Android Material Motion

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Material Design

Material Design is an adaptable system of guidelines, components, and tools that support the best practices of user interface design.

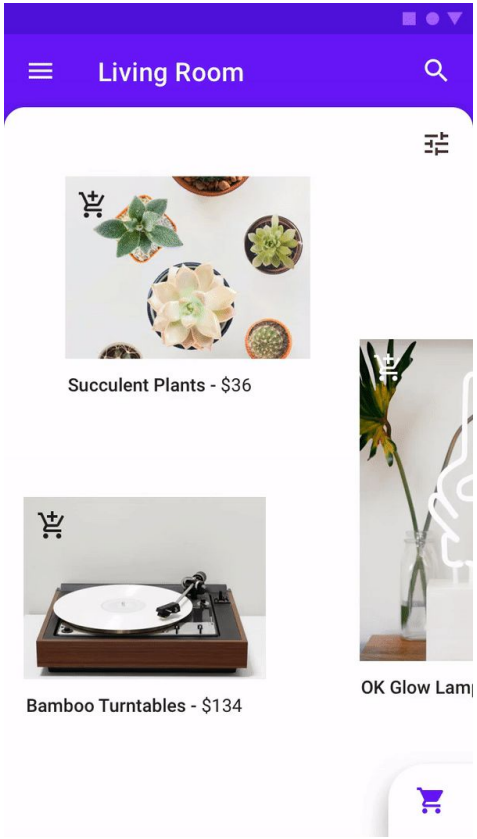
Created by Google to build high-quality digital experience for Android, iOS, Flutter and web.

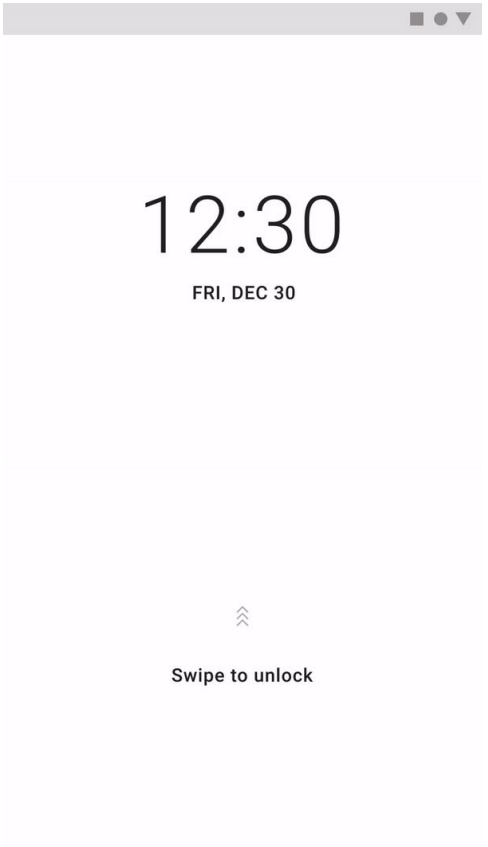
Material Motion

Animasyon ve hareketler için tasarlanmış bir material design altında geliştirilmiş bir tasarım kütüphanesidir. Bu kütüphane, kullanıcı arayüzlerinin daha doğal, akıcı ve keyifli hale getirilmesi amacıyla animasyon, geçiş ve dokunma etkileşimlerini tasarlamak için kullanılır.

Bunları yaparken transition'ları kullanır. Transition animasyon ile farklı iki state'deki UI elementine animasyon vermesini sağlar.

User Education





Patterns

4 farklı pattern üzerine kuruludur.

- ➔ **Container Transform**
- ➔ **Shared Axis**
- ➔ **Fade Through**
- ➔ **Fade**

Container Transform (Persistent Container)

Listeler, cardlar, butonlar, arama kutuları gibi containeri olan iki UI elementin arasında geçiş animasyonu vermeyi sağlar. En çok kullanılan patterndir. Transition işlemi kalıcı bir element ile yapılıyor ise kullanılmalıdır.

