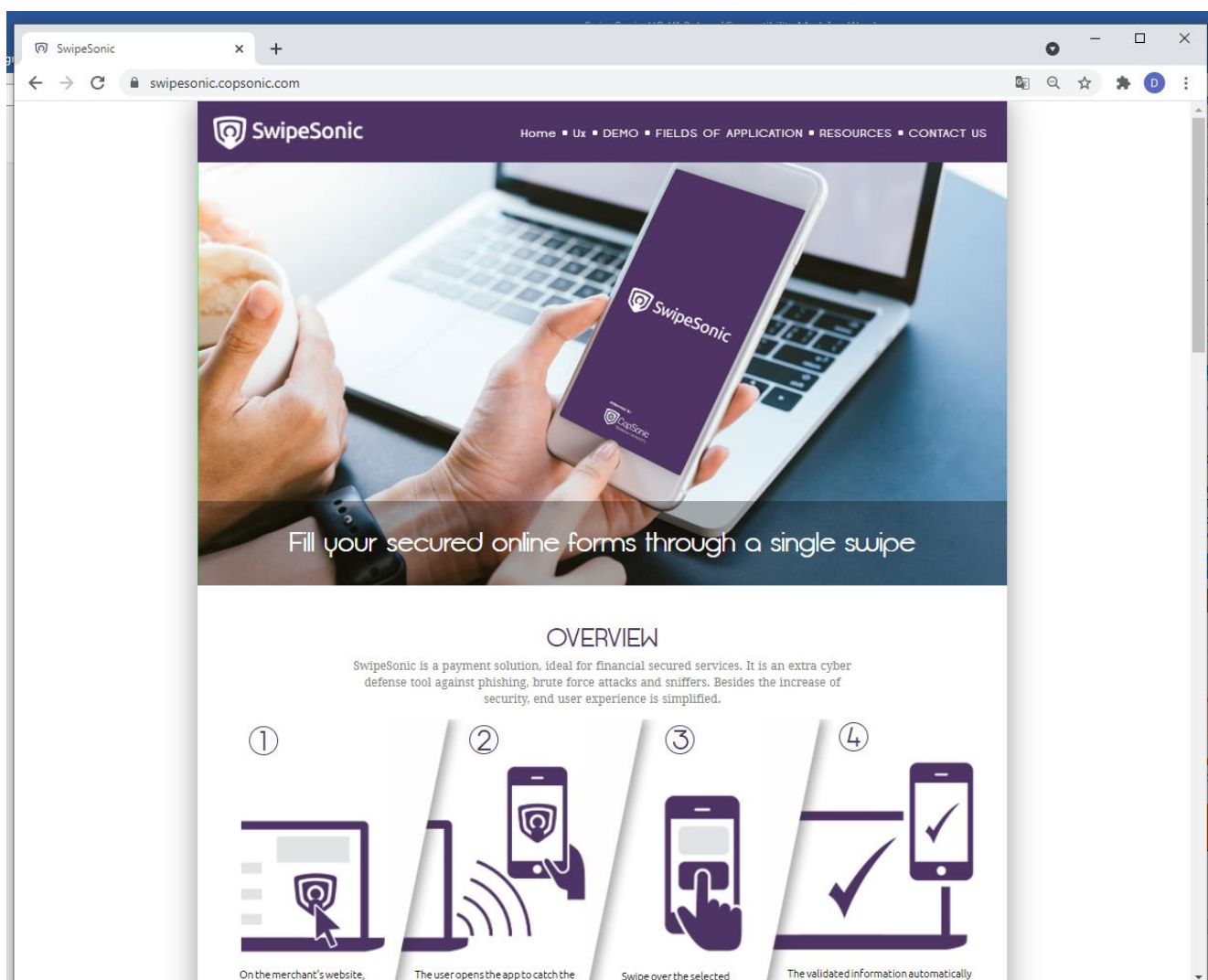
The demo website requires the following minimum browser compatibility:

Browser	Chrome	Firefox	IE	Edge	Safari
Version	68.0	61.0	11.0	42.0	11.0

To know your browser version, please use this link:

<https://lehollandaisvolant.net/tout/tools/browser/>

Within your web browser, open <https://swipesonic.copsonic.com/>

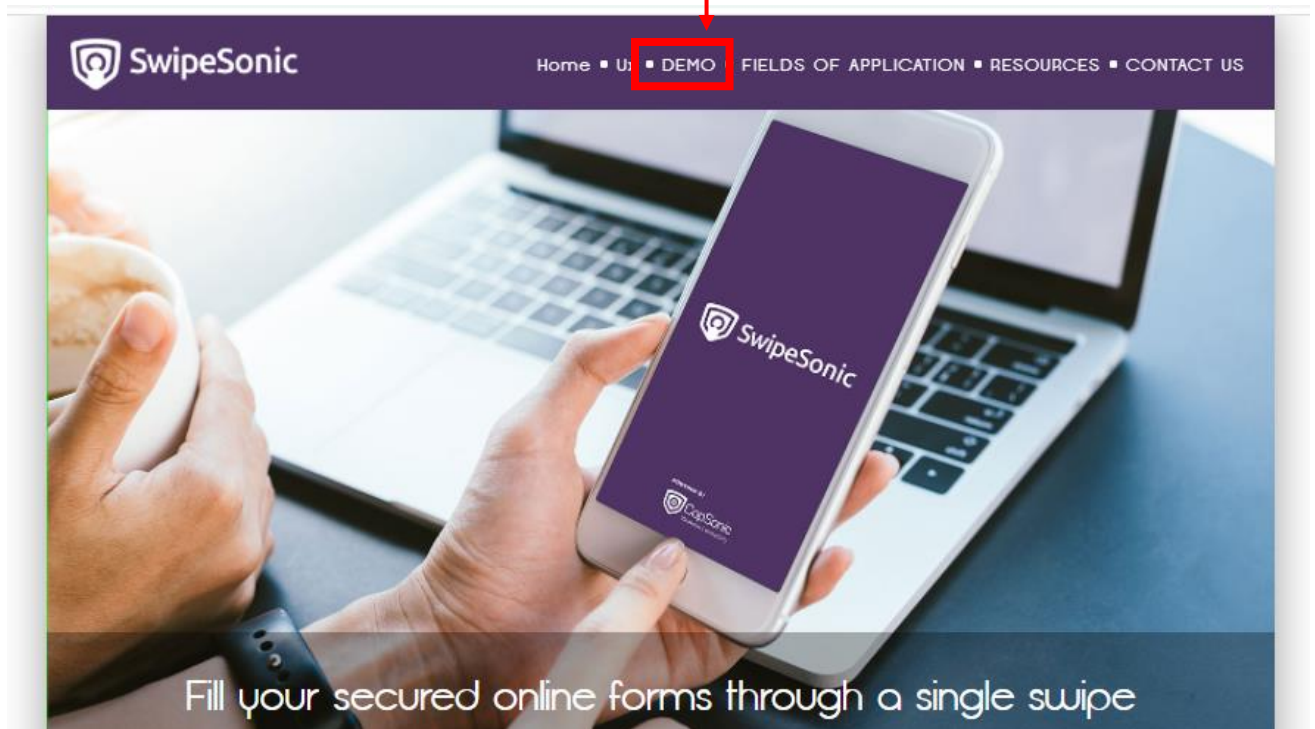


5. Reproducing the demo



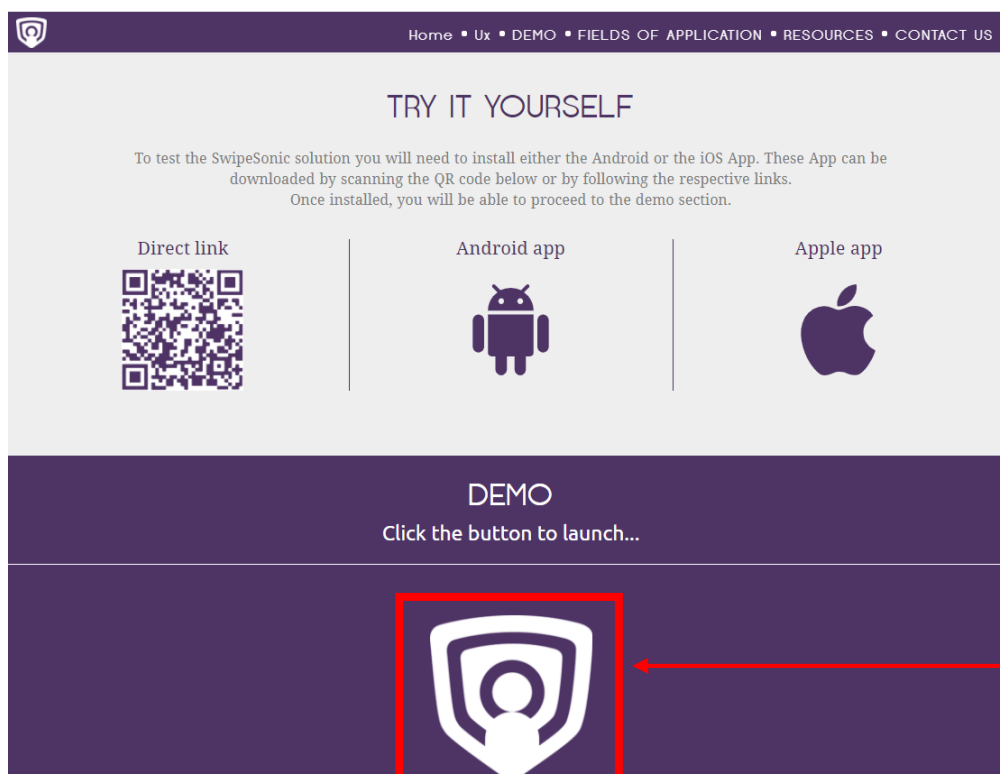
This chapter describes the steps to follow to carry out the demo after installing the demo app on your smartphone and opening the demo website in the browser of the second device.

- 1- Go to the demo section of the website:



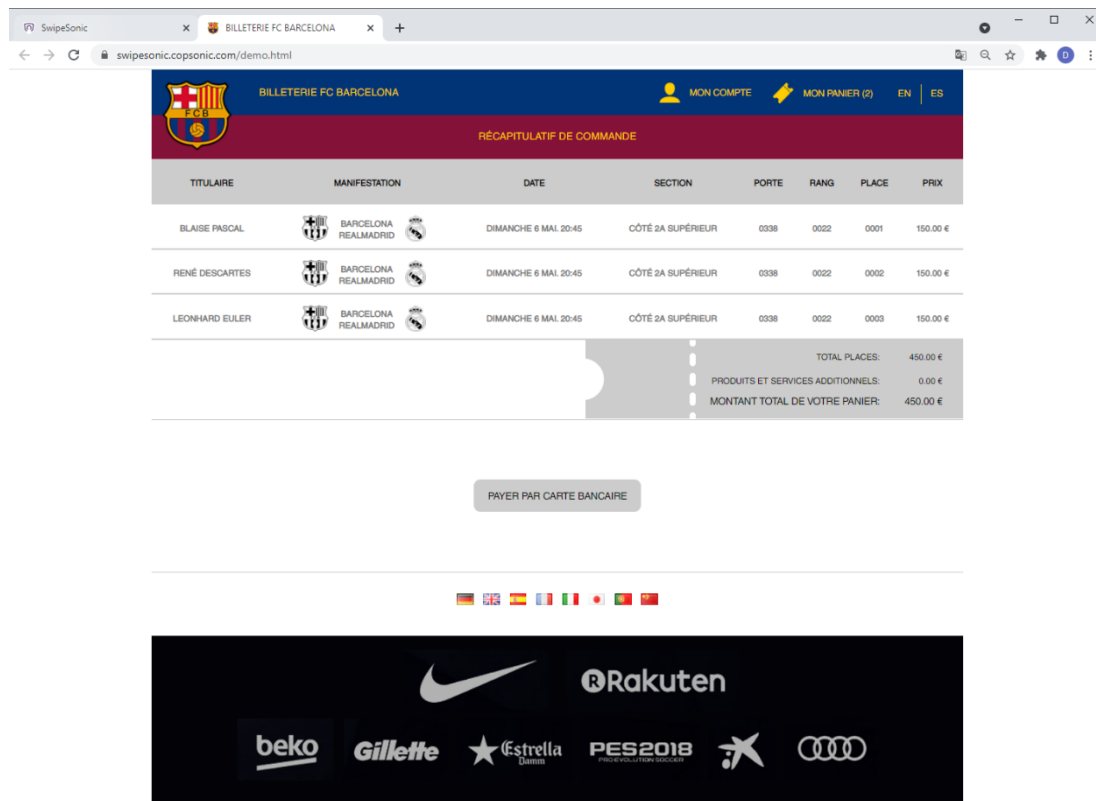
Demo section:

- 2- Click on the logo button

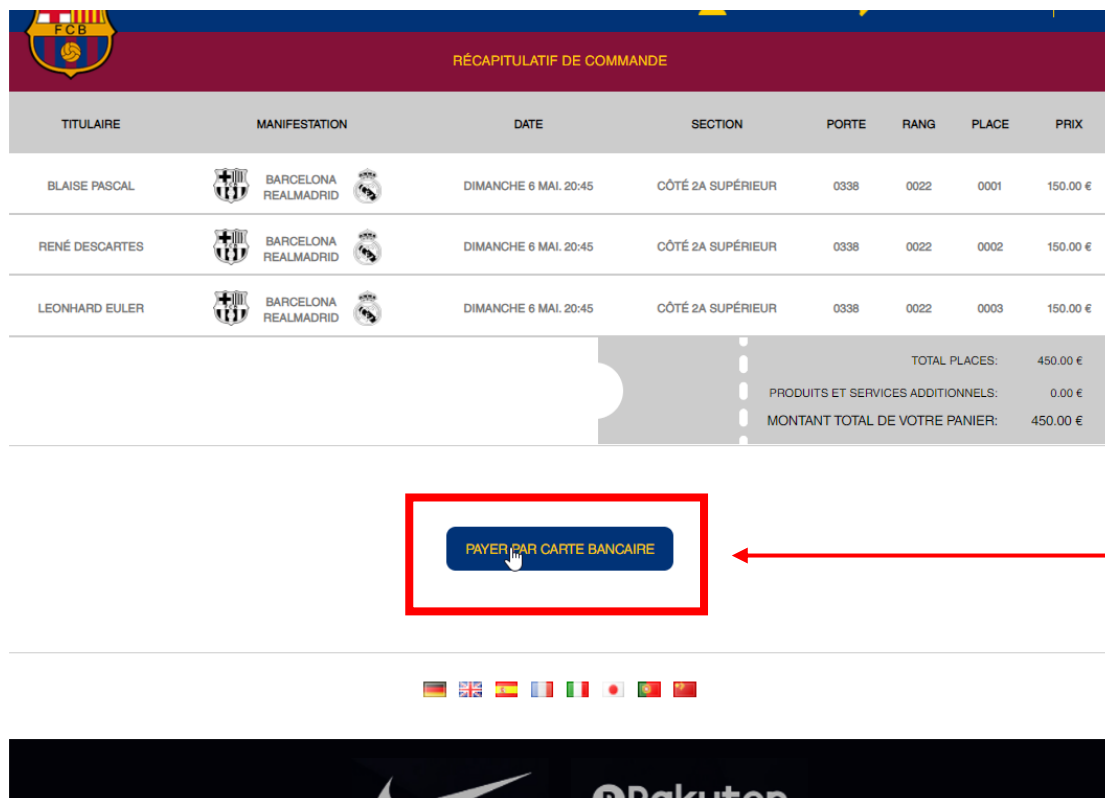




A new page will open in your browser.



3- Click on the «Pay by Credit Card» button:

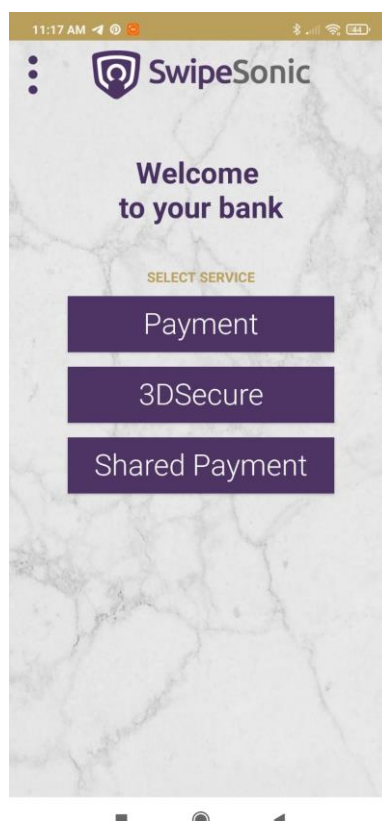




A new page will open in your browser:

The screenshot shows a web browser displaying the payment page for FC Barcelona. The URL is swipesonic.copsonic.com/SystemPayForm.html. The page header includes the FC Barcelona logo and navigation links: MON COMPTE, MON PANIER (2), EN, and ES. The main heading is "PAIEMENT". Below this, there are two sections: "INFORMATIONS SUR LA TRANSACTION" and "PAIEMENT SÉCURISÉ". The transaction details include: ADRESSE URL: <http://www.billetterie.bcn.com/>, IDENTIFIANT DU MARCHAND: 79691094, NUMERO DE TRANSACTION: 375438, COMMANDE N°: 420606, and MONTANT: 450,00 EUR. The payment section prompts the user to "Choisissez votre service de paiement:" and offers three options: "Paielement", "3DSecure", and "Paielement partagé". Below the payment options, there are logos for "Verified by VISA", "MasterCard SecureCode", and the SwipeSonic logo. At the bottom, there is a row of logos for various brands: Nike, Rakuten, beko, Gillette, Estrella Damm, PES2018, and Audi.

4- On the smartphone, once the application is installed just open the app:





This demo offers 3 test services that appear on the screen of both the app and the demo website:

- Payment
- 3DSecure
- Shared Payment

5- Select the service you want to test.

- At the time of the test, the chosen service on the website must correspond to the chosen service in the mobile application. For example, if you choose "Payment" on the demo website, you must also choose "Payment" on mobile app.

The following sections of this document describe how to reproduce each of the demo options.

5.1 Payment service


1- Select the option "Payment" on the demo website.

The screenshot displays the payment interface for BILLETTERIE FC BARCELONA. The top navigation bar includes the club's crest and the text 'BILLETTERIE FC BARCELONA'. On the right, there are links for 'MON COMPTE', 'MON PANIER (2)', and language options 'EN' and 'ES'. The main heading is 'PAIEMENT'. Below this, there are two columns: 'INFORMATIONS SUR LA TRANSACTION' and 'PAIEMENT SÉCURISÉ'. The transaction details include the URL 'http://www.billetterie.bcn.com/', merchant ID '79691094', transaction number '375438', order number '420606', and amount '450,00 EUR'. The payment options are 'Paie ment', '3DSecure', and 'Paie ment partagé'. The 'Paie ment' button is highlighted with a red box, and a red arrow points to it from the transaction number. Below the payment options, there are logos for 'Verified by VISA', 'MasterCard SecureCode', and a Rakuten logo. At the bottom, there is a row of logos including beko, Gillette, Estrella Damm, PES2018, and Audi.



