

MINERÍA DE REPOSITARIOS: APLICACIONES ANDROID

MARIO LINARES VÁSQUEZ



PROCESOS DE DESARROLLO DE SOFTWARE

ARQUITECTOS

DESARROLLADORES

TESTERS

GERENTE DE PROYECTO

DISEÑADORES

DECISIONES, ACCIONES



PROCESO

PRODUCTO

**DECISIONES Y
ACCIONES, SE BASAN
USUALMENTE EN...**



Conocimientos / Experiencia Global



Conocimientos / Experiencia Local



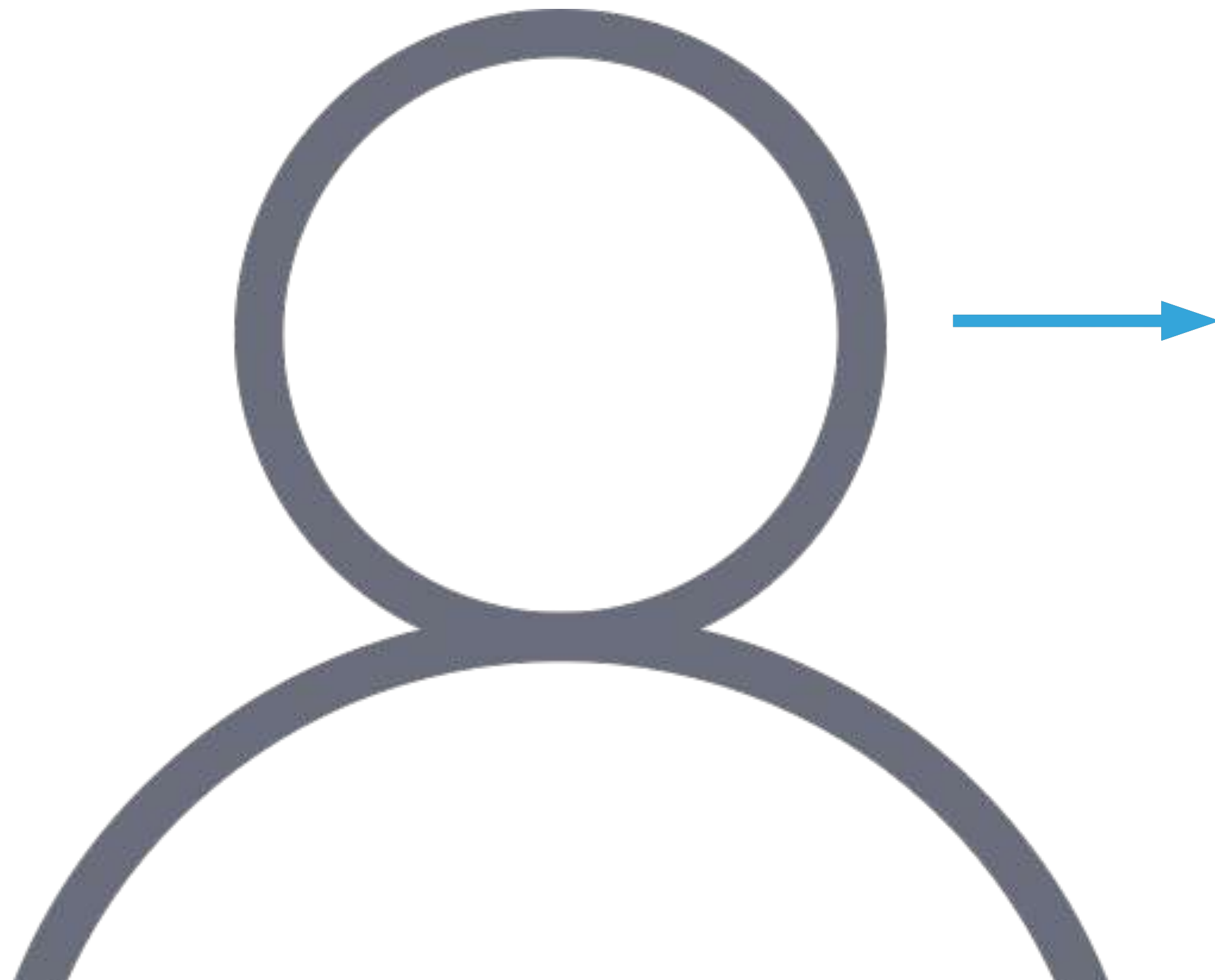
Inspiración - Intuición



Conocimientos / Experiencia Global

Conocimientos / Experiencia Local

Inspiración - Intuición



EVOLUCIÓN DEL PROYECTO

● **Versión 1**

● **Versión 2**

● **Versión 3**

● **Versión N**

```
currTariffa.PriceItems.Add(new TariffaPerPrezzo()
{
    Valuta = "EUR",
    TipoTariffa = price.TipoTariffa,
    Prezzo = price.Prezzo,
    Costo = price.Costo,
});
if (price.FareDetail != null && price.FareDetail.Count > 0)
{
    foreach (var detail in price.FareDetail)
    {
        List<int> segRefList = new List<int>();
        foreach (var seg in CurrentPDR.SegmentoTariffa.Where(s => s.DifferenzaTariffa == 0))
        {
            segRefList.Add(seg.IDNumber);
            seg.ClassCode = detail.ClassCode;
        }
        if (!currTariffa.SegmentReferences.Exists(s => s.FareBasis == detail.FareBasis))
        {
            SegmentoTariffaPar segRef = new SegmentoTariffaPar();
            segRef.SegmentRef = segRefList;
            segRef.FareBasis = detail.FareBasis;
            segRef.FareClass = detail.ClassCode;
            currTariffa.SegmentReferences.Add(segRef);
        }
    }
}
```




Repositorios de código y otros artefactos

Memoria histórica y dinámica de los procesos de desarrollo



REPOSITARIOS HISTÓRICOS (CONTROL DE VERSIONES)



Cambios, metadatos,
mensajes de commit

Merge pull request #20878 from twbs/downloads-copy

Updated Download docs

v4-dev (#20878)

mdo committed on GitHub 3 hours ago 2 parents 259fa88 + ffd64e commit 4b27cc95e30fbc7542b7a97396d931e5a1a903f5

Showing 2 changed files with 18 additions and 27 deletions.

docs/getting-started/download.md

```
@@ -7,11 +7,26 @@ group: getting-started
7 7
8 8 +=Bootstrap v{{ site.current_version}}+ is available for download in several ways, including some of your favorite
9 9 package managers. Choose from the options below to snag just what you need.
10 +### Bootstrap CSS and JS
11 +
12 +=Download Bootstrap's ready-to-use code to easily drop into your project.+ Includes compiled and minified versions of
13 + all our CSS bundles (default, flexbox-enabled, grid only, or Reboot only) and JavaScript plugins. Doesn't include
14 + documentation or source files.
15 +
16 +<a href="{{ site.download.dist }}" class="btn btn-lg btn-bs btn-outline" onclick="ga('send', 'event', 'Getting
17 + started', 'Download', 'Download Bootstrap');">Download Bootstrap</a>
18 +
19 +### Source files
```

docs/index.html

```
@@ -39,8 +39,8 @@ <h2 class="bd-featurette-title">Easy to get started.</h2>
39 39
40 40 <hr class="half-rule t-t-0">
41 41
42 - <p><strong>Looking for something simpler?</strong> Customized builds of Bootstrap's CSS and JS are also available.</p>
43 - <a href="{{ site.baseurl }}/getting-started/download/#custom-builds" class="btn btn-bs btn-outline">More download
44 + <p><strong>Looking for something else?</strong> Compiled builds of Bootstrap's CSS and JS are also available.</p>
45 + <a href="{{ site.baseurl }}/getting-started/download/" class="btn btn-bs btn-outline">More download options</a>
46 + </div>
47 </div>
```