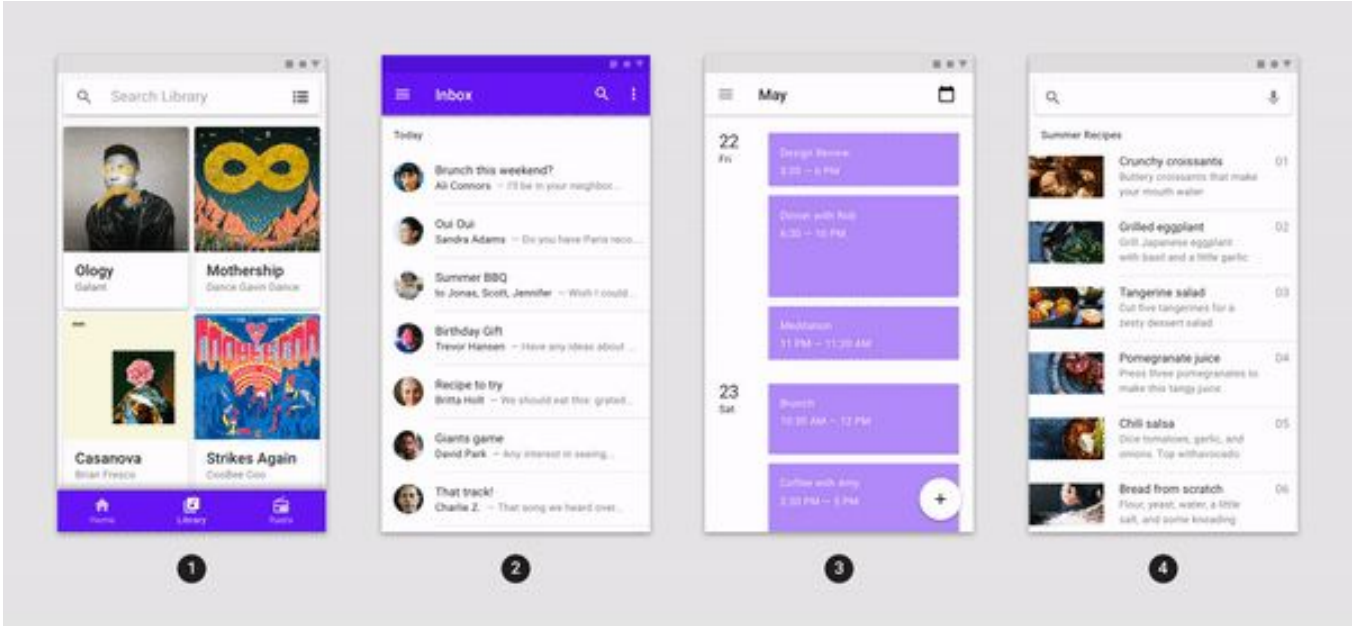
Transition.java class'ından extend edilmiştir. Diğer patternler *Visibility.java* class'ından extend edilmiştir. Bu da MaterialContainerTransform'ı bir shared element transition'ı yapmaktadır.

Container Transform vs Shared Element

MaterialContainerTransform bir shared element transition’dir. Ancak geleneksel **shared element**te örneğin iki sahne arasındaki geçişte öğenin aynı görüntüsünü vermek için tek bir öğeyi hareket ettirir. Bir liste öğesi seçildiğinde seçilen öğenin resmi diğer sahneye aktarılır ve bu görüntü daha büyük boyutta görüntülenir.

MaterialContainerTransform da ise paylaşılan öğenin boyut ve şeklinin değiştirilerek geçişi gerçekleştirir. Örneğin, bir listenin satır View in konteyneri, tam ekran Fragment'in kök ViewGroup'unun boyut ve şekline dönüştürülür. Öğelerin hareketini sağlama şekli, esneklik ve özelleştirme sağlar.

Container Transform



Container Transform

Shared Axis(Relationships)

Shared Axis animasyonları, farklı öğeler arasındaki geçişler belirli bir eksen boyunca paylaşılır. Bu, sayfa veya öğeler arasındaki geçişin daha doğal hissetmesini sağlar.

