

HLSE602 – Projet Annuel CMI :
LaRuche (Compte Rendu # 1)

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2 décembre 2017

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Chapitre 1

Introduction

1.1 Contexte du projet

Dans ce compte rendu, nous nous consacrons à la description détaillée de la phase de conception du projet intitulé **LaRuche** à effectuer au sein du **LIRMM** (Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier) dans le cadre du module **HLSE602 – Projet Annuel CMI** de la 3^e année de licence en **CMI** (Cursus Master Ingénierie).

Le projet se déroule sous l'encadrement de Mme Anne-Elisabeth Baert en tant que responsable de la formation CMI informatique et M. Eric Bourreau, enseignant/chercheur au sein du LIRMM dans l'équipe **MAORE** (Méthodes Algorithmes pour l'Ordonnancement et les Réseaux) ([LIRMM n.d.a](#)), en tant que responsable pédagogique et encadrant du projet.

Le sujet du projet couvre la création d'un site web dédié comme interface de communication entre vendeurs de produits locaux et leurs clients. Il est inspiré du site [La Ruche Qui Dit Oui](#) traitant le même thème et répondant aux mêmes besoins, mais cherche à faire les choses d'une façon différente, surtout au niveau de la logistique et de l'architecture du site, afin de fournir une vision différente, voire plus optimisée de la gestion des interactions directes entre clients et vendeurs.

Nous commencerons ce compte rendu en annonçant le contexte du projet, puis nous présenterons LIRMM, les problématiques adressées et traitées dans le cadre du projet, la méthodologie adoptée pour modéliser le problème et y proposer des solutions ainsi que les outils de modélisation et le planning prévisionnel pour répartir les tâches à effectuer dans un cadre spatio-temporel valable. Enfin, nous concluons en discutant l'implémentation prévue de l'application modélisée et les perspectives.

1.2 Présentation du LIRMM

« Le [...] – LIRMM – est une unité mixte de recherche, dépendant conjointement de l’Université Montpellier et du Centre National de la Recherche Scientifique [(CNRS)]. Il est situé sur le Campus Saint-Priest de l’UM [(Figure 1.1)]. »



FIGURE 1.1 – bâtiment 3 du LIRMM, Campus St. Priest

Les travaux sont menés dans trois départements scientifiques de recherche, [(L’Informatique, La Robotique, et La Microélectronique)] eux-mêmes organisés en « équipes-projet ».

Les recherches menées au LIRMM trouvent généralement une finalisation dans des domaines applicatifs aussi divers que la biologie, la chimie, les télécommunications, la santé, l’environnement... et dans les domaines propres du laboratoire : l’informatique, l’électronique et l’automatique.

Ses activités de recherche [le] positionnent [...] pleinement au coeur des sciences et technologies de l’information, de la communication et des systèmes. [En particulier,] les thématiques du département Informatique s’étendent des frontières des mathématiques à la recherche appliquée : algorithmique des graphes, bioinformatique, cryptographie, réseaux, bases de données et systèmes d’information [...], génie logiciel [...], intelligence artificielle [...], interaction homme-machine [...]. » ([LIRMM n.d.b](#))

Chapitre 2

Problème, Méthodologie, Outils et Planning

2.1 Problème

2.2 Méthodologie

2.3 Outils

2.4 Planning prévisionnel

Chapitre 3

Conception

3.1 *User Stories*

Dans cette section nous illustrons les *user stories* que nous avons rédigés pour identifier les fonctionnalités du système conçu :

3.1.1 Index Page

User Story 1 (Account Creation)

*As a **client**/**vendor** user, I want to have my own **personal account**,
so that I can have my own **preferences** and my **history of purchases/sales**.*

User Story 2 (Account Creation via Other Platforms)

*As a **client**/**vendor** user, I want to be able to **sign-up** using my Facebook/Google account,
so that I don't have to **fill up forms** and also **sync my data** between different online platforms.*

User Story 3 (Simultaneous Client/Vendor Account)

