Product Requirements Document v1

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Company Name: PayJunction
Team Name: Grand Potato
App Name: Text2Pay

Project Description:

The goal of our project is to create a secure and efficient application that allows consumers and merchants to complete transactions through the consumer's phone, via SMS, email, or QR code, rather than using a credit card terminal. The product will send the consumer a text with the transaction summary sent through the app from business to consumer for the consumer to pay within 24 hours. The highest-level expectation is to make payments easier for the consumer, faster and cheaper for the merchant, and more secure to reduce fraud.

Problem:

With credit and debit cards being one of the main ways to make payments, payment card terminals are used millions of times a day. Although payment card processing terminals are everywhere, the current ones being utilized are often old and outdated. These machines are costly, slow, and frequently errors occur forcing you to swipe or insert your card multiple times before a transaction is made. Apple Pay revolutionized the convenience of business-consumer transactions through phones. While the emergence of other payment apps such as Samsung Pay and Google Pay, have made nearly all phones compatible with mobile payments, not all point of sale systems support near-field communication (NFC). Text-to-Pay would be a fast and easy solution to making payments completely mobile by eliminating the need for a credit card terminal.

Competing Technologies:

- Apple Pay revolutionized the convenience of business-consumer transactions through phones. While the emergence of other payment apps such as Samsung Pay and Google Pay, have made nearly all phones compatible with mobile payments, not all point of sale systems support near-field communication (NFC). These apps use NFC to attempt to replicate the use of a credit/debit card. However, a better solution would be to just completely eliminate the use of credit card terminals. With our Text-to-Pay application, we could do this and make it so payments could be made completely through two mobile phones, making transactions fast as well as more efficient for both businesses and consumers.
- Another similar application is Venmo. With its easy friend to friend money transfers, this application quickly rose in popularity. However, it is the friend to friend transfers that limit its ability to target larger businesses and merchants. With that said, the main difference between Venmo and our PayJunction app is with the way transactions and accounts are verified. With Venmo, each payment/transaction is verified separately meaning that large payments would be flagged for suspicious activity. This would clearly be an issue for businesses or merchants as they'll constantly be receiving and sending out large sums of money on a daily basis. With PayJunction's API however, accounts would be verified before any transactions are made so that after it's verified, all payments would be sent and received smoothly and without any problems.

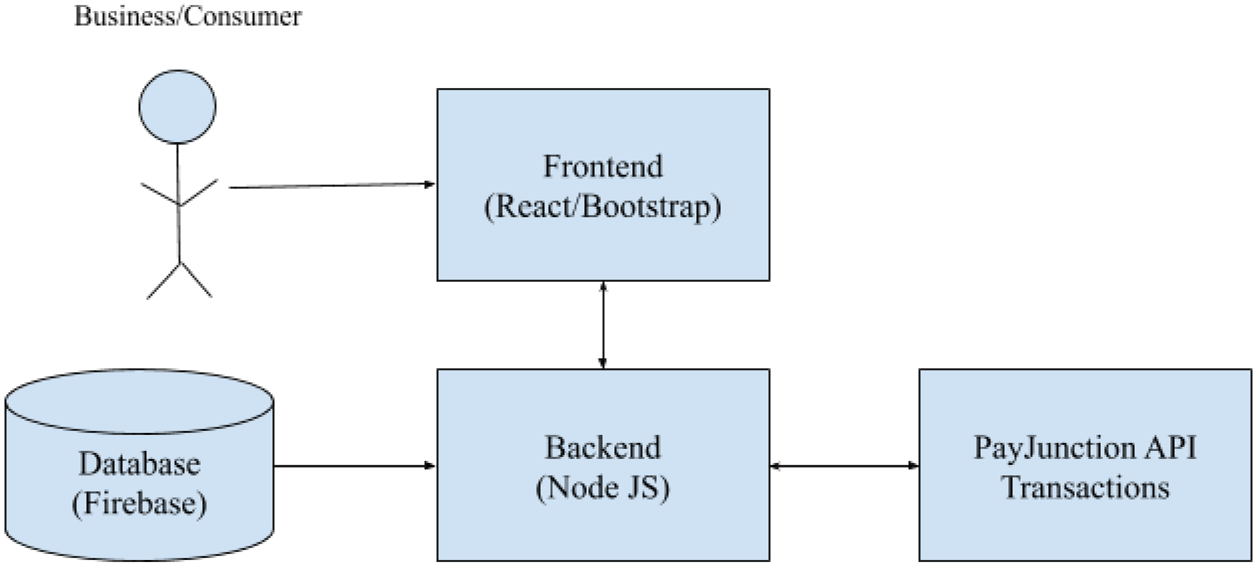
Project Outcome:

The project provides businesses with a solution that enables them to receive payments through customers' phones. This eliminates the problem of using outdated payment card processing terminals as well as creating a more efficient process for business-to-customer transactions.