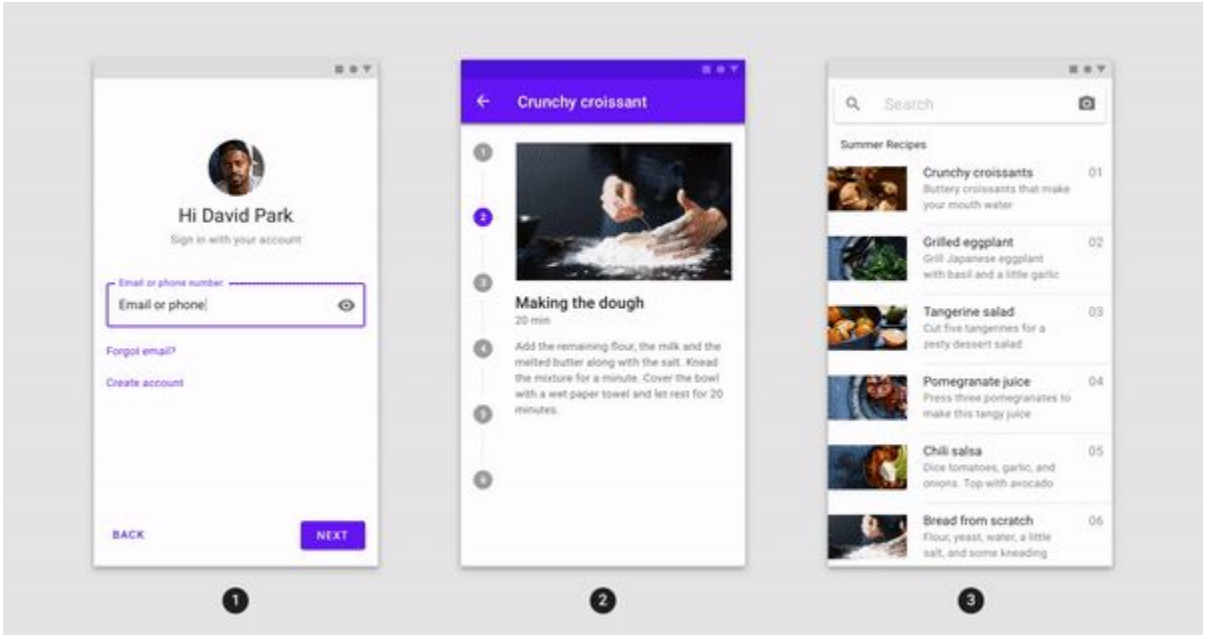
Bir visibility transition’dır. Forward ve backward direction’ları kullanarak hareket eder.

Persistent container yok ve navigational bir ilişki varsa tercih edilmeli.

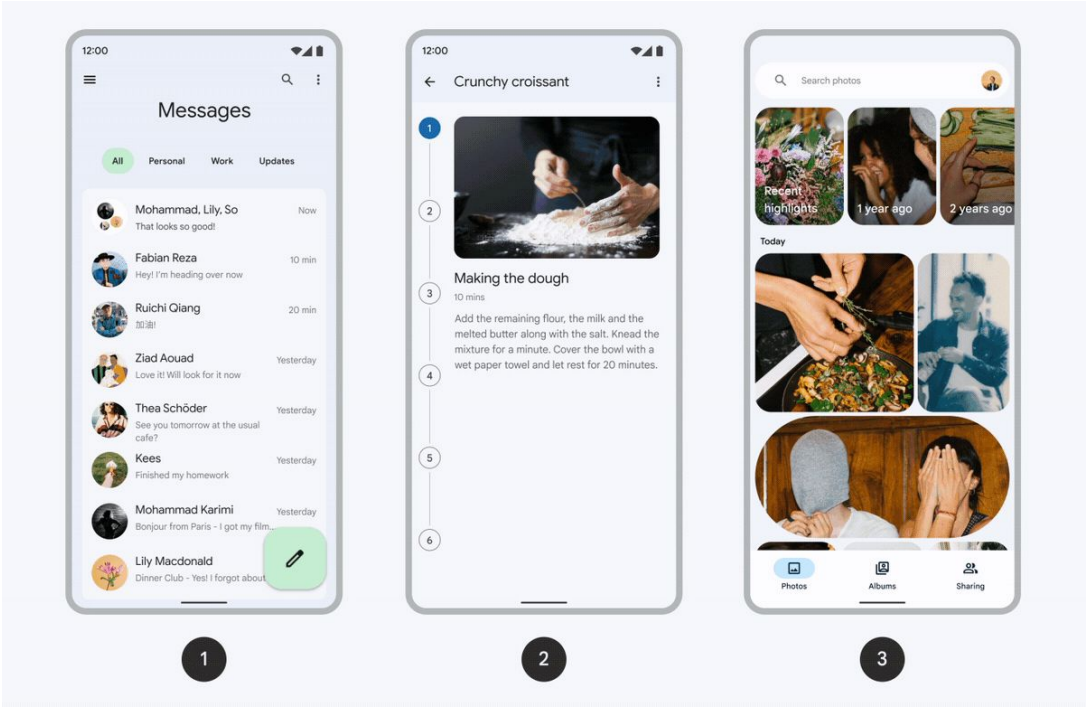
Shared Axis

Axis	Forward	Backward	Kullanımı Alanları
X	Left on x-axis	Right on x-axis	Onboarding Akışları
Y	Up on y-axis	Down on y-axis	İki component ayırma/geçiş sağlama
Z	Forward on z-axis	Backward on z-axis	Parent/Child Navigation, Derinlik