The following screen will open:

The screenshot shows a web browser window with the address bar displaying "swipesonic.copsonic.com/SystemPayForm.html#". The page header includes the FC Barcelona logo and navigation links: "MON COMPTE", "MON PANIER (2)", "EN", and "ES". The main heading is "PAIEMENT".

INFORMATIONS SUR LA TRANSACTION	PAIEMENT SÉCURISÉ
ADRESSE URL : http://www.billetterie.bcn.com/	L'adresse de ce site de paiement préfixée par https indique que vous êtes sur un site sécurisé et que vous pouvez régler votre achat en toute tranquillité.
IDENTIFIANT DU MARCHAND : 79691094	NUMÉRO DE CARTE : <input type="text"/>
NUMÉRO DE TRANSACTION : 375438	EXPIRE FIN : <input type="text"/> mois <input type="text"/> année
COMMANDE N° : 420606	CRYPTOGRAMME VISUEL DE LA CARTE : <input type="text"/> ?
MONTANT : 450,00 EUR	

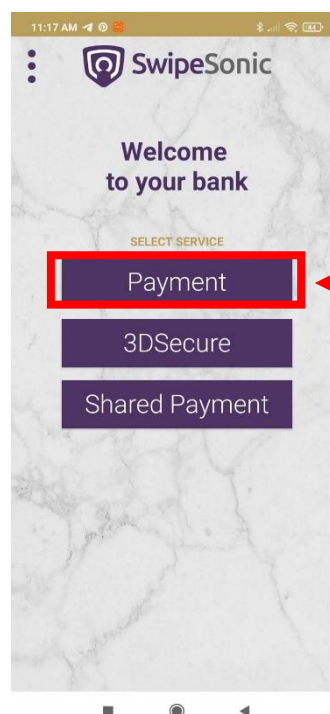
Buttons: VALIDER, ANNULER

Logos: Verified by VISA, MasterCard SecureCode

Language flags: Spain, France, Italy, Japan, etc.

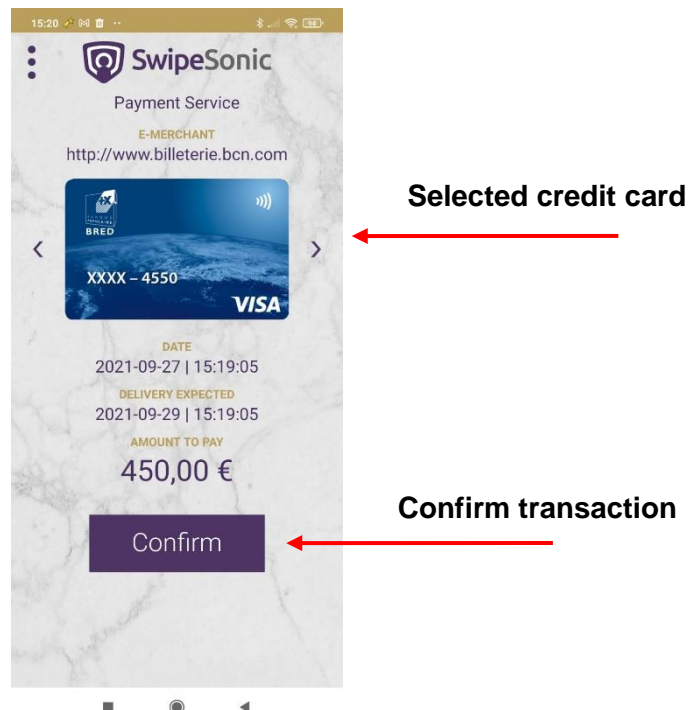
Logos: Nike, Rakuten

2- On the smartphone, select the option "Payment" or just wait some seconds.



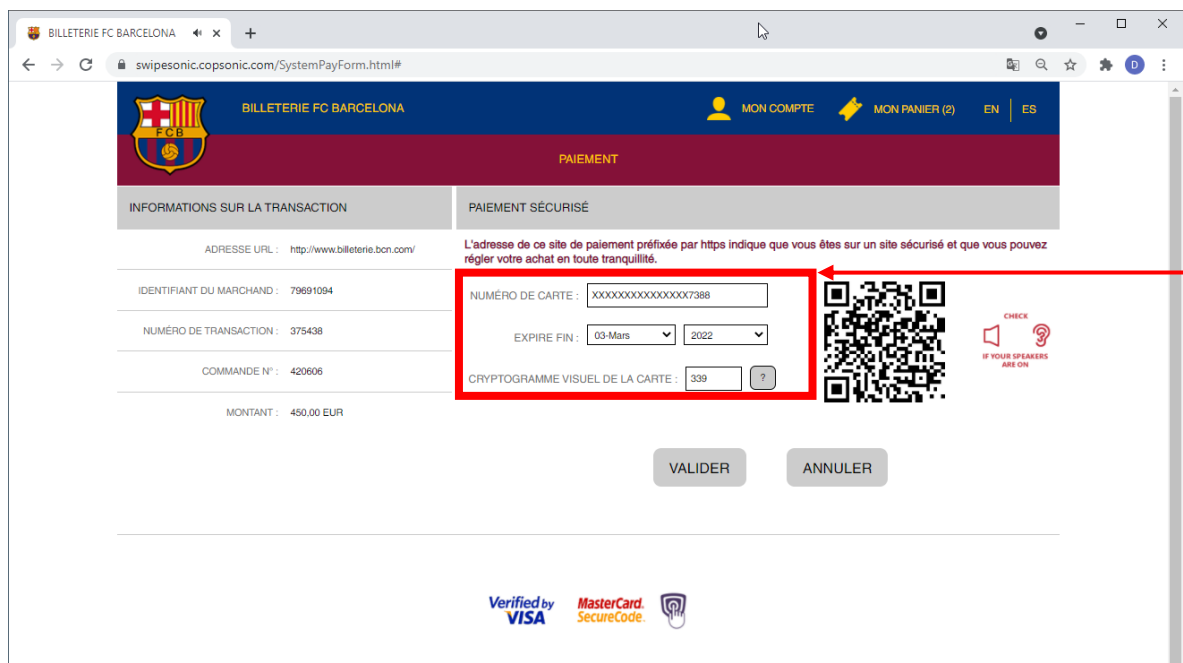


The app automatically shows the payment data:



From this screen you can select your credit card and confirm the transaction by clicking on the “Confirm” button.