*As a **client**/**vendor** user, I want to be able to consult the website as **both** a **purchasing client** and a **vendor** (in case I am both) on the website,
so that I get to **enjoy the website** in both **consumption** and **production** modes without having to sign-off and sign-in every time I want to switch between the modes.*

User Story 4 (Footer Menu)

*As a **client**/**vendor** user, I want to be able to consult a **menu** in the **footer of the index page** of the website,
so that I get to learn about the usage of the website through **FAQs**,*

*understand what I can and cannot do through the **terms and conditions of usage**, get informed about the **creators of the website**, etc...*

3.1.2 Home Page

User Story 5 (Home Personal Settings)

*As a **client**/**vendor** user, I want a **personalized user experience** with respect to my **preferences** and **history of purchases/sales** in the **settings**,*

*so that I get to **visualize information** that are **relevant to my needs** while simultaneously preserving my **online privacy**.*

3.1.3 Searching

User Story 6 (Search Results)

*As a **client**/**vendor** user, I want to **visualize information** about products, vendors, and cells in my search results,*

*so that I get to have the **necessary amount of information** about them while surfing for **products to purchase** or **vendors/hives to consult**.*

User Story 7 (Search Parameters)

*As a **client**/**vendor** user, I want to **sort my search results** according to **parameters** such as stock information, harvest date, expiry date, price, proximity, popularity, vendor, category, list of similar products, etc...,*

*so that I get to **personalize my search results** according to my **needs**.*

User Story 8 (Search Features)

*As a **client**/**vendor** user, I want to use some **searching features** like **auto-completion**, **highlighting**, **visuals**, etc...,*

*so that I get to **search quickly, easily and intuitively** through for information.*

3.1.4 Communication

Instant Messaging

User Story 9 (Client \leftrightarrow Vendor and Vendor \leftrightarrow Client/Vendor IM)

*As a **client**/**vendor** user, I want to be able to **communicate** with a specific client/vendor privately in an instant message environment,*

*so that I get to **inquire more about specific information** concerning **products** or **hive cells** or other topics.*

Email

User Story 10 (Client \leftrightarrow Vendor and Vendor \leftrightarrow Client/Vendor Email)

*As a **client**/**vendor** user, I want to be able to communicate with a specific client/vendor privately via email,*

so that my inquiries get to reach them as soon as possible on their emails in case they didn't consult their website account regularly.

3.1.5 Products & Logistics

Product Review

User Story 11 (Product Reviews)

*As a **client**/**vendor** user, I want to consult reviews (As a **client**/**vendor** user) about **products** and write them (As a **client** user only),*

so that I get to make informed purchasing decisions and evaluate the experience to benefit other future users.

Product Management

User Story 12 (Product Definition and Online Storage)

*As a **vendor** user, I want to define my product selection according to specific **descriptive properties** allowing me to divulge as much information about a product as possible,*

so that I get to maximize transparency about my products and gain customer loyalty while easily and intuitively managing¹ my product selection through the website.

User Story 13 (Basket Offers)

*As a **vendor** user, I would like to propose baskets of different products,*

so that I get to offer a diversified selection of my products and increase revenue.

User Story 14 (Periodical Product Reports)

*As a **vendor** user, I want to have access to **statistical reports** about the movements of products and stocks,*

so that I get to analyze the market and define my supply and demand methodology accordingly.

1. creating, modifying, removing, adding

Logistics

User Story 15 (Depletion of Stock Policy)

*As a **vendor** user, I want to maximize my selling rate to the point of stocks' near-depletion,*

so that I get to have the least surplus of products in my stock as possible and make more profit.

User Story 16 (Hive Product-Sharing Policy)

*As a **vendor** user, I want to have the possibility of exchanging my products with vendors from other cells in the hive, to offer their products in my cells and have my products offered in theirs,*

so that we all benefit from a mutual market expansion and extended revenue surface.

User Story 17 (Relay and Location-Independent Delivery System)

*As a **client** user, I want to be capable of having my purchases delivered to a desired location nearby a cell collection event or to a fixed relay center of distribution if possible,*

so that I get to collect my purchases conveniently wherever and whenever possible, without having to attend a hive cell collection event myself.