Shared Axis


Hi David Park
Sign in with your account
Email or phone number
Email or phone
Forgot email?
Create account
BACK
NEXT
1
Crunchy croissant
Making the dough
20 min
Add the remaining flour, the milk and the melted butter along with the salt. Knead the mixture for a minute. Cover the bowl with a wet paper towel and let rest for 20 minutes.
2
Search
Summer Recipes
Crunchy croissants
Buttery croissants that make your mouth water
01
Grilled eggplant
Grill Japanese eggplant with basil and a little garlic
02
Tangerine salad
Cut five tangerines for a zesty dessert salad
03
Pomegranate juice
Press three pomegranates to make this tangy juice
04
Chili salsa
Dice tomatoes, garlic, and onions. Top with avocado
05
Bread from scratch
Flour, yeast, water, a little salt, and some kneading
06
3

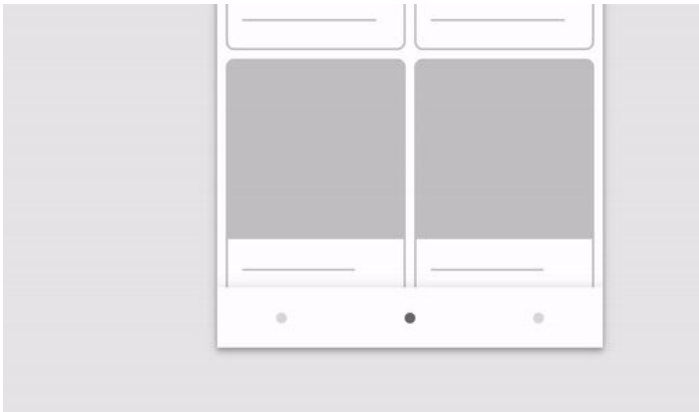
Shared Axis


12:00
Messages
All
Personal
Work
Updates
Mohammad, Lily, So
That looks so good!
Now
Fabian Reza
Hey! I'm heading over now
10 min
Ruichi Qiang
加油!
20 min
Ziad Aouad
Love it! Will look for it now
Yesterday
Thea Schöder
See you tomorrow at the usual cafe?
Yesterday
Kees
Finished my homework
Yesterday
Mohammad Karimi
Bonjour from Paris - I got my film...
Yesterday
Lily Macdonald
Dinner Club - Yes! I forgot about
12:00
Crunchy croissant
1
2
3
4
5
6
Making the dough
10 mins
Add the remaining flour, the milk and the melted butter along with the salt. Knead the mixture for a minute. Cover the bowl with a wet paper towel and let rest for 20 minutes.
Search photos
Recent highlights
1 year ago
2 years ago
Today
Photos
Albums
Sharing
1
2
3