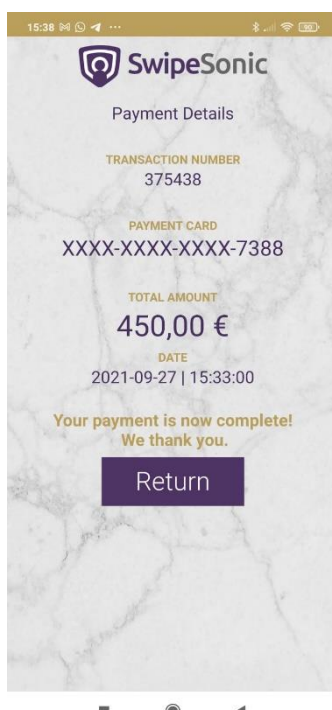
- 3- Click on the “Confirm” button. The credit card details on the website will be filled in automatically:



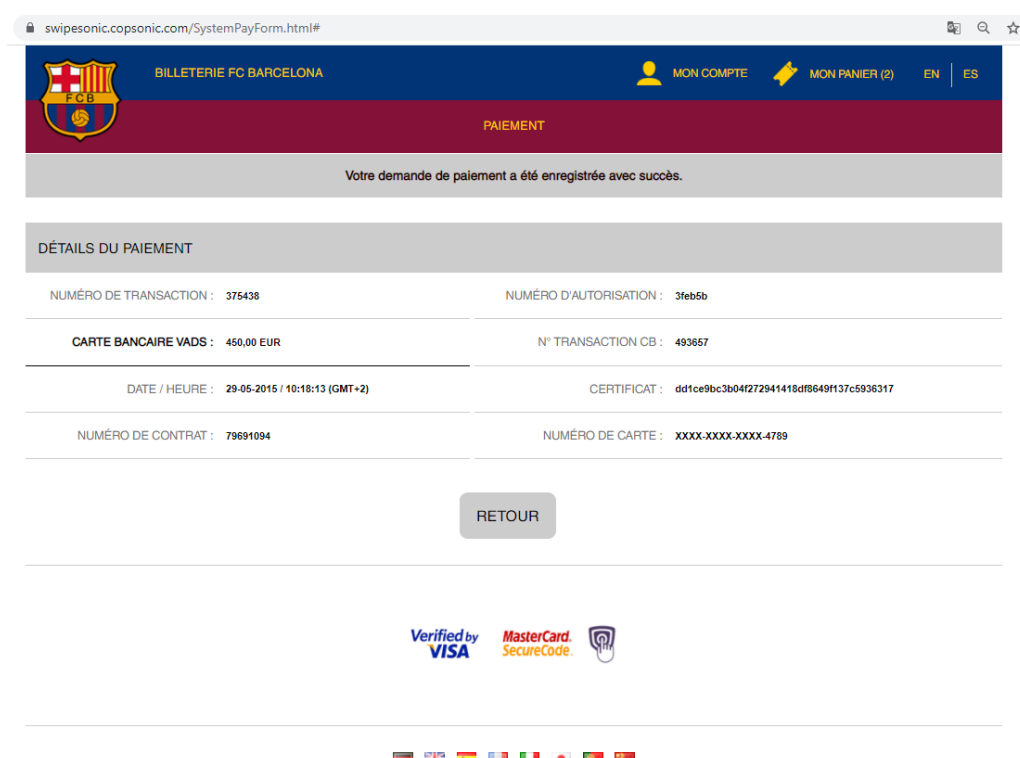
Once the process is successful, the confirmation screen appears in both the app and the website.



App confirmation screen:



Website confirmation screen:





5.2 3DSecure service

- 1- Select the option “3DSecure” on the demo website.

The screenshot shows the payment page for 'BILLETIERIE FC BARCELONA'. The page is titled 'PAIEMENT' and 'PAIEMENT SÉCURISÉ'. On the left, under 'INFORMATIONS SUR LA TRANSACTION', the following details are listed: ADRESSE URL : http://www.billetterie.bcn.com/, IDENTIFIANT DU MARCHAND : 79691094, NUMÉRO DE TRANSACTION : 375438, COMMANDE N° : 420606, and MONTANT : 450,00 EUR. On the right, under 'Choisissez votre service de paiement:', there are three buttons: 'Païement', '3DSecure' (highlighted with a red box and a red arrow), and 'Païement partagé'. Below the buttons, there are logos for 'Verified by VISA', 'MasterCard SecureCode', and a 3D Secure logo. At the bottom, there are flags for various countries.

The following screen will open:

The screenshot shows the payment page for 'BILLETIERIE FC BARCELONA'. The page is titled 'PAIEMENT' and 'PAIEMENT SÉCURISÉ'. On the left, under 'INFORMATIONS SUR LA TRANSACTION', the following details are listed: ADRESSE URL : http://www.billetterie.bcn.com/, IDENTIFIANT DU MARCHAND : 79691094, NUMÉRO DE TRANSACTION : 375438, COMMANDE N° : 420606, and MONTANT : 450,00 EUR. On the right, under 'Choisissez votre service de paiement:', there are three sections: 'PAIEMENT EN 1 FOIS' (with 'Par carte bancaire' and 'Par PayPal' options), 'PAIEMENT EN 4 FOIS' (with 'Par carte bancaire en 4 fois' option), and a 'Choisir' button. The 'Choisir' button is highlighted with a red box and a red arrow pointing to it from the right. The text 'Payment type' is written next to the arrow.

- 2- Select the payment type.
The following screen will open:



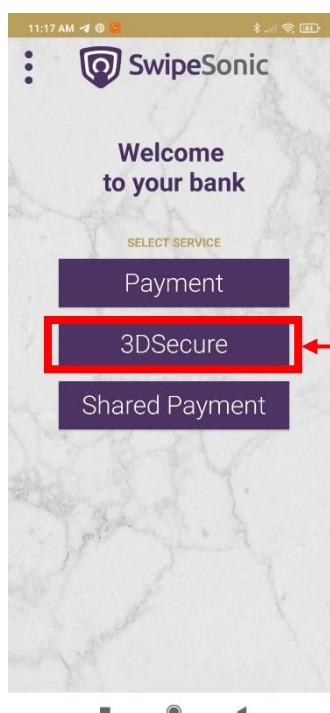
Security code

Validation button

- 3- Fill the “Security Code” and click the “Validation” button.
The following screen will open:



- 4- On the smartphone, select the service “3DSecure” and wait some seconds.



