



# COLLECT

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# Debt Collector



Too often, one person ends up paying the bill for transactions among a group of people. That person, in addition to paying the full financial cost, has to manually split items as well as account for any additional fees. With modern technology, this problem should not exist. With Collect, our users will be able to intuitively split receipts among their peers.

## High level goal(s):

Develop an iOS app that is:

- Able to split items on any receipt, including tax
- Able to split items among multiple people
- Able to share the individual transactions to people involved in the split



## Sprint 1



- As a general user, I want to be able to convert physical receipts to virtual receipts, in case I misplaced the receipt
- Once the virtual receipt is generated, I want to be able to separate each item and its amount, as well as split any taxes and fees, so that I have an idea of the cost of each item



# Sprint 1 - Spikes and Tasks



## Spikes:

- All team members familiarize with Swift
- Find an API that can do image recognition on receipts

## Infrastructure Tasks:

- Set up Git repository
- Downloading/Getting familiar with Xcode
- Learn about Apple Human Interface Guidelines



## Sprint 2



- Also as a general user, I want to be able to tell Collect the names of the people in the group I am splitting with so that I don't have to remember who owes what amount
- For each item, I want to assign it to each person in the group so that I can easily keep track of debts owed to me
- Then, I want to have a high-level view of the mapping between item to person, so I can verify that the split has been computed correctly



## Sprint 2 - Spikes and Tasks



### Spikes:

- Learn how to work with I/O (user input)
- Learn how to work with data structures in Swift,
- Learn about backend mechanisms using Swift
- Develop an algorithm to map items in the receipt to person assigned

### Infrastructure Tasks:

- Install Firebase in case we decide to store data on the web, instead of natively



## Sprint 3

- As a general user, I want to be able to send transactions out to people that I split with so that I can easily collect money owed to me
- Using the high-level view in Sprint 2, I want to be able to use some sort of sharing mechanism to send out a notification to remind people when they owe me money
- After the item has been paid for, I want to be able to mark that on the virtual receipt that Collect generated so that I know when my debts have been paid back



## Sprint 3 - Spikes and Tasks



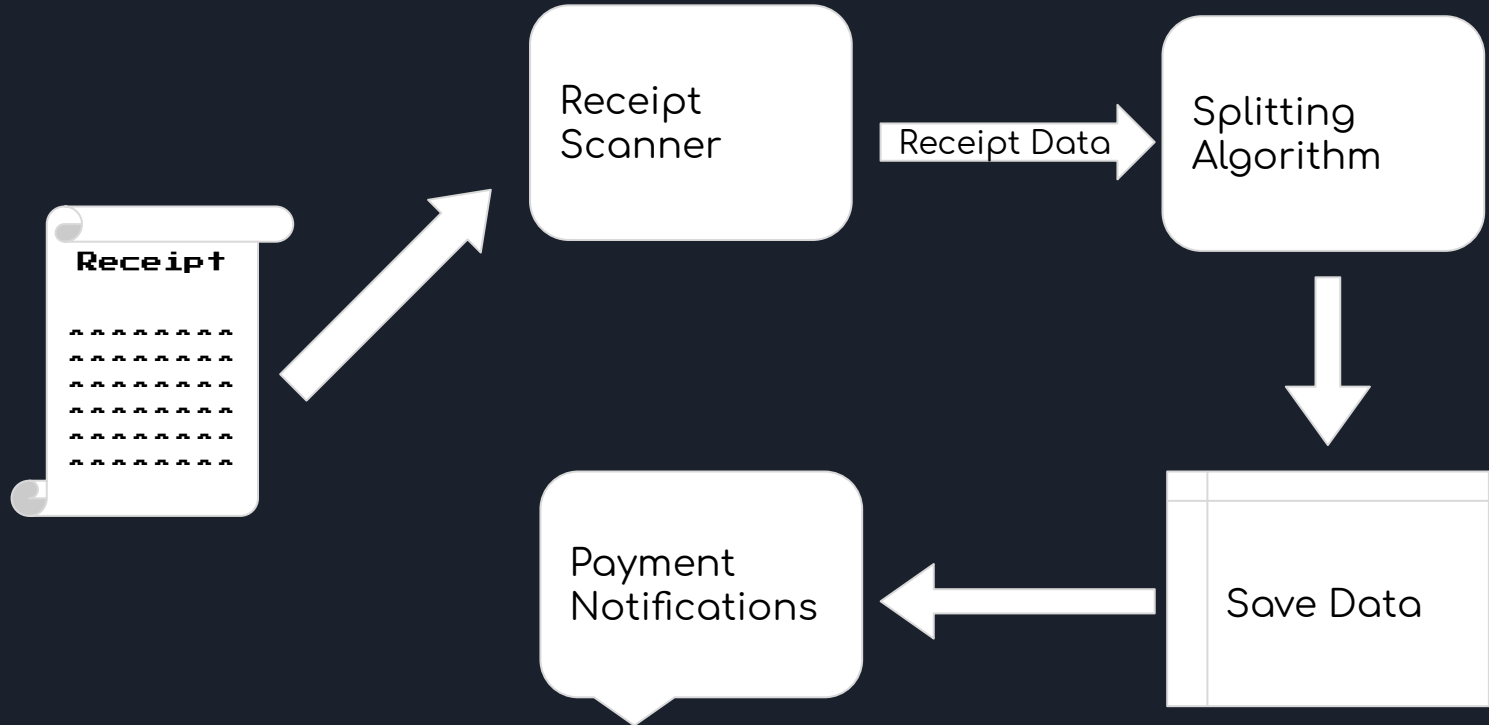
Spikes:

- Learn about table views, and “checkmark” buttons in Swift
- Learn about how to save and modify data using Swift





# Architecture





# Challenges/Risks



[Challenge/Risk 1]

- Learn how to breakdown items on a receipt and assign them

[Challenge/Risk 2]

- Split items for each person including taxes and fees

[Challenge/Risk 3]

- Send out notifications requesting for money



# Technologies



[Technology 1]

- Swift Programming language

[Technology 2]

- Convolutional Neural Network API for receipt recognition

[Technology 3]

- Xcode, Firebase

[Technology 4]

- iPhone for testing



# Minimum Viable Product

An iOS app that allows a user to scan a receipt, input names of people that are splitting the total, and send out individual transactions to people in the group