User Story 18 (Cell Collection Notifications)

*As a **client/vendor** user, I want to have the option of receiving notifications about hive cell collection events near me, regardless whether or not I'm supposed to participate in them (not necessarily having purchased anything that I have to collect),*

so that I get to know when and where to pick up my purchased products or simply be in touch with nearby activity.

3.1.6 Order & Payment

Order

User Story 19 (Shopping Cart)

*As a **client** user, I would like to add the products I wish to purchase to a virtual shopping cart,*

so that I get to follow my shopping progress and visualize the quantity of selected products, their individual prices, and their total price.

User Story 20 (Time of Collection Selection)

*As a **client** user, I would like to choose when to collect my purchased products from the available time slots,*

so that I get to collect them conveniently without troubling my personal schedule.

User Story 21 (Purchase Deadline)

*As a **vendor** user, I would like to impose specific **deadlines** on certain product orders,
so that I get to **customize my supply and demand parameters** while processing pending orders accordingly.*

User Story 22 (Delayed Orders)

*As a **vendor** user, I would like to offer my customers the chance to make **delayed orders** for certain **out-of-stock products**,
so that I don't lose my share of the market when certain stocks of products are depleted.*

User Story 23 (Order Validation)

*As a **vendor** user, I would like to **manually or automatically validate purchase transactions**,
so that I get to **customize my control** over the **transactions** according to my **products stocks**.*

Payment

User Story 24 (Payment Methods)

*As a **client** user, I would like to have **secure online payment methods** through my **personal bank/PayPal account**,
so that I protect my **financial credentials** and complete my **purchases** reliably.*

User Story 25 (Digital Wallet)

*As a **client** user, I would like to have a **digital wallet** associated to my **own personal account** that contains **digital currency points** I collect from my website activity,
so that I benefit from **reductions** while purchasing certain products, defined according to the **number of points** I have **collected** through my website activity.*

User Story 26 (Vendor Automatic Money Transfer)

*As a **vendor** user, I would like to have the **money** gained at the end of a transaction **transferred directly** into my **bank/Paypal account**,
so that I get to **update my bank balance** automatically.*

User Story 27 (Receipt)

*As a **client/vendor** user, I would like to receive a **receipt** at the end of a **transaction** via **sms and email**, and have my **history of purchases/sales** updated,
so that I get to keep **track** of my **purchases/sales** through **different media** for larger **accessibility** and **data integrity**.*

User Story 28 (Purchase Cancellation & Reimbursement Policy)
*As a **client** user, I would like to have the possibility of **cancelling a purchase** within a **specific period** of its occurrence,
so that I would get a **full/partial reimbursement** following the faulty purchase.*

3.2 Diagrammes *use-case*

3.2.1 Page d'accueil du site

Le diagramme *use-case* correspondant aux *user-stories* sur la page d'accueil du site est dans la figure 3.1.