Merge pull request #20878 from twbs/downloads-copy

Updated Download docs

v4-dev (#20878)

mdo committed on GitHub 3 hours ago 2 parents 259fa88 + ffd64e commit 4b27cc95e30fbc7542b7a97396d931e5a1a903f5

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7 7
8 8 +=Bootstrap v{{ site.current_version}}+ is available for download in several ways, including some of your favorite
9 9 package managers. Choose from the options below to snag just what you need.
10 +### Bootstrap CSS and JS
11 +
12 +=Download Bootstrap's ready-to-use code to easily drop into your project.+ Includes compiled and minified versions of
13 + all our CSS bundles (default, flexbox-enabled, grid only, or Reboot only) and JavaScript plugins. Doesn't include
14 + documentation or source files.
15 +
16 +<a href="{{ site.download.dist }}" class="btn btn-lg btn-bs btn-outline" onclick="ga('send', 'event', 'Getting
17 + started', 'Download', 'Download Bootstrap');">Download Bootstrap</a>
18 +
19 +### Source files
```

REPOSITARIOS HISTÓRICOS (ISSUE TRACKER)



Bugs, solicitudes de cambios

Bug 677989 - Allow web content to render without Gecko resampling it (render at native resolution)

Status: NEW
Whiteboard: [tech-p1]
Keywords:
Product: Core ([show info](#))
Component: General ([show other bugs](#)) ([show info](#))
Version: Trunk
Platform: All All
Importance: -- normal with [3 votes](#) ([vote](#))
Target Milestone: ---
Assigned To: Nobody; OX to take it and work on it
QA Contact:
Triage Owner:
Mentors:
URL:

Reported: 2011-08-10 12:01 PDT by Chris Jones |
Modified: 2014-09-25 21:25 PDT ([History](#))
CC List: 21 users ([show](#))
See Also:
Crash Signature: ([edit](#))
QA Whiteboard:
Iteration: ---
Points: ---
Has Regression Range: ---
Has STR: ---
Tracking Flags:

 Chris Jones [:cjones] inactive; ni?/f?/r? if you need me 2011-08-10 12:01:58 PDT

[Description](#)

Use case: <https://pdfreader.com> wants a window-sized <canvas> with pixels that map 1:1 to output device pixels. Since pdfreader.com is doing its own image resampling and blending, an additional resampling step will hurt quality. Additionally, pdfreader.com might want to nudge the position and sizes of primitives (like lines) to improve rendering quality (e.g. sharper). If the pixel coordinate system used by pdfreader.com doesn't map 1:1 to output pixels, then the nudging step is useless, and could even hurt quality.

Use case: <https://videoplayer.com> chooses videos to play based on the screen resolution reported by the UA. videoplayer.com wants to control whether video frames are resampled: its primary goal is to be able to play a full-window (or full-screen) video without resampling, to conserve battery. Secondly, it may choose to play a lower-resolution video with intentional upsampling.

(These concerns cross desktop and mobile, but it's more pressing on mobile IMHO.)

Last I knew, it wasn't possible to do either across all screen resolutions. On fennec, setting a <viewport width=device-width zoom=1.0> doesn't get 1:1 CSS-pixel:device-pixel because the fennec frontend maps CSS pixels 1:1.5 device pixels by default (for iPhone compat). A manual viewport setting has to account for that factor, but the factor isn't visible to web content.

Bug 677989 - Allow web content to render without Gecko resampling it (render at native resolution)

Status: NEW
Whiteboard: [tech-p1]
Keywords:
Product: Core ([show info](#))
Component: General ([show other bugs](#)) ([show info](#))
