Limited lifespan for BOE versions

go/limited-lifespan-boe

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Reviewers: *app-platform, BOE product leads, analytics*
Approvers: *Han Cho*
Status: *released. See go/canibreak*

Goals

The goal of this proposal is to define a cutoff for soft and hard upgrade prompts to simplify API development and experiment cleanup.

Non-Goals

SOE/Butter/Legacy SOE is out of scope for this proposal

This problem could also be solved in other ways, such as API versioning. That is out of scope here — the only goals are to 1) decide whether dropping old app versions is desirable and 2) develop a sensible policy for forcing app upgrades.

Background

Currently, we need to support old BOE versions indefinitely. This is particularly painful for the API, because it means we can never make breaking changes. As a result of this, we also avoid cleaning up mobile_dynamic_config entries in production.php in order to keep experiments on for these old versions of the app. It also leads to bloated endpoints that have code that does not meaningfully contribute to GMS.

In the absence of an official guideline, we rely on social consensus to decide whether an app version should be supported. Eg: here we decided to remove code because the BOE versions that rely on it are 5 years old.

Another example: https://etsy.slack.com/archives/C03308DTNRF/p1651866463751349.

As we transition from API v2 to v3, it is desirable to disable versions of the app that rely on API v2 so that we can remove API v2 code. It would also be nice to disable app versions that do not support Oauth 2.

Separately, it's desirable to limit supported OS versions (see Supporting Legacy iOS Versions). A BOE version cutoff may be informed in part by a policy on OS old versions. However, note that these are not the same thing. Even if we no longer develop for an OS version, users can still install and use BOE on that OS version if the API supports it.

AEGIS developed hard and soft upgrade prompts, which we propose using to limit app versions.

Orange Doc: Forced Upgrade Prompt

iOS testing docs:

- Soft Upgrade Prompt - Essential information
- [iOS] Upgrade Prompt Testing

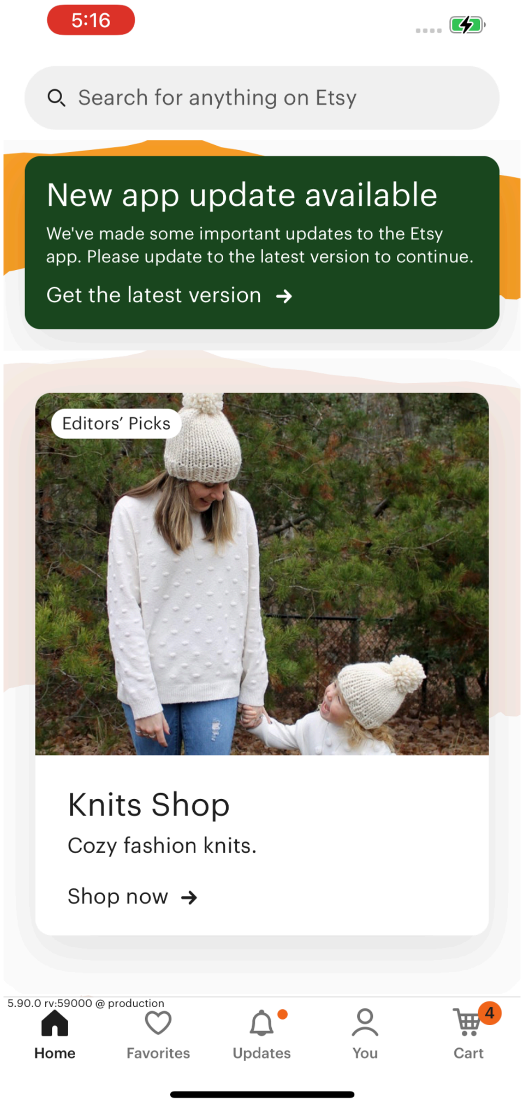
Android testing docs:

- [Android] Soft Upgrade Prompt Testing
- [Android] Hard Upgrade Prompt Testing

Availability:

- Hard prompt (iOS & Android): BOE 5.74 (release: 4/19/21)
- Soft prompt (Android): BOE 5.77 (release: 6/1/21)
- Soft prompt (iOS): BOE 5.80 (release: 7/12/21)
    - Uses an SDL banner, so it would be available to earlier versions that support those banners

Soft:



Search for anything on Etsy

New app update available

We've made some important updates to the Etsy app. Please update to the latest version to continue.