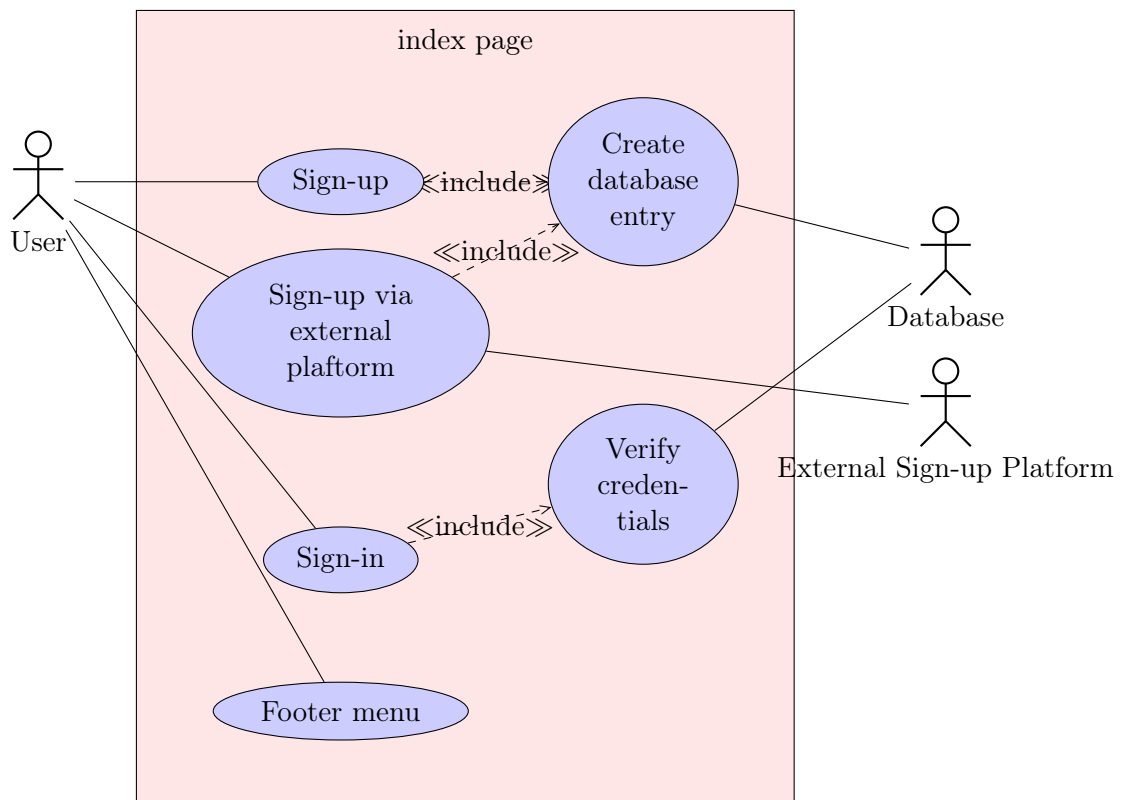


FIGURE 3.1 – Use case diagram of index page functionalities.

3.2.2 Page d'accueil des utilisateurs

Le diagramme *use-case* correspondant aux *user-stories* sur la page d'accueil des utilisateurs (client/vendeur) du site est dans la figure 3.2

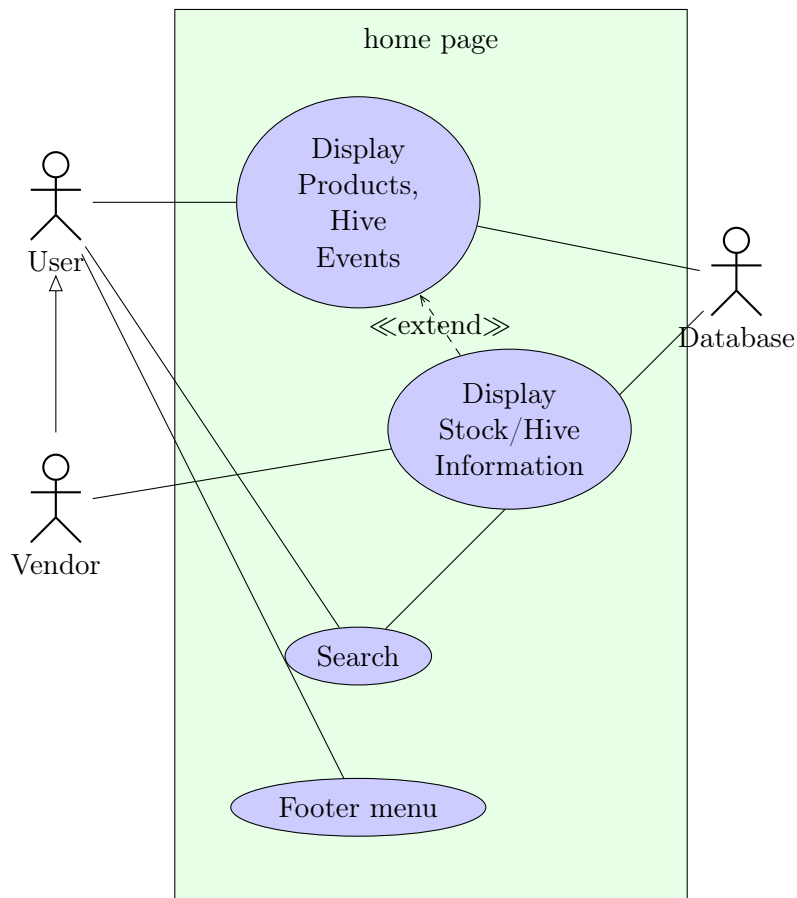


FIGURE 3.2 – Use case diagram of Home Page functionalities.