Version: Trunk
Platform: All All
Importance: -- normal with [3 votes](#) ([vote](#))
Target Milestone: ---
Assigned To: Nobody; OX to take it and work on it
QA Contact:
Triage Owner:
Mentors:
URL:

Reported: 2011-08-10 12:01 PDT by Chris Jones |
Modified: 2014-09-25 21:25 PDT ([History](#))
CC List: 21 users ([show](#))
See Also:
Crash Signature: ([edit](#))
QA Whiteboard:
Iteration: ---
Points: ---
Has Regression Range: ---
Has STR: ---
Tracking Flags:

 Chris Jones [:cjones] inactive; ni?/f?/r? if you need me 2011-08-10 12:01:58 PDT

[Description](#)

Use case: <https://pdfreader.com> wants a window-sized <canvas> with pixels that map 1:1 to output device pixels. Since pdfreader.com is doing its own image resampling and blending, an additional resampling

REPOSITARIOS HISTÓRICOS (MERCADOS DE APPS EN LÍNEA)



**Bugs, solicitudes
de cambios, sentimientos**

REVIEWS



Nelson Carmo ★★★★★

To be, or not to be... Light... seems the overcrammed, unnecessary stuff is turning it



T.h. Sujon ★★★★★

Crash, crash & crashing....what's wrong with u developer.. Keep crashing in



Kyle Adrian Sarcol ★★★★★

No REACTION! I really want to react to the posts of my friends! I want some



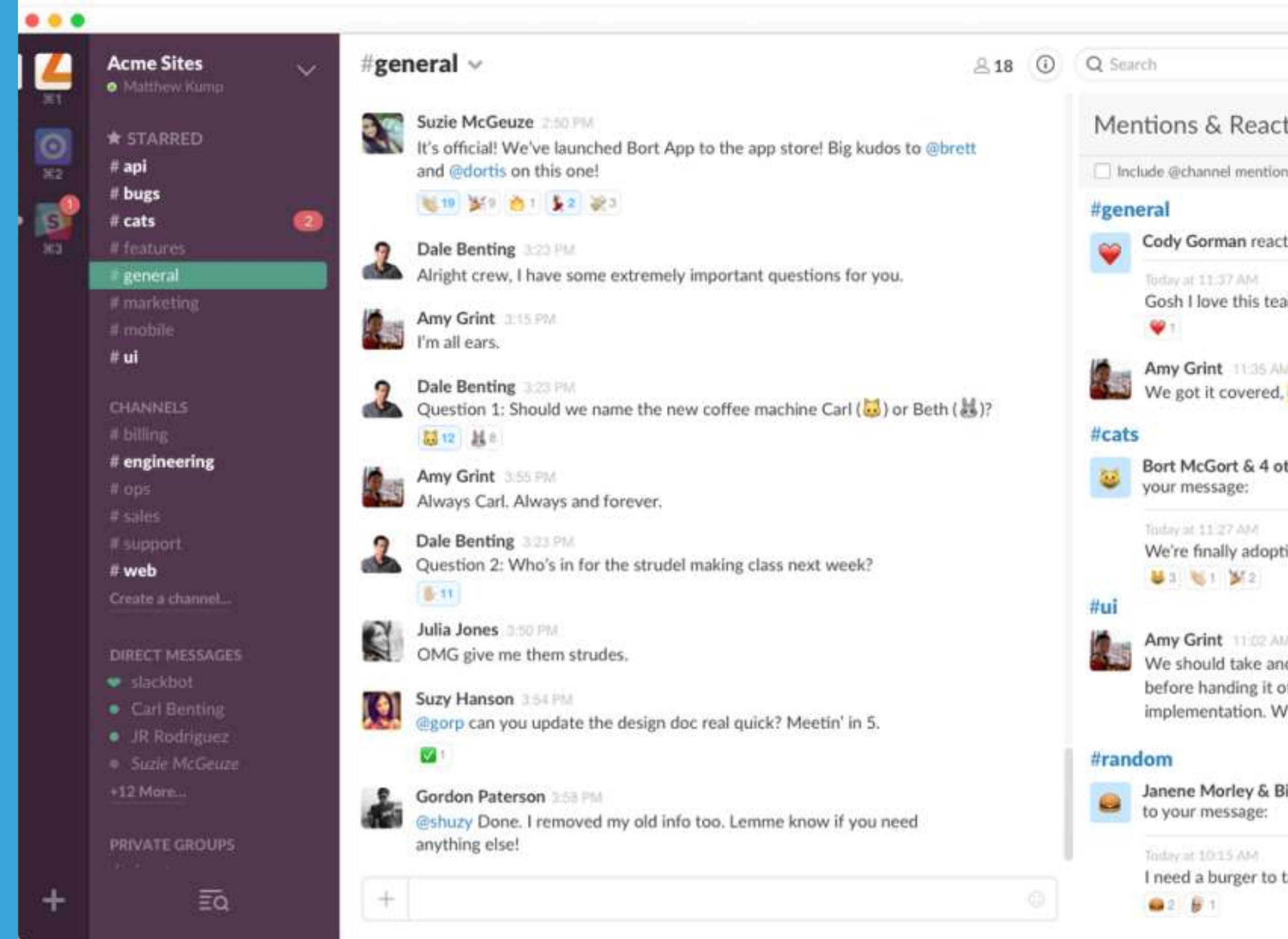
Gautham .K.Thayyil ★★★★★

Small and does the job Simple yet effective. People who are complaining about it's material

REPOSITARIOS HISTÓRICOS (CORREOS, CHAT, ETC.)



**Comunicaciones,
decisiones de diseño**



REPOSITARIOS DE CÓDIGO



Código fuente

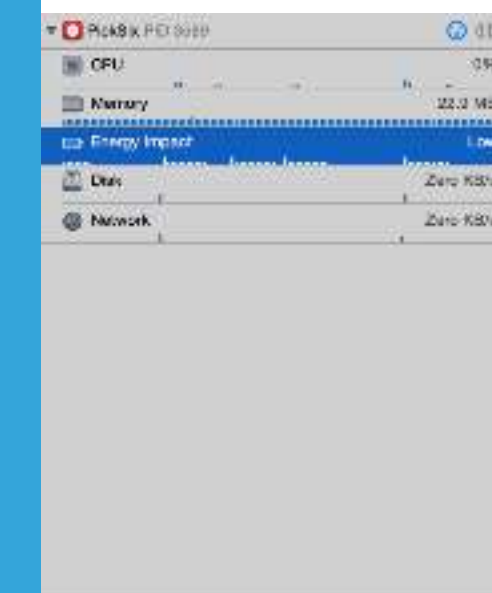
```
113 lines (96 sloc) | 5.34 KB
Raw Blame History
1 ---
2 layout: home
3 ---
4
5 <main class="bd-masthead" id="content">
6   <div class="container">
7     <span class="bd-booticon outline">&#x262a</span>
8     <p class="lead">Bootstrap is the most popular HTML, CSS, and JS framework in the world for building responsive, mobile-first web applications.</p>
9     <p class="lead">
10       <a href="{{ site.baseurl }}/getting-started/download/" class="btn btn-outline-inverse btn-lg" onclick="ga('send', 'event', 'button', 'click', 'download')">Get started</a>
11     </p>
12     <p class="version">Currently v{{ site.current_version }}</p>
13     {% include ads.html %}
14   </div>
15 </main>
16
17 <div class="bd-featured">
18   <div class="container">
19     <h2 class="bd-featured-title">Easy to get started.</h2>
20     <p class="lead">Quickly include Bootstrap's CSS and JS into any project. Use your favorite package manager, download the source files, or use the Bootstrap CDN.</p>
21
22     <div class="row">
23       <div class="col-sm-6 m-b-3">
24         <h4>Managed dependencies</h4>
25         <p>Include Bootstrap's source Sass and JavaScript files via Bower, Composer, Meteor, or npm. Package managed installs dependencies and includes Bootstrap's compiled CSS and JS files. <a href="{{ site.baseurl }}/getting-started/download/#package-managers">View installation instructions.</a></p>
26       </div>
27       <div class="col-sm-6 m-b-3">
28         <h4>Bootstrap CDN</h4>
29         <p>When you just need to include Bootstrap's compiled CSS and JS, use the Bootstrap CDN, free from the Max CDNs folks.</p>
30       </div>
31     </div>
32   </div>
33 </div>
```

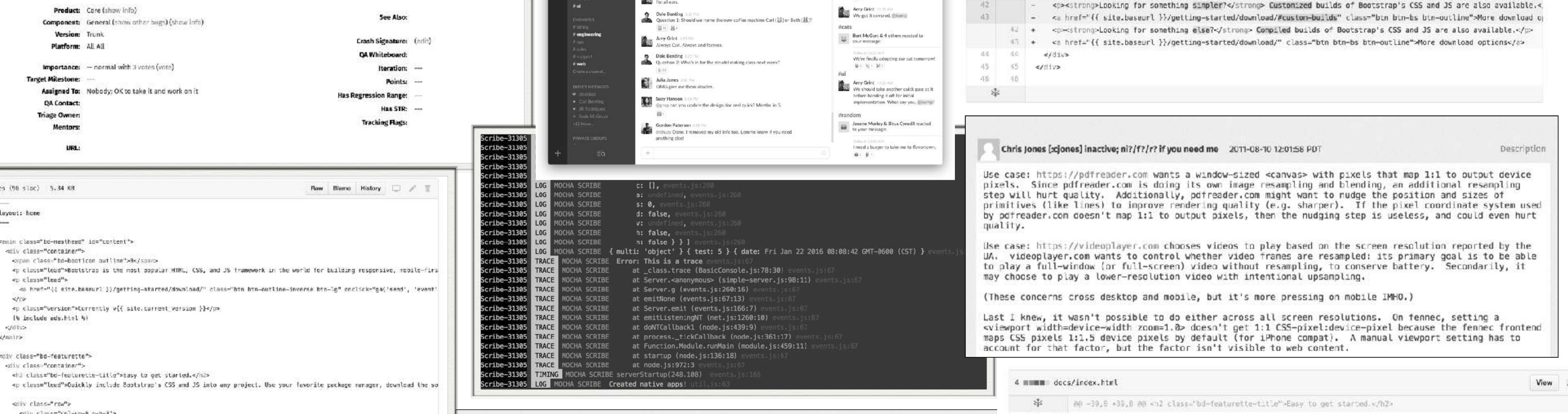
REPOSITARIOS DE DESPLIEGUE, O DE MEDIDAS EN TIEMPO DE EJECUCIÓN



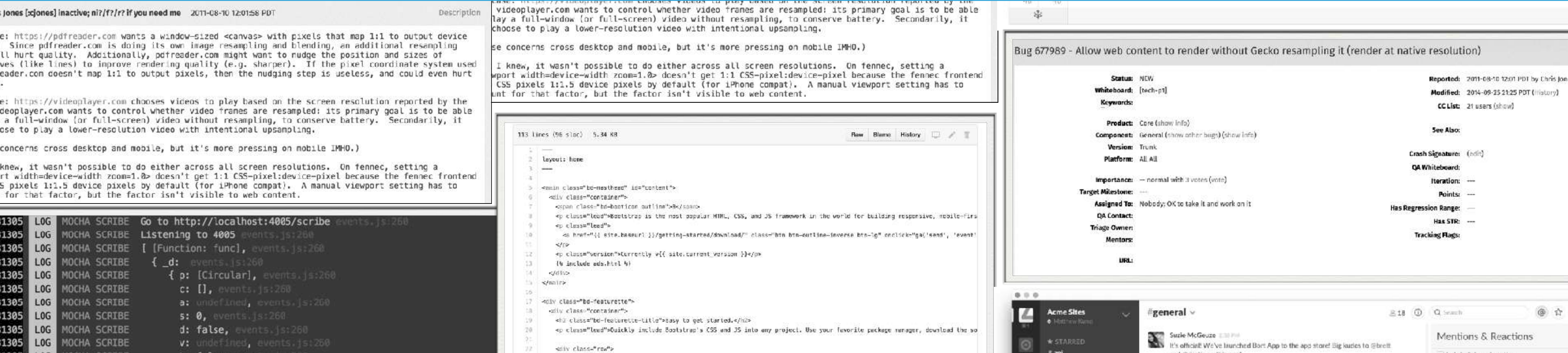
**Trazas de ejecución,
medidas de consumo
de recursos, crashes**