The app automatically shows the received data:

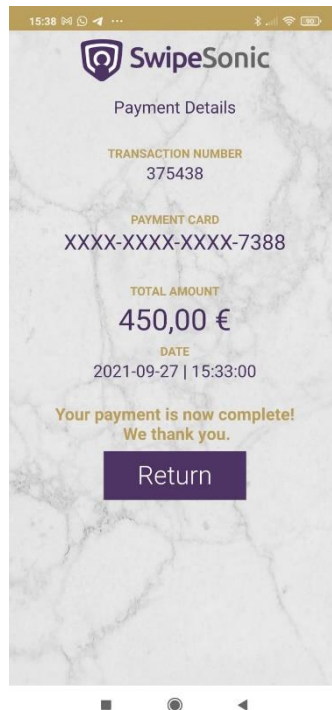


- 5- Click on the “Automatic Filling” button. The validation code on the website will be filled in automatically.

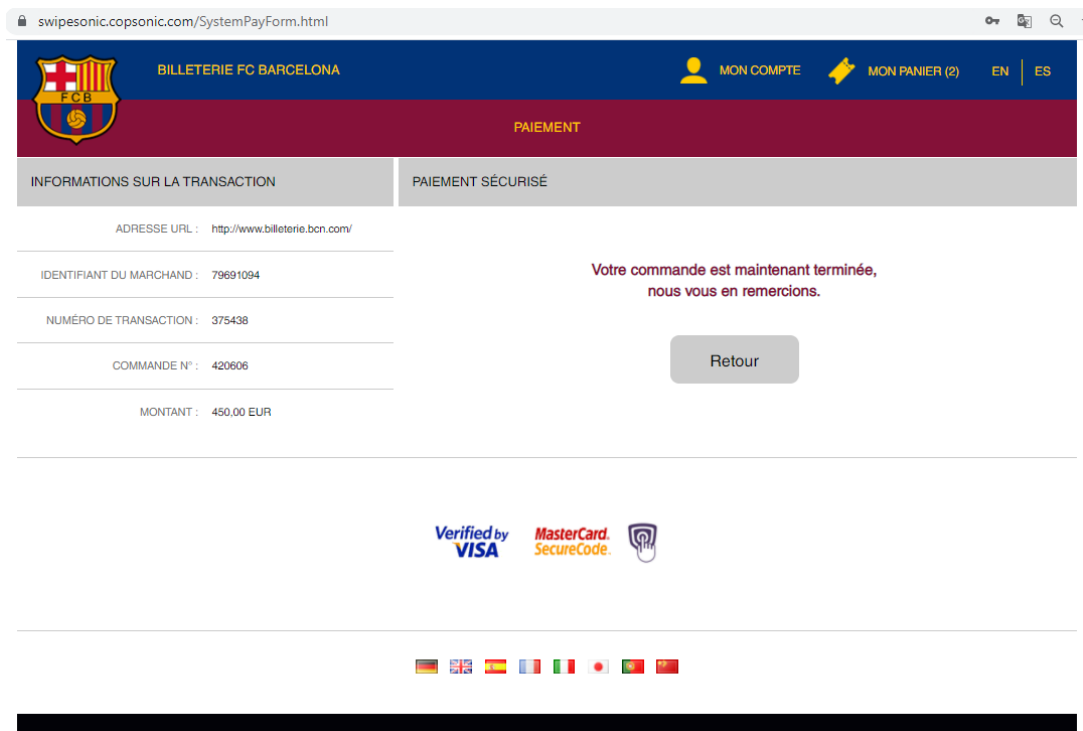


Once the process is successful, the confirmation screen appears in both the app and the website.

App confirmation screen:



Website confirmation screen:





5.3 ShareBill service

swipesonic.copsonic.com/SystemPayForm.html

BILLETIERIE FC BARCELONA

MON COMPTE MON PANIER (2) EN ES

PAIEMENT

INFORMATIONS SUR LA TRANSACTION

ADRESSE URL : <http://www.billetterie.bcn.com/>

IDENTIFIANT DU MARCHAND : 79691094

NUMÉRO DE TRANSACTION : 375438

COMMANDE N° : 420606

MONTANT : 450.00 EUR

PAIEMENT SÉCURISÉ

Choisissez votre service de paiement:

Paielement 3DSecure **Paielement partagé**

The SharedBill service is used to share a payment between multiple smartphones where each one will pay part of the total amount. There are 3 modes to share the payment, any of them can be used and / or changed during the payment.

Modes:

- Free: Each user selects the amount they want to pay
- Items: Each user selects the items they want to pay
- Percent: Each user selects the percentage of the amount they wish to pay

The validation of the payment is only possible when it has been completely paid.

This demo can be run with 1 or multiple smartphones.

The website keeps and updated list of the devices participating in the payment and the details of their payments.

swipesonic.copsonic.com/SystemPayForm.html#

BILLETIERIE FC BARCELONA

MON COMPTE MON PANIER (2) EN ES

PAIEMENT

INFORMATIONS SUR LA TRANSACTION

ADRESSE URL : <http://www.billetterie.bcn.com/>

IDENTIFIANT DU MARCHAND : 79691094

NUMÉRO DE TRANSACTION : 375438

COMMANDE N° : 420606

MONTANT : 450.00 EUR

PAIEMENT SÉCURISÉ

L'adresse de ce site de paiement préfixée par https indique que vous êtes sur un site sécurisé et que vous pouvez régler votre achat en toute tranquillité.

☐ FREE ☒ ITEM(S) ☐ PERCENT

PARTICIPANTS

DEVICE 1: 300.00 EUR

DEVICE 2: 150.00 EUR

MONTANT: 450.00 EUR

EN ATTENTE DE CONFIRMATION

VALIDER ANNULER

☐ ACCEPTER AUTOMATIQUEMENT

100.00 %

150.00 EUR ✓

150.00 EUR ✓

150.00 EUR ✓

MONTANT: 450.00 EUR

CHECK IF YOUR SPEAKERS ARE ON

Share mode

Device's list

5.3.1 Free mode



1- Select the “Free” mode on the website

swipesonic.copsonic.com/SystemPayForm.html#

BILLETTERIE FC BARCELONA

MON COMPTE MON PANIER (2) EN ES

PAIEMENT

INFORMATIONS SUR LA TRANSACTION

ADRESSE URL : <http://www.billetterie.bcn.com/>

IDENTIFIANT DU MARCHAND : 79691094

NUMÉRO DE TRANSACTION : 375438

COMMANDE N° : 420606

MONTANT : 450.00 EUR

PAIEMENT SÉCURISÉ

L'adresse de ce site de paiement préfixée par https indique que vous êtes sur un site sécurisé et que vous pouvez régler votre achat en toute tranquillité.

