

The New PayPal Mobile App

UNICODE

November 3rd, 2016

Agenda

- Introduction
- Who Am I ?
- What did the App want to Achieve
- Technical Challenges
- G11n I18n Enablement
- Questions

Introduction

- The new PayPal App was introduced in the week of Feb 17 2016.
- Available in more than 25 markets and 17 different languages on Day 1!

Who am I ?

- Lucas Welti
- Globalization Software Engineer at PayPal
- Guide Teams
- Provide Int'l Best Practices
- Support Teams

Do You Use PayPal

- How many of you have the PayPal app installed on your phone?
- How many of you have a US PayPal account?
- How many of you have a PayPal account outside the US?
- How many of you have set your device language settings in your native language (which is not English)?

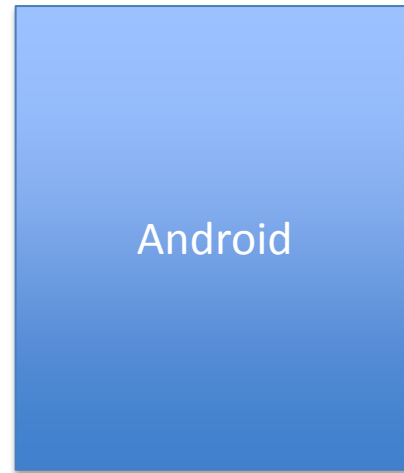
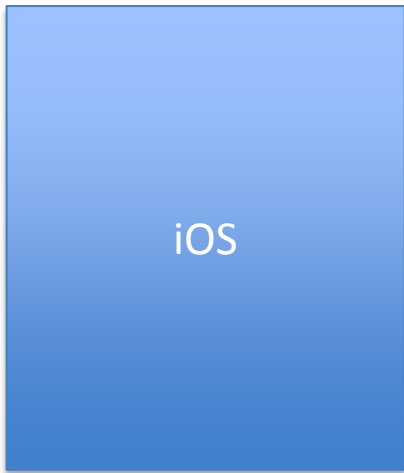
What did the App want to Achieve

- Make the app available globally
- Provide high quality content which is linguistically correct and internationalization compliant
- Provide an uniform User Experience on all platforms - Desktop, Mobile Web, native apps in iOS & Android

Technical Challenges

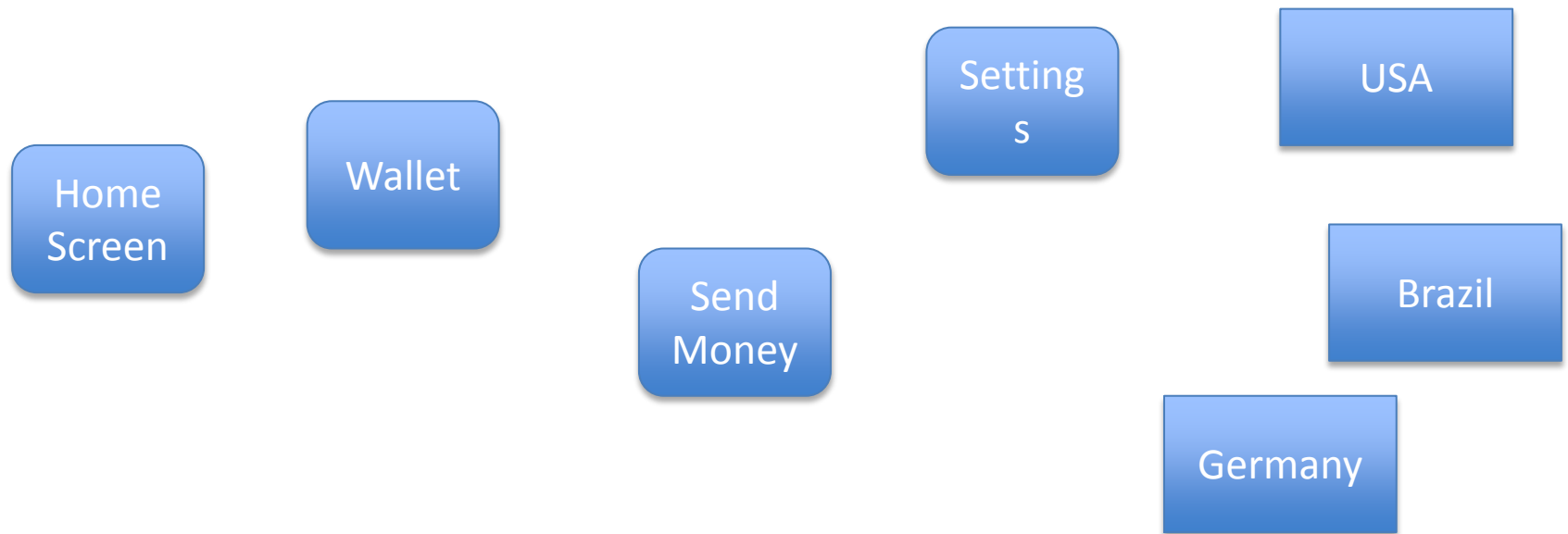
Technical Challenges

- Support multiple mobile platform in parallel
 - **Android (Java)**
 - **iOS (Objective-C, Swift)**



Technical Challenges (contd.)