```
Scribe-31305 LOG MOCHA SCRIBE Go to http://localhost:4005/scribe events.js:260
Scribe-31305 LOG MOCHA SCRIBE Listening to 4005 events.js:260
Scribe-31305 LOG MOCHA SCRIBE | [Function: func], events.js:260
Scribe-31305 LOG MOCHA SCRIBE { _d: events.js:260
Scribe-31305 LOG MOCHA SCRIBE   { p: [Circular], events.js:260
Scribe-31305 LOG MOCHA SCRIBE     c: [], events.js:260
Scribe-31305 LOG MOCHA SCRIBE     a: undefined, events.js:260
Scribe-31305 LOG MOCHA SCRIBE     s: 0, events.js:260
Scribe-31305 LOG MOCHA SCRIBE     d: false, events.js:260
Scribe-31305 LOG MOCHA SCRIBE     v: undefined, events.js:260
Scribe-31305 LOG MOCHA SCRIBE     h: false, events.js:260
Scribe-31305 LOG MOCHA SCRIBE     n: false } } ] events.js:260
Scribe-31305 LOG MOCHA SCRIBE { multi: 'object' } { test: 5 } { date: Fri Jan 22 2016 09:08:42 GMT-0500 (CST) } events.js:260
Scribe-31305 TRACE MOCHA SCRIBE Error: This is a trace events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at _class.trace (BasicConsole.js:78:30) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at Server.<anonymous> (simple-server.js:98:11) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at Server.g (events.js:260:16) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at @:1:None (events.js:67:13) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at Server.emit (events.js:166:7) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at emitListeningNI (net.js:1260:10) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at doNTCallback1 (node.js:439:9) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at process._tickCallback (node.js:361:17) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at Function.Module.runMain (module.js:459:11) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at startup (node.js:136:18) events.js:67
Scribe-31305 TRACE MOCHA SCRIBE   at node.js:972:3 events.js:67
Scribe-31305 TIMING MOCHA SCRIBE serverStartup(248.188) events.js:165
Scribe-31305 LOG MOCHA SCRIBE Created native apps! util.js:10163
```





CONOCIMIENTO



**¿Información y conocimiento implícito/
explícito en grandes volúmenes de
artefactos pueden ser usados para tareas
de Ingeniería de Software en casos como?**

**¿Información y conocimiento implícito/
explícito en grandes volúmenes de
artefactos pueden ser usados para tareas
de Ingeniería de Software en casos como?**

Falta de documentación

Pérdida de miembros esenciales

Memoria limitada

Documentación desactualizada

MINERÍA DE DATOS...



MINERÍA DE DATOS

EXTRACCIÓN DE INFORMACIÓN INTERESANTE Y ACCIONABLE QUE