☒ FREE ☐ ITEM(S) ☐ PERCENT

PARTICIPANTS

AUCUN APPAREIL DÉTECTÉ

MONTANT: 0.00 EUR

CHECK IF YOUR SPEAKERS ARE ON

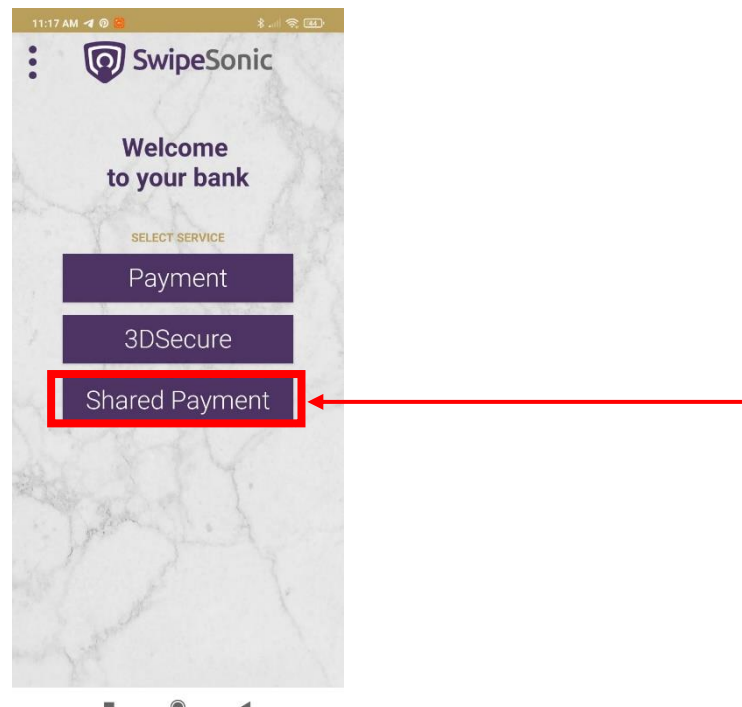
PLUS QUE 450.00 EUR POUR CONTINUER

VALIDER ANNULER

ACCEPTER AUTOMATIQUEMENT

0.00 %

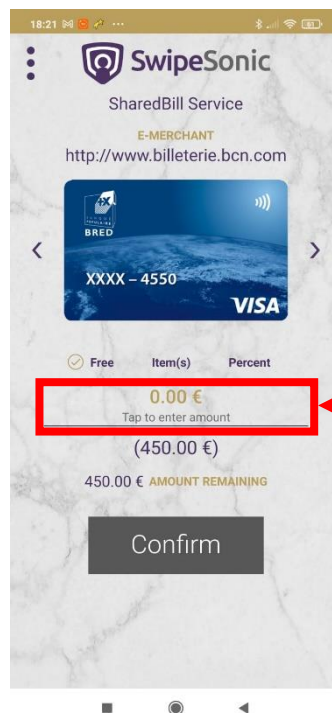
2- On each of the smartphones, select the “Shared Payment” service and wait some seconds.



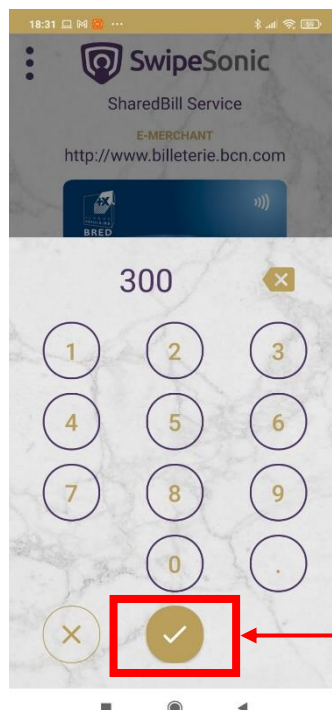
The app will automatically show the payment data.



3- Tab here to enter the amount:

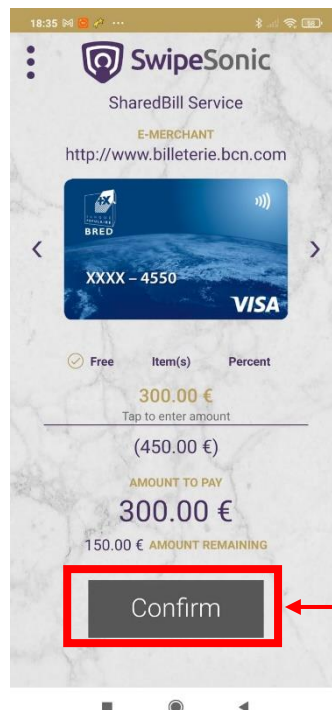


4- Enter the desired amount and click the validation button:





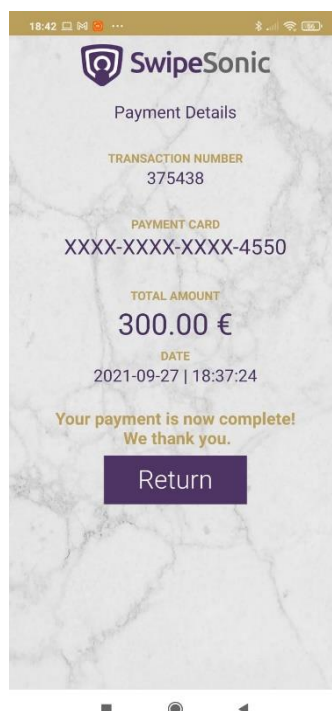
The “Confirm” button is enable when the total amount of the payment is completed between all the smartphones.



5- Click the “Confirm” button.

Once the process is successful, the confirmation screen appears in both the app and the website.

App confirmation screen:





The website confirmation screen shows the details of the payment made by each smartphone:

DÉTAILS DU PAIEMENT: Device 1 (300.00 EUR)	
NUMÉRO DE TRANSACTION:	375438
CARTE BANCAIRE VADS:	300.00 EUR
DATE / HEURE:	09/27/2021 18:37:24
NUMÉRO DE CONTRACT:	79691094
NUMÉRO D'AUTORISATION:	3leb5b
NUMÉRO TRANSACTION CB:	493657
CERTIFICAT:	dd1ce9bc3b04f272941418df8649f137c5936317
NUMÉRO DE CARTE:	XXXX-XXXX-XXXX-4550

DÉTAILS DU PAIEMENT: Device 2 (150.00 EUR)	
NUMÉRO DE TRANSACTION:	375438
CARTE BANCAIRE VADS:	150.00 EUR
DATE / HEURE:	09/27/2021 18:37:24
NUMÉRO DE CONTRACT:	79691094