- Collaborate across many teams ensuring **internationalization** of all product features for each native app



Technical Challenges (contd.)

Support more than one Language

- Supporting more than one language per Country
 - Example:
 - Germany:
 - German
 - **English**
 - United States
 - English
 - Spanish
 - **French**
 - **Chinese**

Technical Challenges (contd.)

Extending the standard

- Global configuration limitations e.g country specific locales
- Germany:
 - de
 - **en-DE** (not in CLDR)
- United States
 - en
 - es-US
 - **fr-US** (not in CLDR)
 - **zh-US** (not in CLDR)

en-DE:
21/03/2016

de:
21.03.2016

Technical Challenges (contd.)

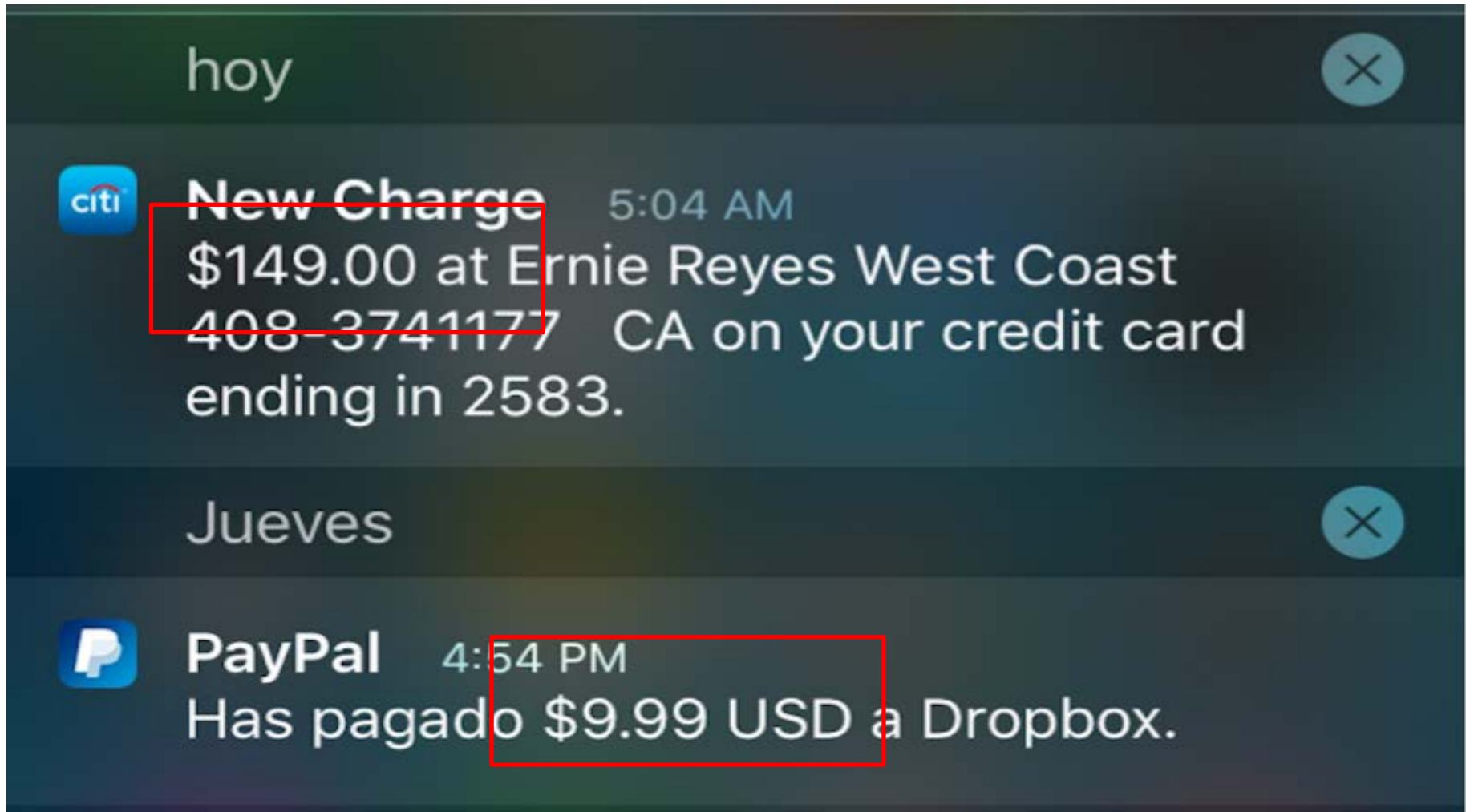
Extending l18n Formatters: Currency

\$ 1,234.56 USD



Technical Challenges (contd.)