No es evidente a un humano común

Está disponible en grandes volúmenes de datos

Su extracción es costosa para un humano en términos de tiempo y recursos computacionales

MINERÍA DE REPOSITARIOS DE SOFTWARE (MSR)

MINERÍA DE DATOS ESPECIALIZADA EN

**extraer información/conocimiento de
repositorios de software**

MINERÍA DE REPOSITARIOS PARA APLICACIONES ANDROID

*Imagen tomada de : <http://marketingland.com/report-google-play-finally-passes-ios-app-store-number-apps-developers-114115>





2.7M apps - Google Play

82KM descargas - Google Play

26 versiones (Android) desde el 2008



2.2M apps - App Store

130KM descargas - Apps Store

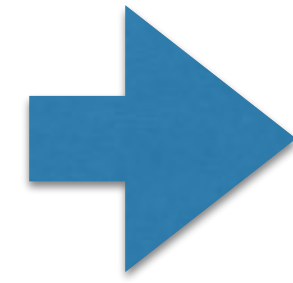
11 versiones (iOS) desde el 2008

CICLO DE VIDA CONTINUO



Desarrolladores

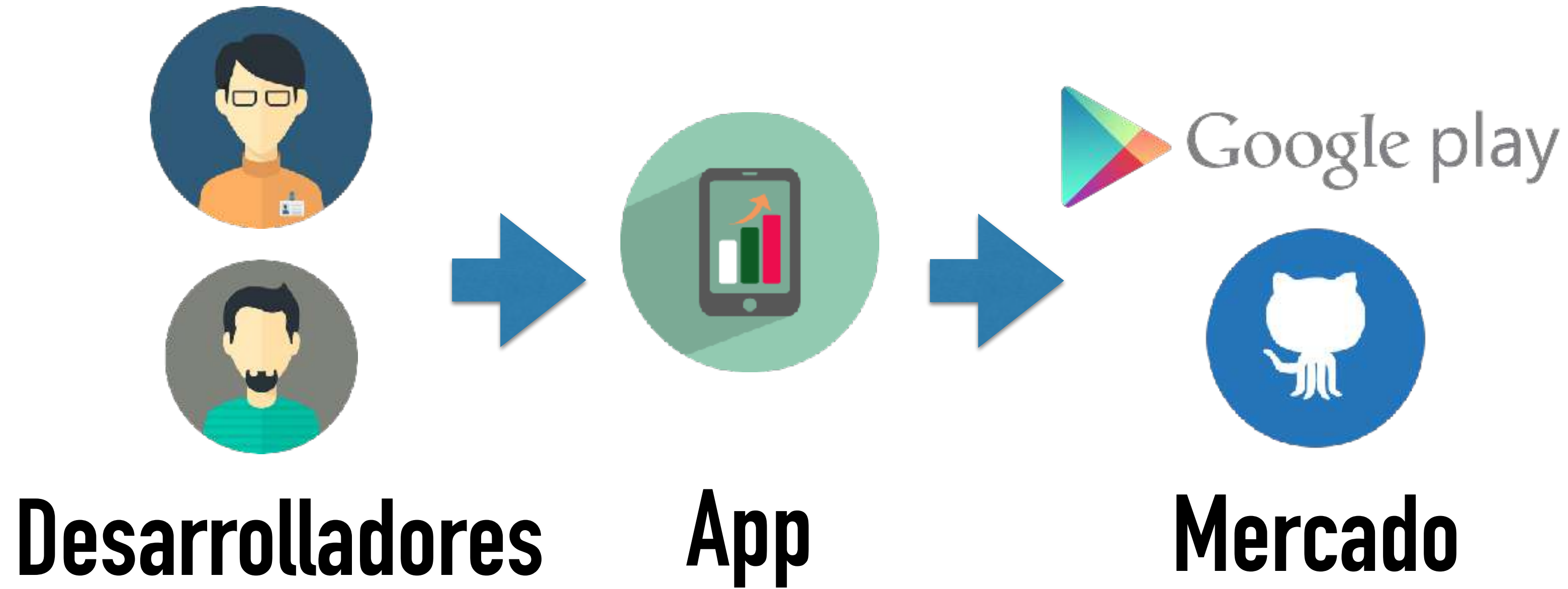
CICLO DE VIDA CONTINUO



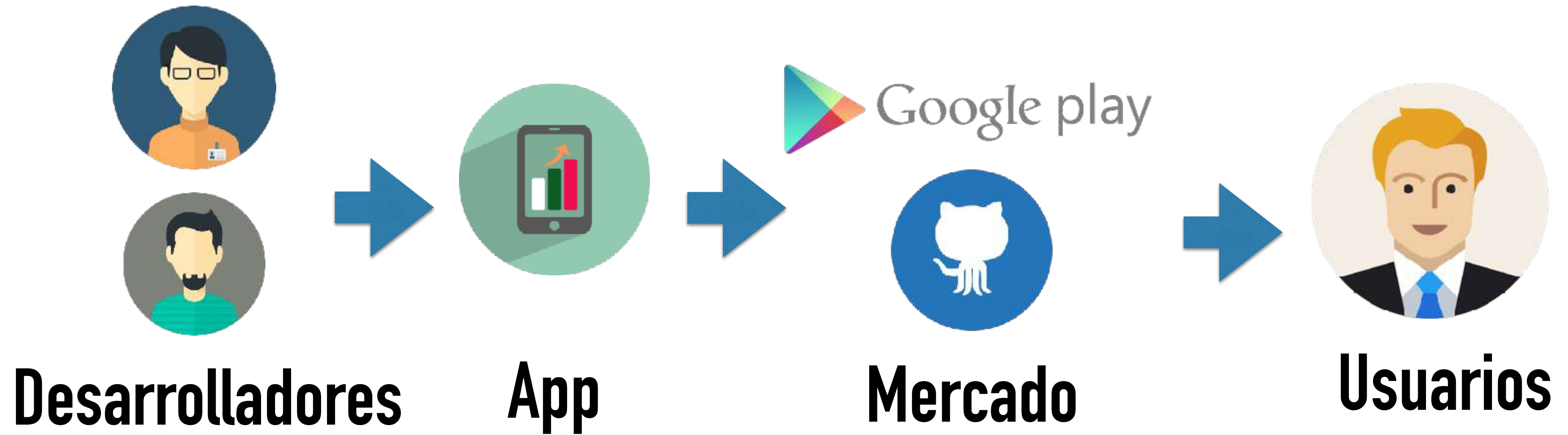
Desarrolladores

App

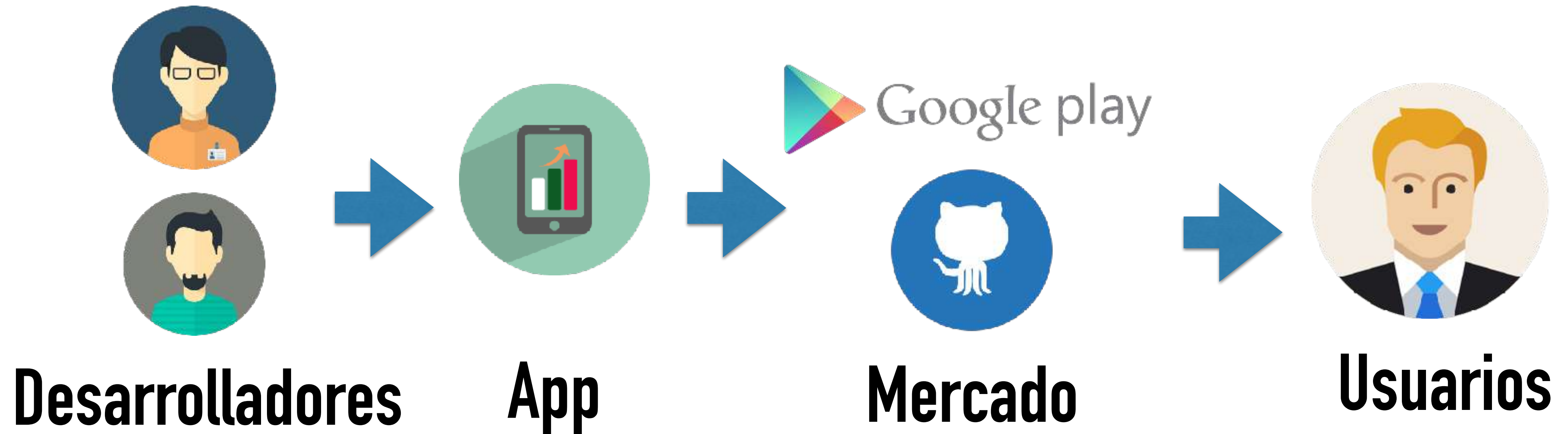
CICLO DE VIDA CONTINUO



CICLO DE VIDA CONTINUO



CICLO DE VIDA CONTINUO

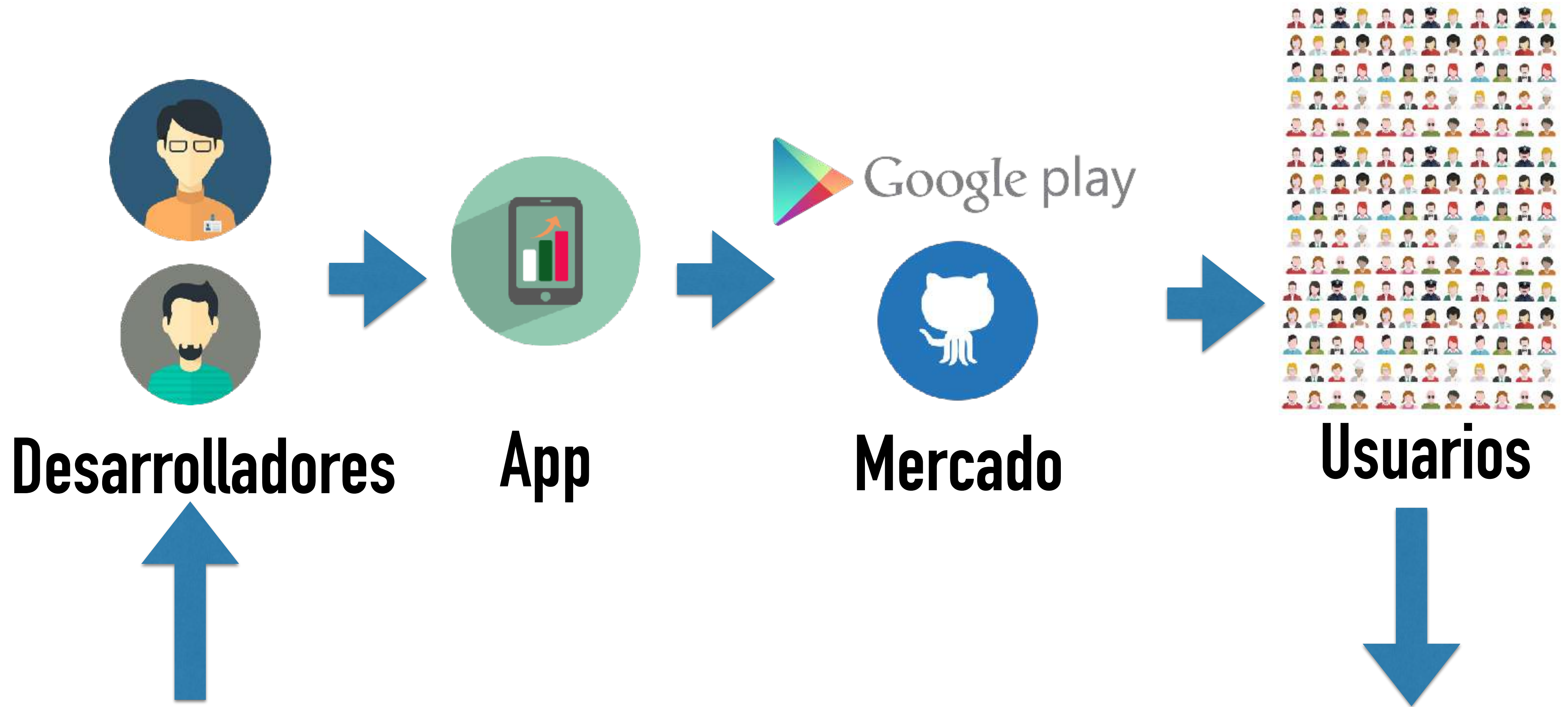


Errores, comentarios, funcionalidades, sentimientos

CICLO DE VIDA CONTINUO



CICLO DE VIDA CONTINUO



Errores, comentarios, funcionalidades, sentimientos



**CICLOS DE ENTREGA MUY RÁPIDOS CON
PRESIÓN CONTINUA DE LOS USUARIOS**

MILES DE APPS SON ACTUALIZADAS DIARIAMENTE EN LOS MERCADOS EN LÍNEA



EL VOLUMEN DE REVISIONES DE LOS USUARIOS ES ALTO Y DIFÍCIL DE MANEJAR MANUALMENTE

[Redacted] September 14, 2015
★★★★★
Some help maybe? I really like Spotify but recently i cant change song from lock screen or change songs from my Bluetooth car stereo because of this

[Redacted] September 12, 2015
★★★★★
Wouldve given 5 but its taking too much internal memory I will give it a 5 if they would allow for app to b saved

[Redacted] September 13, 2015
★★★★★
What happened to Spotify? Once upon a time when I wanted to hear a specific song, I could do that. Now it starts these playlists that start with stuff I like, but then play random stuff I'd never have chosen. Why can't I just listen to the song I have stuck in my

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★★★★★
Not logging in. Says offline. First it started with saying no network connection and said "offline". Reinstalled after trying out the settings. Now it won't even log in.

[Redacted] September 11, 2015
★★★★★
Doesnt have some music It doesnt have any taylor swift , & not the original " God Help The Outcasts "

[Redacted] September 13, 2015
★★★★★
Keeps skipping my music listening to a song, and it j itself. Is there something I on the settings for that to