3.2.3 Recherche

Le diagramme *use-case* correspondant aux *user-stories* sur la recherche au sein du site est dans la figure 3.3

3.2.4 Communication

Les diagrammes *use-case* correspondant aux *user-stories* sur la communication au sein du site sont respectivement dans les figures 3.4 et 3.5.

3.2.5 Produits

Les diagrammes *use-case* correspondant aux *user-stories* sur les produits sont respectivement dans les figures 3.6 et 3.7.

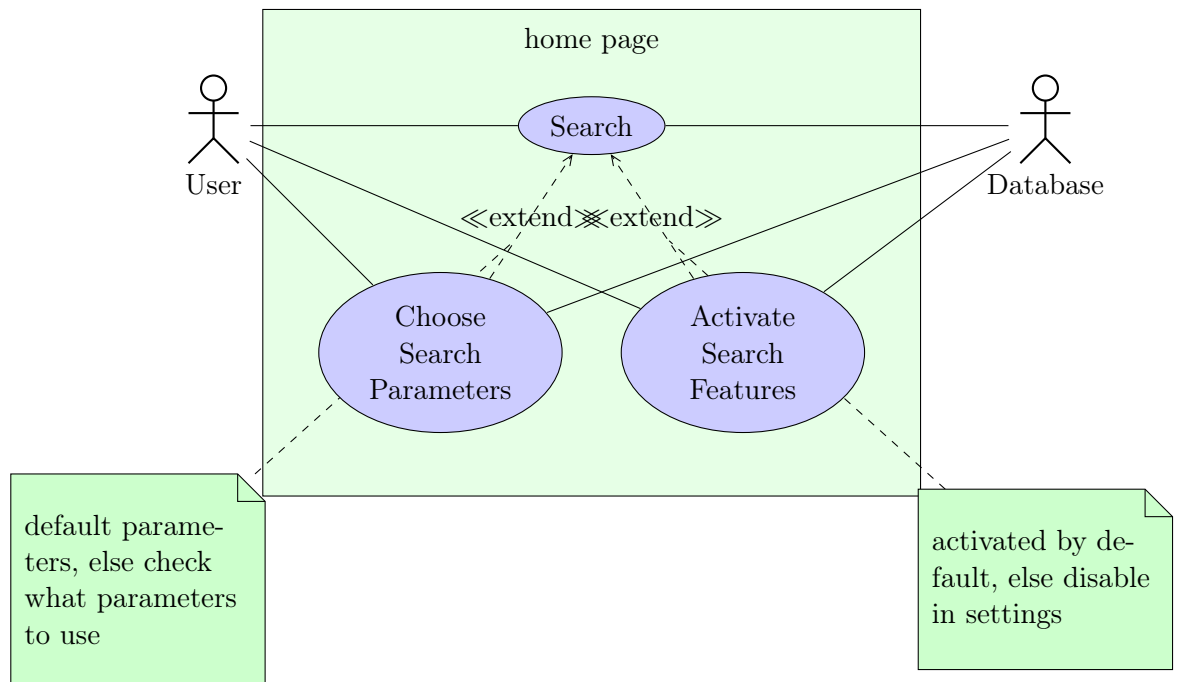


FIGURE 3.3 – Use case diagram of searching functionality.