5.3.2 Item mode

1- Select the "Item" mode on the website

Item share mode

ADRESSE URL : <http://www.billeterie.bcn.com/>

IDENTIFIANT DU MARCHAND : 79691094

NUMÉRO DE TRANSACTION : 375438

COMMANDE N° : 420606

MONTANT : 450,00 EUR

PAIEMENT SÉCURISÉ

L'adresse de ce site de paiement préfixée par https indique que vous êtes sur un site sécurisé et que vous pouvez régler votre achat en toute tranquillité

FREE ☒ ITEM(S) ☐ PERCENT

DEVICES: 0.00 EUR

MONTANT: 0.00 EUR

PLUS QUE 450.00 EUR POUR CONTINUER

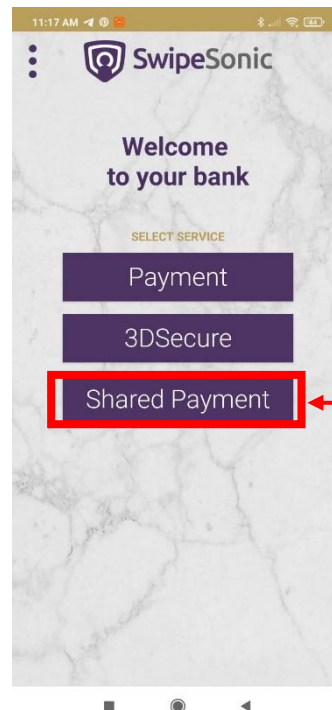
VALIDER ANNULER

ACCEPTER AUTOMATIQUEMENT

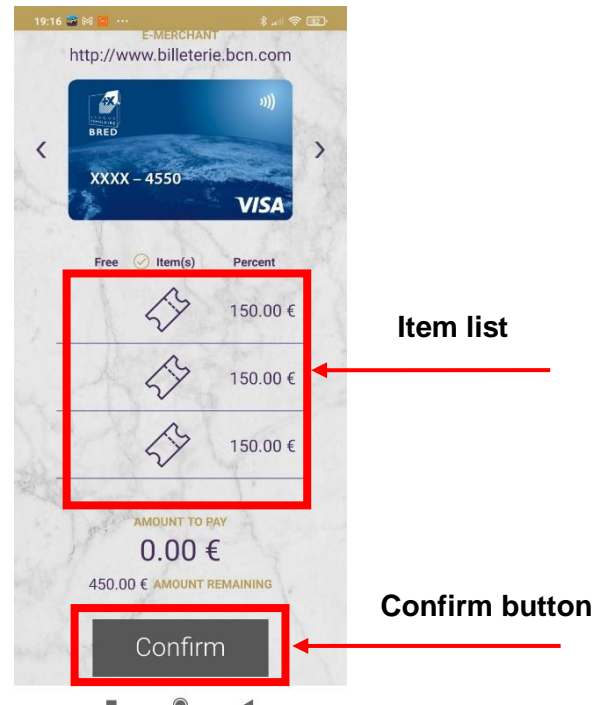
0.00 %



- 2- On each of the smartphones, select the “Shared Payment” service and wait some seconds.



The app will automatically show the payment data.



- 3- Select the item(s) to pay.

The “Confirm” button is enable when the remaining amount is 0.

- 4- Click the “Confirm” button.



Once the process is successful, the confirmation screen appears in both the app and the website.
[See the pictures in the previous section](#)

5.3.3 Percent mode

1- Select the “Percent” mode

swipesonic.copsonic.com/SystemPayForm.html#

BILLETTERIE FC BARCELONA

MON COMPTE MON PANIER (2) EN ES

PAIEMENT

INFORMATIONS SUR LA TRANSACTION

ADRESSE URL : <http://www.billetterie.bcn.com/>

IDENTIFIANT DU MARCHAND : 79691094

NUMÉRO DE TRANSACTION : 375438

COMMANDE N° : 420606

MONTANT : 450.00 EUR

PAIEMENT SÉCURISÉ

L'adresse de ce site de paiement préfixée par https indique que vous êtes sur un site sécurisé et que vous pouvez régler votre achat en toute tranquillité.

FREE ITEM(S) **PERCENT**

AUCUN APPAREIL DETECTÉ

MONTANT: 0.00 % (0.00 EUR)

CHECK IF YOUR SPEAKERS ARE ON

PARTICIPANTS

PLUS QUE 450.00 EUR POUR CONTINUER

VALIDER ANNULER

ACCEPTER AUTOMATIQUEMENT

0.00 %

Percent share mode

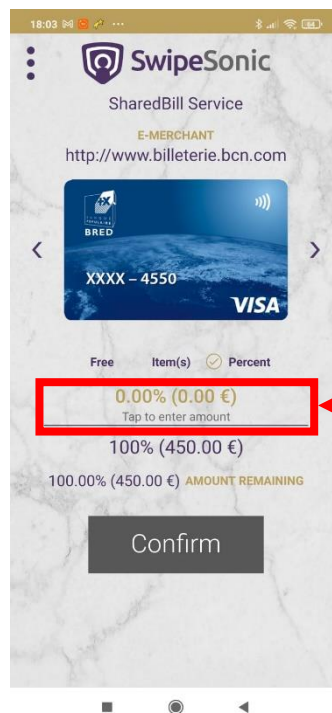
2- On each of the smartphones, select the “Shared Payment” service and wait some seconds.



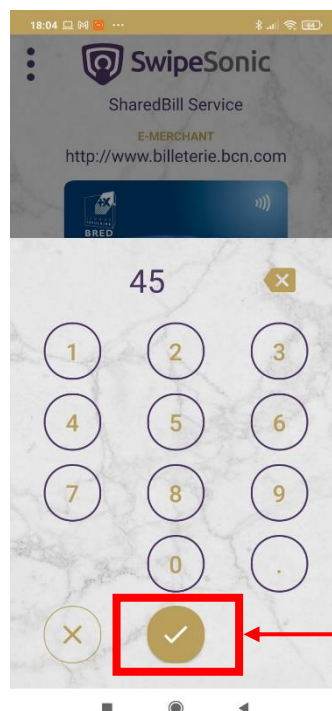
The app will automatically show the payment data.



5- Tab here to enter the percent:



6- Enter the desired percent and click the validation button:





The “Confirm” button is enable when the remaining amount is 0.

7- Click the “Confirmation” button.

Once the process is successful, the confirmation screen appears in both the app and the website.

[See the pictures in the previous section](#)

6. Support and F.A.Q

Do not hesitate to contact us for assistance or further information:

- By mail: support@copsonic.com
- By phone: +33 563 67 81 20