[Redacted] September 12, 2015
★★★★★
I can't pay The app is great comes to payment, you o option to pay in credit card by visa amet, but most banks in hong Kong uses Union Pay and EPS, I don't have

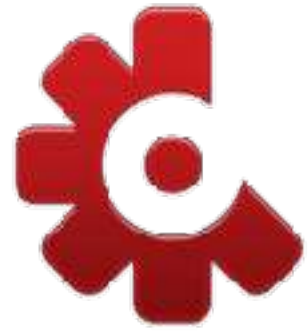
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★★★★★
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FRAGMENTACIÓN A NIVEL DE DISPOSITIVOS Y SISTEMA OPERATIVO



INGENIERÍA DE SOFTWARE BASADA EN MINERÍA DE REPOSITORIOS



**Artefactos/Datos
producto de procesos
de desarrollo**

MSR

Minería de datos

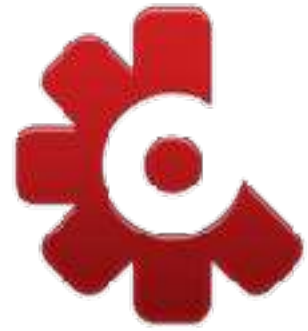
Aprendizaje de máquina

Procesamiento de
lenguaje natural

Information Retrieval

Análisis estático/
dinámico

INGENIERÍA DE SOFTWARE BASADA EN MINERÍA DE REPOSITORIOS



**Artefactos/Datos
producto de procesos
de desarrollo**

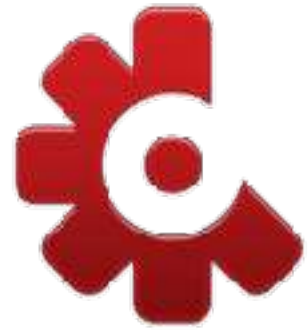
MSR

Minería de datos
Aprendizaje de máquina
**Procesamiento de
lenguaje natural**
Information Retrieval
**Análisis estático/
dinámico**

ANALÍTICA

**Análisis Exploratorio
de Datos**
Visualización
**Generación de
resúmenes**

INGENIERÍA DE SOFTWARE BASADA EN MINERÍA DE REPOSITORIOS



**Artefactos/Datos
producto de procesos
de desarrollo**

MSR

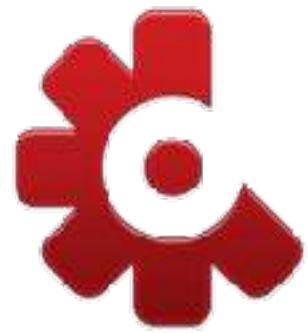
Minería de datos
Aprendizaje de máquina
**Procesamiento de
lenguaje natural**
Information Retrieval
**Análisis estático/
dinámico**

ANALÍTICA

**Análisis Exploratorio
de Datos**
Visualización
**Generación de
resúmenes**

**Toma de
decisiones basada
en analítica de
software**

INGENIERÍA DE SOFTWARE BASADA EN MINERÍA DE REPOSITARIOS



**Artefactos/Datos
producto de procesos
de desarrollo**

MSR

Minería de datos
Aprendizaje de máquina
**Procesamiento de
lenguaje natural**
Information Retrieval
**Análisis estático/
dinámico**

ANALÍTICA

**Análisis Exploratorio
de Datos**
Visualización
**Generación de
resúmenes**

**Toma de
decisiones basada
en analítica de
software**

**Tareas automáticas
de ingeniería de
software**

¿COMO USAR MSR EN EL CASO DE APLICACIONES MÓVILES?



ANÁLISIS AUTOMÁTICO DE RATINGS Y REVIEWS DE USUARIO

The image displays a collage of user reviews for Spotify, each with a profile picture, a star rating, and a date. The reviews are as follows:

- Review 1:** User: [Redacted], September 13, 2015. Rating: 5 stars. Title: **Keeps skipping my music**. Text: "listening to a song, and it j itself. Is there something I on the settings for that to"
- Review 2:** User: [Redacted], September 14, 2015. Rating: 4 stars. Title: **Some help maybe?** Text: "I really like Spotify but recently i cant change song from lock screen or change songs from my Bluetooth car stereo because of this"