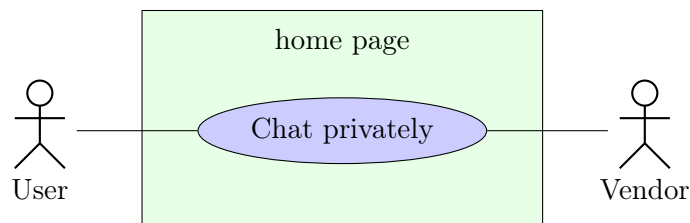


FIGURE 3.4 – Use case diagram of private instant messaging between client/vendor and vendor.

3.2.6 Commandes & Paiement

Les diagrammes *use-case* correspondant aux *user-stories* sur les commandes et paiements sont respectivement dans les figures 3.8 et 3.9.

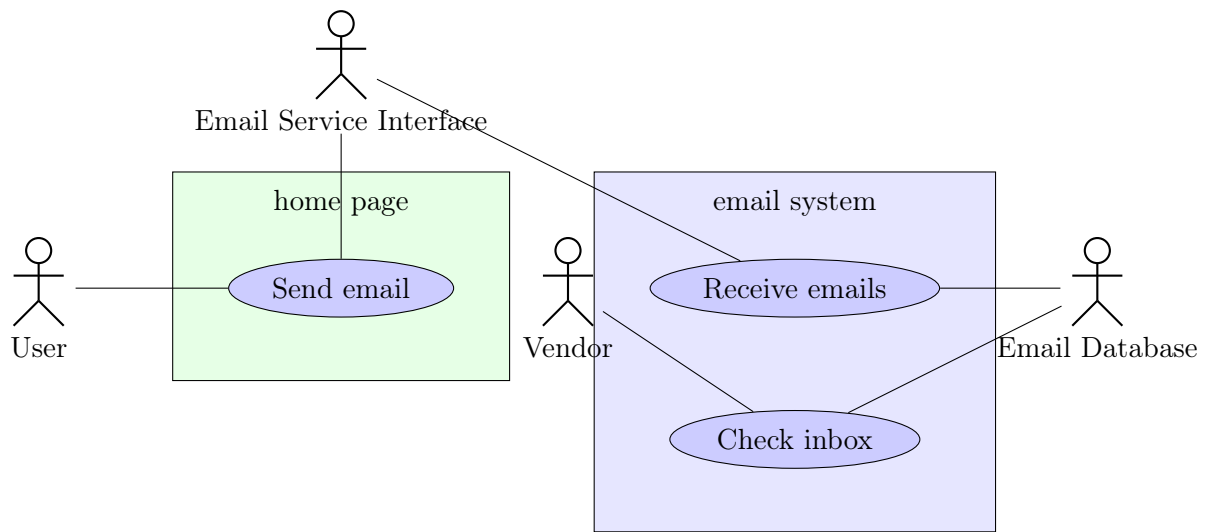


FIGURE 3.5 – Use case diagram of an email functionality between client/vendor and vendor.