Get the latest version →

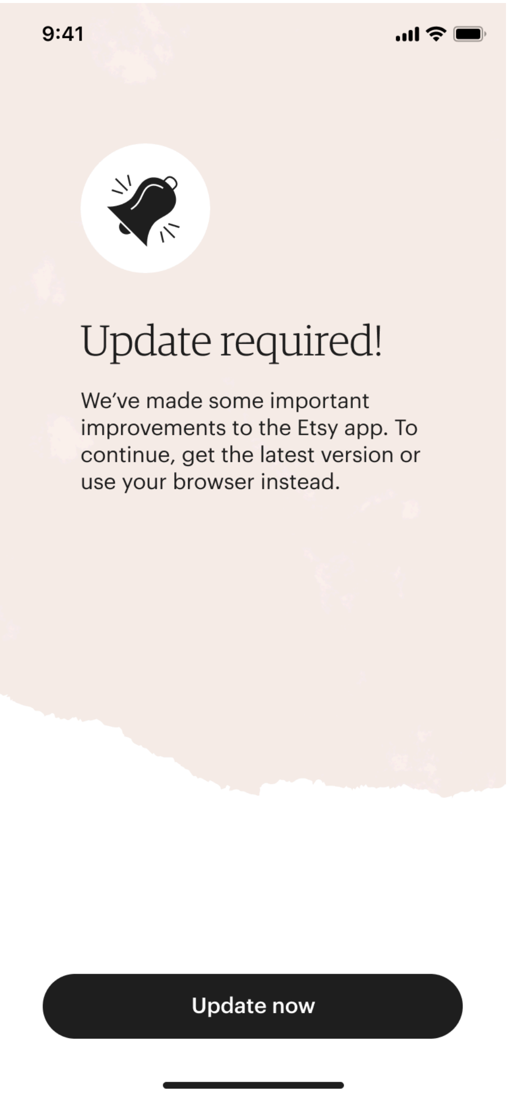
Editors' Picks

Knits Shop

Cozy fashion knits.

Shop now →

Hard:



Update required!

We've made some important improvements to the Etsy app. To continue, get the latest version or use your browser instead.

The soft upgrade prompt shows a banner on the home screen asking users to update, whereas the hard upgrade prompt does not allow users to take any action in the app.