- Review 3:** User: [Redacted], September 12, 2015. Rating: 4 stars. Title: **Wouldve given 5 but its taking too much internal memory** Text: "I will give it a 5 if they would allow for app to b saved"
- Review 4:** User: [Redacted], September 12, 2015. Rating: 5 stars. Title: **Not logging in. Says offline.** Text: "First it started with saying no network connection and said 'offline'. Reinstalled after trying out the settings. Now it won't even log in."
- Review 5:** User: [Redacted], September 13, 2015. Rating: 5 stars. Title: **What happened to Spotify?** Text: "Once upon a time when I wanted to hear a specific song, I could do that. Now it starts these playlists that start with stuff I like, but then play random stuff I'd never have chosen. Why can't I just listen to the song I have stuck in my"
- Review 6:** User: [Redacted], September 11, 2015. Rating: 4 stars. Title: **Doesnt have some music** Text: "It doesnt have any taylor swift , & not the original " God Help The Outcasts "
- Review 7:** User: [Redacted], September 11, 2015. Rating: 5 stars. Title: **I can't pay** Text: "The app is great comes to payment, you o option to pay in credit card by visa amet, but most banks in hong Kong uses Union Pay and EPS, I don't have"
- Review 8:** User: [Redacted], September 12, 2015. Rating: 5 stars. Title: **Not logging in. Says offline.** Text: "First it started with saying no network connection and said 'offline'. Reinstalled after trying out the settings. Now it won't even log in."
- Review 9:** User: [Redacted], September 12, 2015. Rating: 4 stars. Title: **Wouldve given 5 but its taking too much internal memory** Text: "I will give it a 5 if they would allow for app to b saved"
- Review 10:** User: [Redacted], September 14, 2015. Rating: 4 stars. Title: **Some help maybe?** Text: "I really like Spotify but recently i cant change song from lock screen or change songs from my Bluetooth car stereo because of this"
- Review 11:** User: [Redacted], September 13, 2015. Rating: 5 stars. Title: **Keeps skipping my music** Text: "listening to a song, and it j itself. Is there something I on the settings for that to"
- Review 12:** User: [Redacted], September 12, 2015. Rating: 5 stars. Title: **Not logging in. Says offline.** Text: "First it started with saying no network connection and said 'offline'. Reinstalled after trying out the settings. Now it won't even log in."