Extending I18n Formatters: Currency



Technical Challenges (contd.)

Adding I18n Formatters: Name

{GIVENNAME} {SURNAME}

or

{SURNAME}{GIVENNAME}



Daniel Bruhn

Pago recibido – Cancelado

+ Kč1 CZK

Technical Challenges (contd.)

Adding I18n Formatters: Address

\overline{T} {POSTAL_CODE}
{STATE}{city}
{line1}{line2}

Dirección no válida

Domicilio

Apartamento, suite, edificio

Ciudad

Estado

California

⚠

Su código postal debe tener 5 o 9 caracteres.

6544

G11n I18n Enablement

- Review Source Content (English)
- Design Review
- Code Review

Review Source Content

• **BAD**

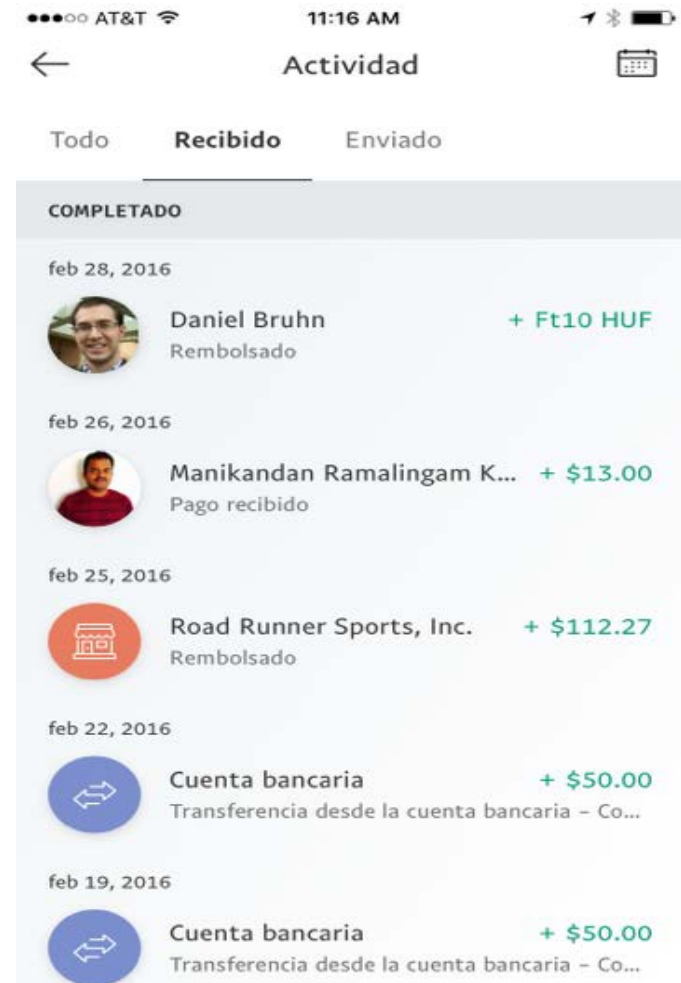
- KEY1 = “Help us understand the activity between”;
- KEY2 = “through”;
- KEY3 = “.”;
- Composed message: KEY1 + date + KEY2 + date + KEY3
- Output (in *English*): : “Help us understand the activity between 1/1/2016 through 3/15/2016.”
- Output (in *Japanese*): “私たちは間の活動を理解するのに役立ち2016年1月1日スルー2016年3月15日”

• **GOOD**

- KEY1 = “Help us understand the activity between {start_date} through {end_date}.”;
- Output (in *English*): “Help us understand the activity between 1/1/2016 through 3/15/2016.”
- Output (in *Japanese*): “私たちは2016年1月1日と2016年3月15日の間に活動を理解するのに役立ちます。”

UX/UI Review

- Review UX/UI Designs in order to catch possible issues.



Code Review

- Set up Architecture reviews
- Share our Internal Best Practices with different teams, this was done during dedicated Brown
- Provide technical guidance
- Review Code Pull Requests
- Collect new requirements

QUESTIONS?