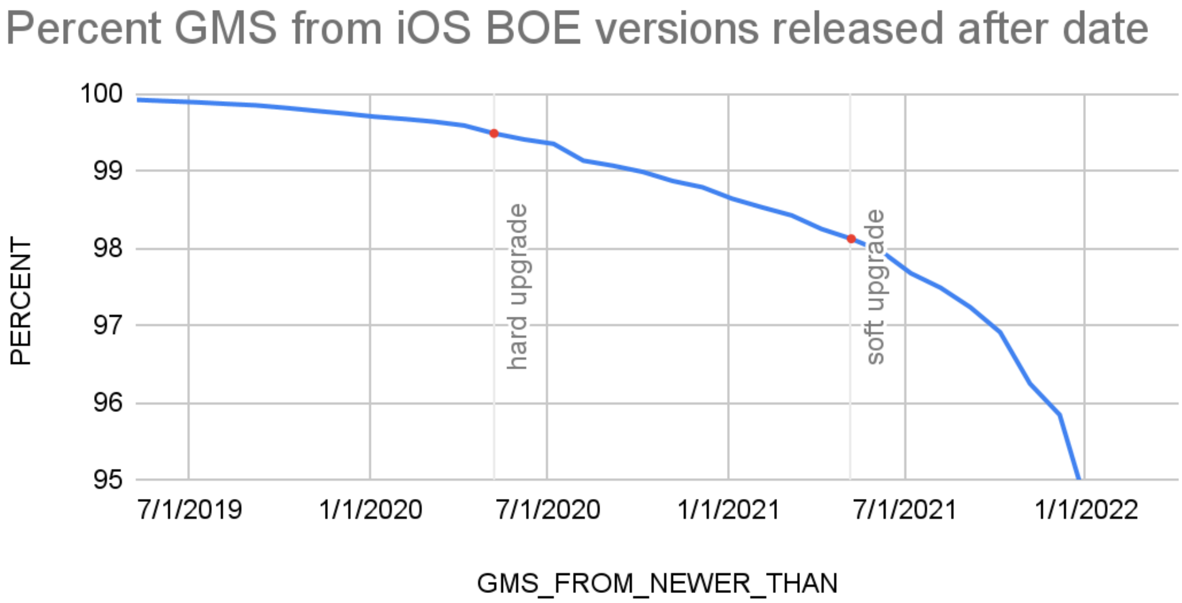
Overview

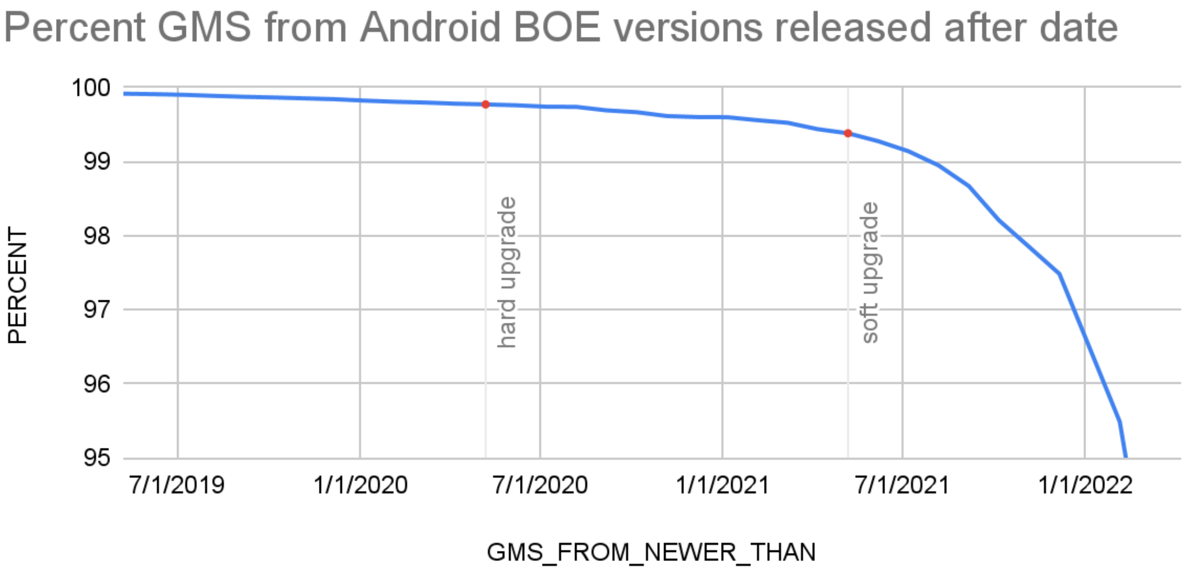
There is a cost in forcing users to upgrade their BOE app. We will lose some buyers entirely who can't upgrade to the latest app version due to an outdated device or lack of space on their device. However, we expect some of them would switch to mobile web and many of them to upgrade their app. We could try to run experiments to determine how many of these users would upgrade vs. abandon Etsy, but their small numbers would make experimentation difficult.

The most obvious metric for which app versions we should support is their GMS contribution. Arbitrarily, we will choose a policy that would show a soft upgrade prompt to less than 5% of GMS contributors and a hard upgrade prompt to less than 1% of GMS contributors.

Detailed Design

This is the distribution of GMS contribution by release date:





We suggest showing a soft upgrade prompt to users with a BOE version more than 1 year old, and a hard upgrade prompt to users with a BOE version more than 2 years old. Since we know some users visit the Etsy app once a year for holiday shopping, annual cutoff dates are somewhat intuitive.

For our current iOS population, this would cause users contributing 1.84% of GMS to see a soft upgrade prompt and users contributing 0.52% of GMS to see a hard upgrade prompt.

For our current Android population, this would cause users contributing 0.57% of GMS to see a soft upgrade prompt and users contributing 0.23% of GMS to see a hard upgrade prompt.

App GMS scratchsheet

Implementation details

One way to implement this would be to add some magic to Feature::Eligibility so we can say "this feature is enabled for all BOE versions older than today - x." Alternatively, we could manually update the versions list — but that is a tedious task, likely to be forgotten.

Eg:

```
  FC::ELIGIBILITY => [
        Eligibility::APP_VERSION => [
            AppVersion::MAX_BOE_RELEASE_AGE => TimeUtils::DAY_SECONDS
* 365
        ],
    ],
```

Tasks:

- Add max BOE release age to Feature::Eligibility
- Add configs that turn on the soft + hard prompt for appropriate app versions
- Investigate SDL changes to create a hard prompt or blank experience for app versions older than the hard prompt.

[REDACTED]

Infrastructure Concerns

[REDACTED]

Other Cross-Cutting Concerns

[REDACTED]

Alternatives Considered

Instead of defining a rolling window, we could have a static version cutoff

Doing nothing is not sustainable. Without clear guidance, the supported BOE versions are determined on a one-off basis, requiring a conversation for every feature/config removed or breaking change. This adds unnecessary toil for engineers.