- Review 13:** User: [Redacted], September 11, 2015. Rating: 4 stars. Title: **Doesnt have some music** Text: "It doesnt have any taylor swift , & not the original " God Help The Outcasts "
- Review 14:** User: [Redacted], September 11, 2015. Rating: 5 stars. Title: **I can't pay** Text: "The app is great comes to payment, you o option to pay in credit card by visa amet, but most banks in hong Kong uses Union Pay and EPS, I don't have"
- Review 15:** User: [Redacted], September 12, 2015. Rating: 4 stars. Title: **Wouldve given 5 but its taking too much internal memory** Text: "I will give it a 5 if they would allow for app to b saved"
- Review 16:** User: [Redacted], September 14, 2015. Rating: 4 stars. Title: **Some help maybe?** Text: "I really like Spotify but recently i cant change song from lock screen or change songs from my Bluetooth car stereo because of this"
- Review 17:** User: [Redacted], September 13, 2015. Rating: 5 stars. Title: **Keeps skipping my music** Text: "listening to a song, and it j itself. Is there something I on the settings for that to"



Reviews inconsistentes

Reviews no informativos

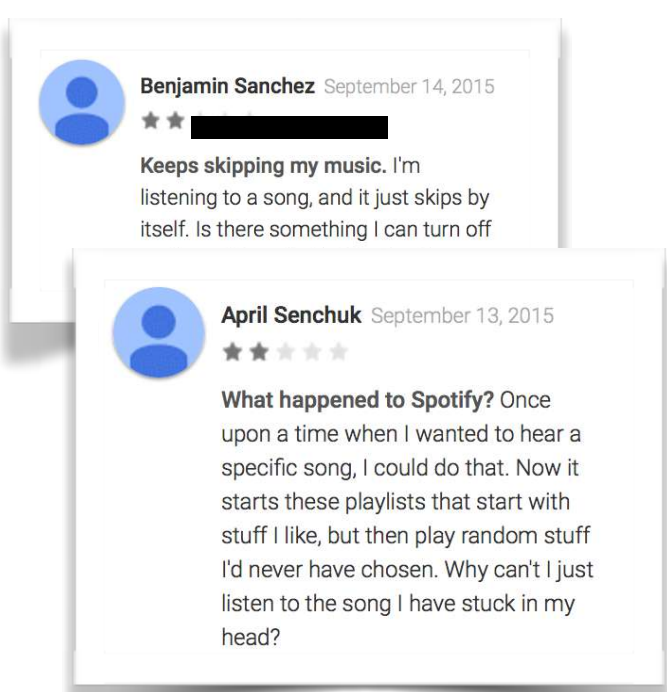
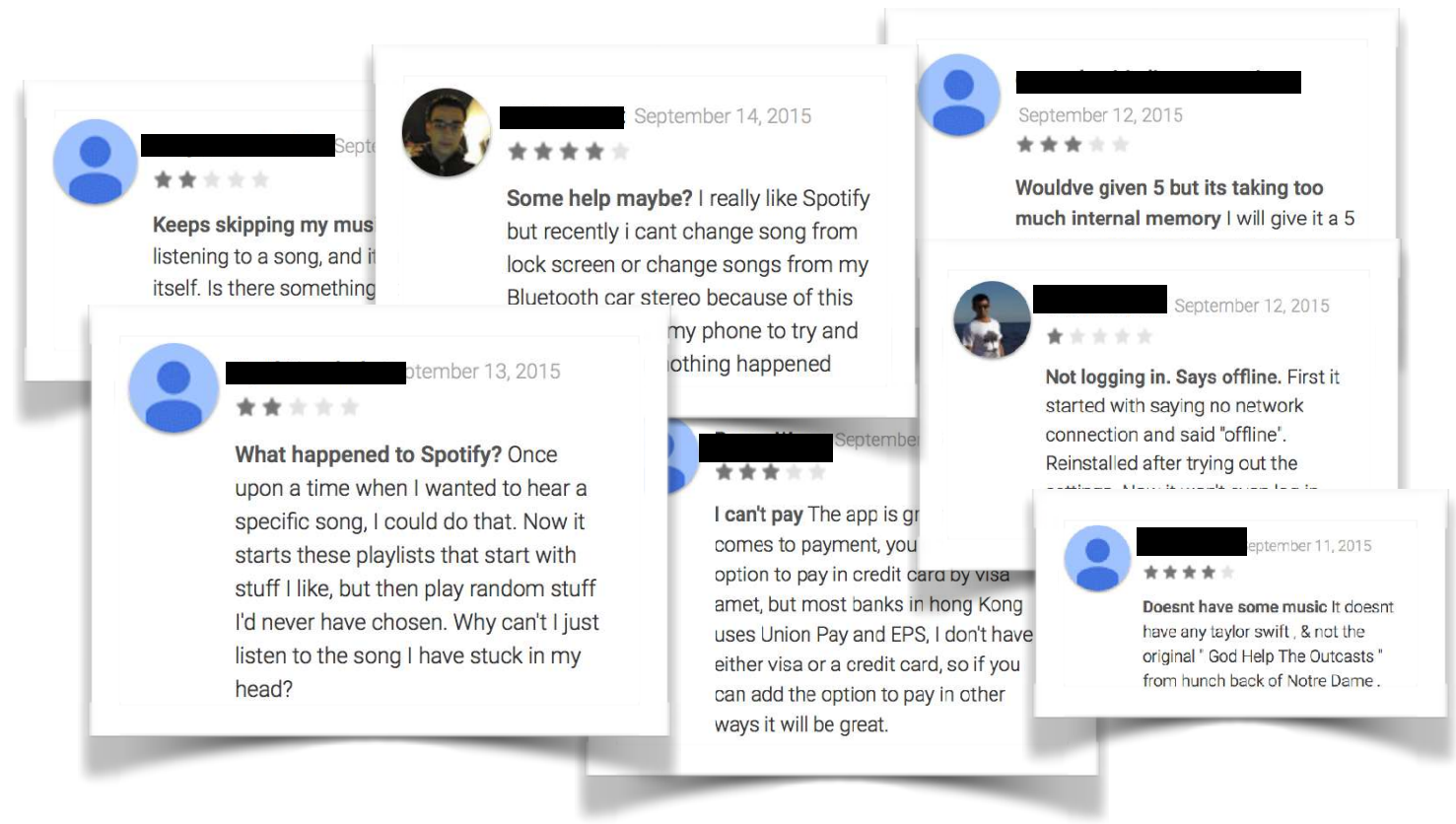
Diferentes categorías



Reviews inconsistentes

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Temas más importantes

Dispositivos a considerar en la matriz de pruebas

Reviews inconsistentes
Reviews no informativas
Diferentes categorías

Cambios para el backlog de producto e iteración

GENERACIÓN AUTOMÁTICA DE ARTEFACTOS PARA EVOLUCIÓN Y MANTENIMIENTO



Ciclo de desarrollo con cadencia de días, semanas, etc.

Presupuesto de pruebas bajo

Presión continua por entregas frecuentes

Usuarios dispuestos a cambiar la app por una app sustituta

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LOS CICLOS DE EVOLUCIÓN Y MANTENIMIENTO DEBEN SER EFECTIVOS !!!

OPCIÓN

REALIDAD

Minar documentación

OPCIÓN

Minar documentación

REALIDAD

La documentación es una leyenda...y pocos la han visto



OPCIÓN

Minar documentación

Minar el código !!

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Minar el código !!

REALIDAD

La documentación es una leyenda....y pocos la han visto

El código proporciona una vista parcial del uso de la app en condiciones reales

OPCIÓN

Minar documentación

Minar el código !!

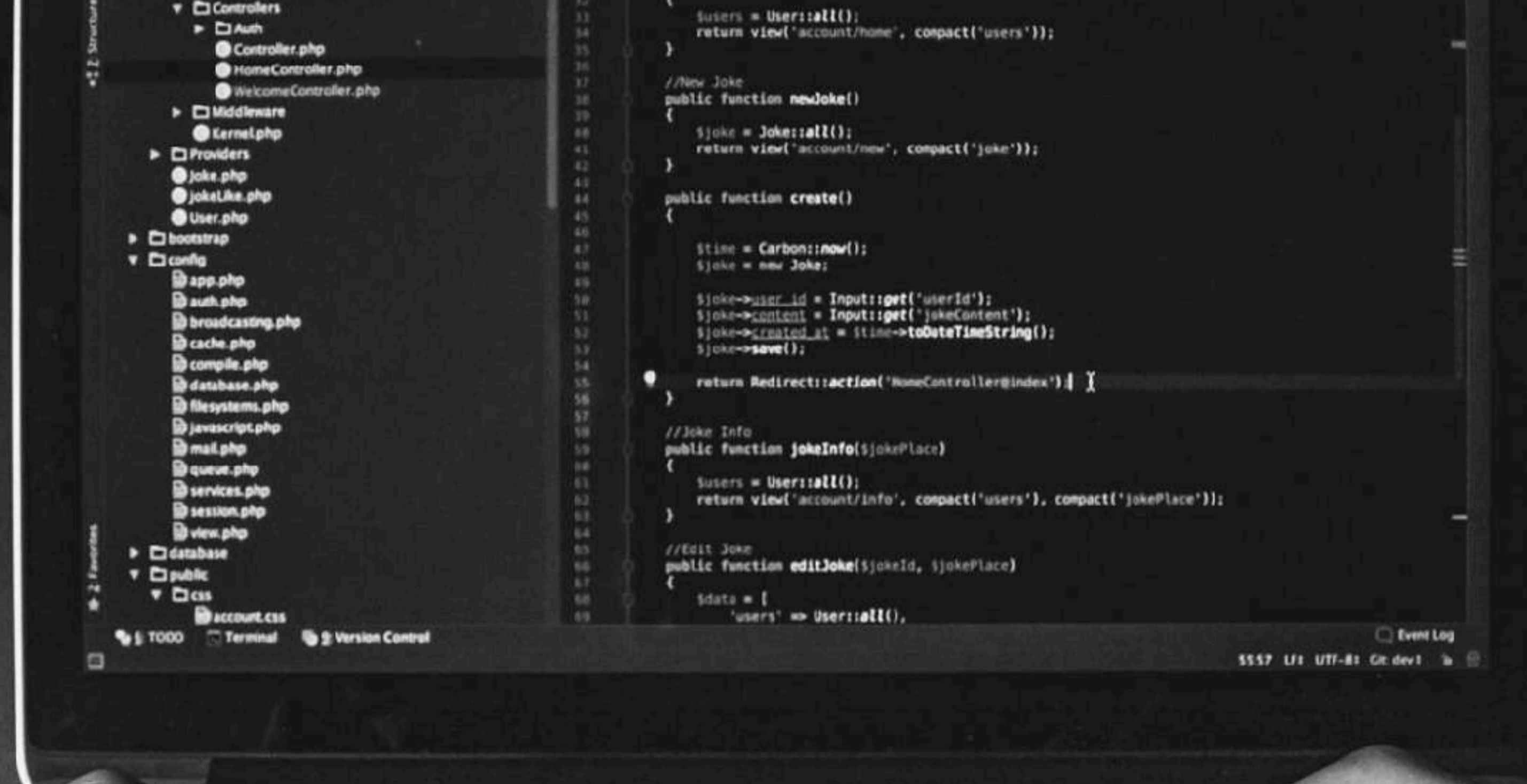
Aprender de los usuarios

REALIDAD

La documentación es una leyenda....y pocos la han visto

El código proporciona una vista parcial del uso de la app en condiciones reales

Cómo se puede aprender de los usuarios ?



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