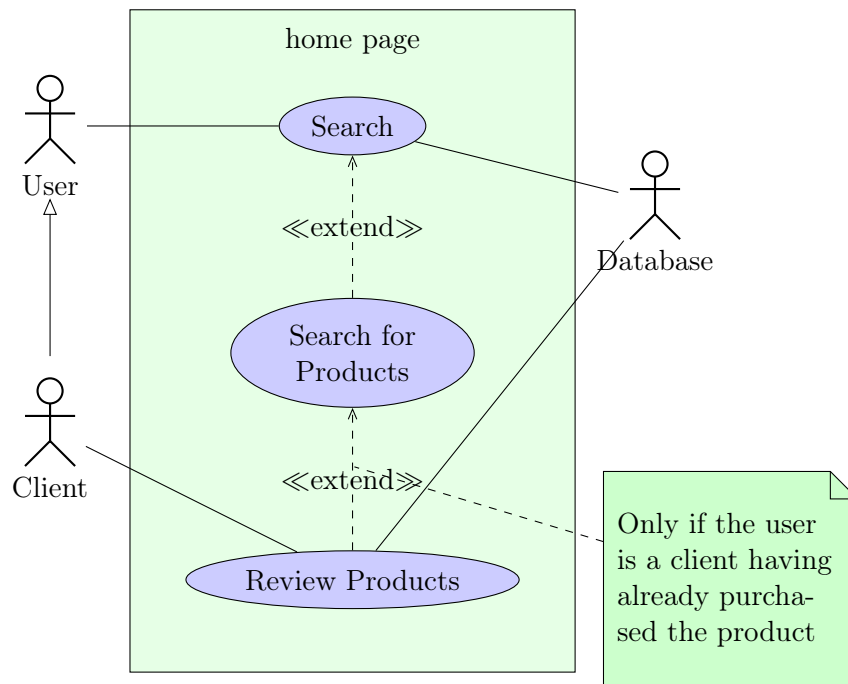


FIGURE 3.6 – Use case diagram of product reviewing functionality.

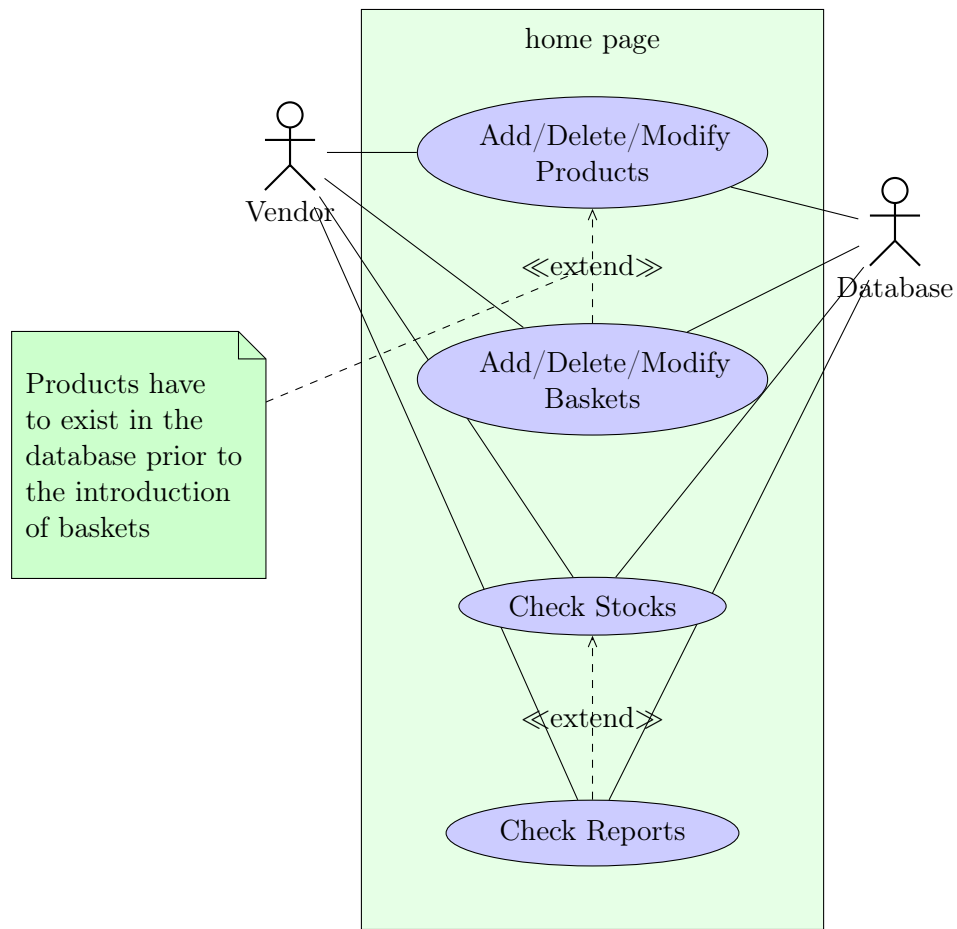


FIGURE 3.7 – Use case diagram of product management functionality.