Assumptions:

Our project targets businesses that want to have a more efficient and safe transaction process with their customers. However, we will assume that the businesses that we work with are of a service type. Ideally, it would work best with doctor appointments, haircuts, pizza orders, etc. Since it is a webapp, it will work on any browser.

High Level Diagram:



User Stories/Use Cases:

Title:	**Description:**	**Scenario:**
1. Login	As a business consumer, I want to be able to have a login and password to securely send payment information between the business and me.	Scenario 1: New User Given I have not created an account before And I would like to have a PayJunction account When I click Get Started Then I enter my first name, last name, email, and phone number And I receive an email or text to create a password Scenario 2: Returning User Given I have created an account And want to login When I put in my email and correct password

		Then businesses can send me payment requests to my phone number https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/login.html
2. Request Payment	As a merchant I am able to request a payment from a customer so that I can complete a transaction for whatever product or service I provide.	*Payment Request:* Given that the customer has provided the merchant with their phone number, when the customer has made a purchase or received a service, the merchant is able to send a payment request via SMS to the customer. This request will contain a hyperlink to the consumer-end of the web app where the consumer will be able to make the payment. *Acceptance Test:* Merchant is able to send a unique and secure link to the right customer and the link successfully takes the customer to the payment processing page. https://github.com/PayJunction-Capstone/Text2Pay/blob/master/index.js
3. Incomplete Request Page	As a merchant, I can check my incomplete request page so that I can see what payments are still in queue.	*Scenario*: Merchant has provided service for x different customers Given the merchant has already sent out request texts And some of the customers have not paid yet When the payment is due soon Then the merchant can see who hasn't completed the payment And send the customer another notification. https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/home.html
4. Completing a Payment Request	As a customer, I am able to complete a payment request by clicking on the request link and after signing in and selecting a payment option, complete the payment, so that customers will be able to pay through a text link.	*Scenario*: Merchant has obtained a customer's username, phone number, or email. Merchant makes request through web app to send request link through text Customer receives text and clicks on link containing request information Customer is sent to web app, signs in and selects a payment option

		Customer clicks pay to complete payment https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/pay.html
5. Payment History	As a customer, I am able to check my payment history so that I can see my completed payments.	Precondition: Customer is logged in. Scenario: 1. Customer is currently logged into their portal (webapp customer page) 2. Customer clicks on payment history 3. Page should pop-up showing their past payments to specific businesses based on account database. Postcondition: Payment history is displayed to the costumer. https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/home.html
6. Customer Payments	As a merchant, I am able to check the payments made from my customers so that I can see all of the payments that have been processed for my business.	Precondition: Merchant is logged in. Scenario: 1. Merchant is currently logged into their portal (business page) 2. Merchant clicks on payment history 3. Page should pop-up showing past payments by their customers based on account database. Postcondition: Payment history is displayed to the merchant. https://github.com/PayJunction-Capstone/Text2Pay/blob/master/MDB/home.html
7. Forgot Password	As a PayJunction Text2Pay user, I can reset my password so that if I forget my password I can still access the application.	Scenario: Password needs to be reset 1. Given the user has forgotten the password 2. And they would like to access their account on the application 3. When the user clicks “Forgot Password?” 4. Then a request for the user’s username and email associated with the account will appear 5. And an email with the reset password link will be sent to the user https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/forgotpw.html

8. Cancel Transaction	As a customer, I can cancel a transaction so that if a merchant has mistakenly sent a payment request I can cancel the transaction.	Precondition: Transaction needs to be cancelled Scenario: 1. Given the merchant has sent a payment request to the wrong customer 2. And the customer would like to void this transaction 3. When the user clicks “Invalid Transaction” 4. The user can verify that the transaction is not theirs and void the transaction Postcondition: Invalid transaction has been cancelled https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/pay.html
9. Add Bank Account	As a customer, I can add my bank account information so that I can pay for a service.	Merchant sends out payment request Given the request is sent to the correct customer And the customer doesn’t have a credit card When the customer wants to pay Then they can use their checking account information And complete the transaction. https://github.com/PayJunction-Capstone/Text2Pay/blob/howard_dev/MDB/pay.html
10. Ask for Review of a Request	As a customer, I am able to ask for a review of a business request if the customer thinks the request is wrong, so that mistyped requests can be cleared up and fixed.	Business accidently request more than the amount the customer was supposed to pay. Customer clicks on button to ask for a review from the business. Business sees request, reviews the request and sees that an error was made. Business sends out a new fixed version of the request to customer. https://github.com/PayJunction-Capstone/Text2Pay/blob/LiuBranch/MDB/pay.html

Appendices/Technologies:

- Node JS
- Bootstrap
- React
- React Native
- Docker
- Firebase
- PayJunction API
- Express JS