3.3 Structure de données proposée (Cellule et Ruche)

3.4 Modèle EA

3.5 Schéma de base de données

3.6 Storyboard



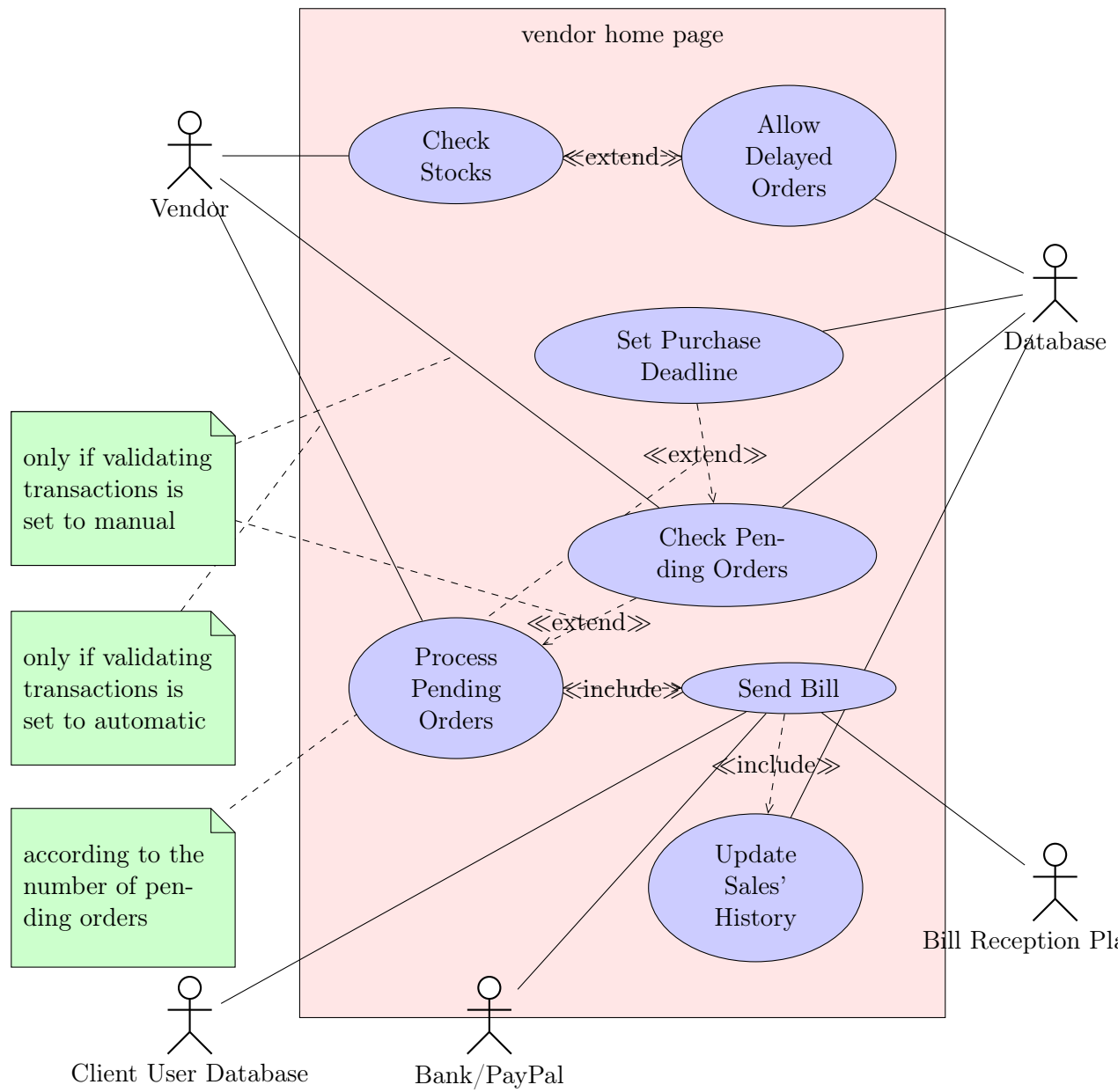


FIGURE 3.9 – Use case diagram of Order and Payment functionalities viewed from the vendor user side.

Chapitre 4

Conclusion

4.1 Implémentation prévue

4.2 Perspectives

Bibliographie

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