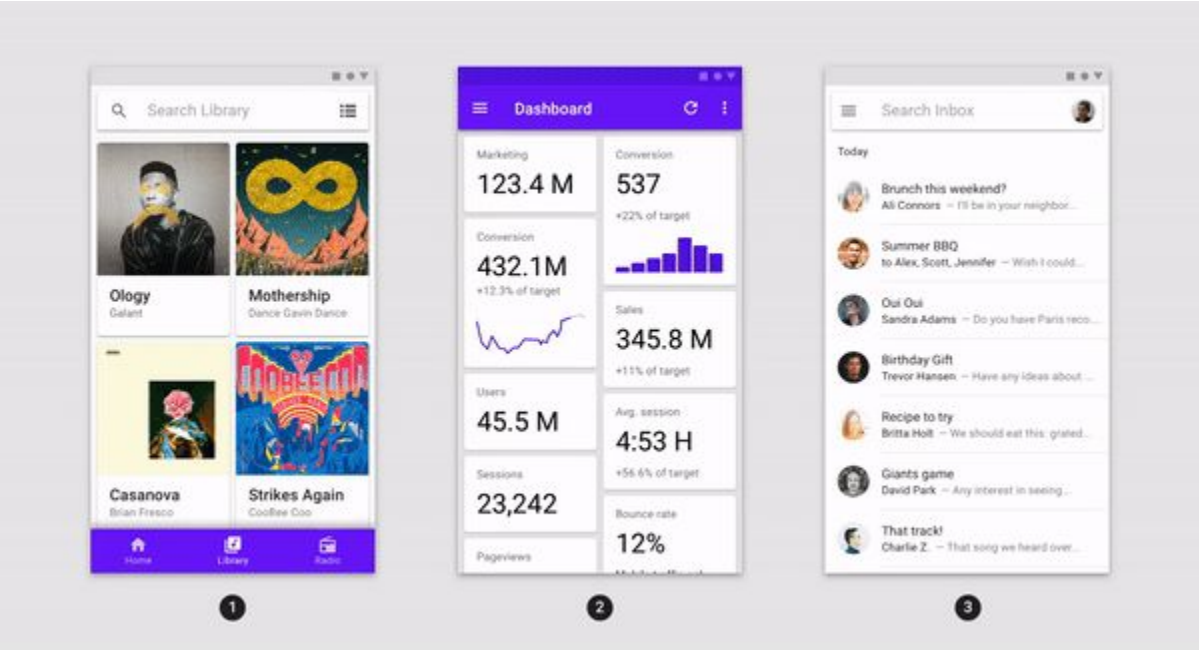
Fade Through (No Relationships or Insignificant)

Bu pattern UI elementlerin birbiriyle güçlü bir bağlantısı olmadığı durumlarda kullanılabilir. Bottom bar navigation buna güzel örnek olabilir. Tab değiştiğinde ekranda gözüken ana context değişecek. Değişimi kullanıcı daha iyi anlayacaktır.

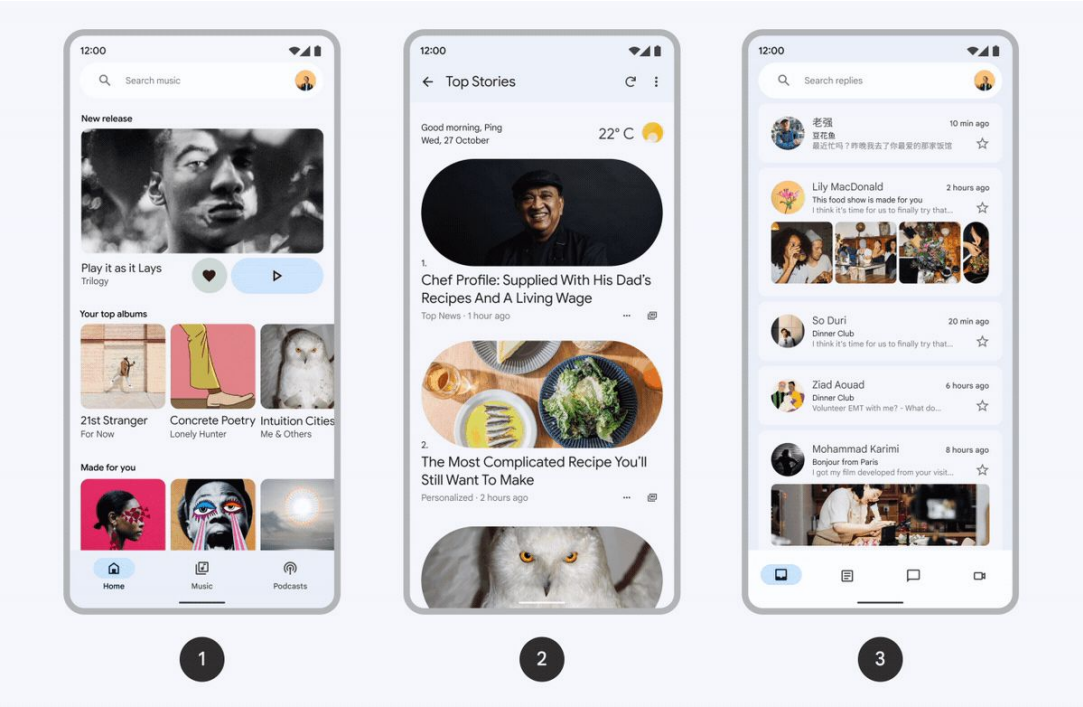
Kaybolacak view'a fade out animasyonu uygulanır, yeni gelen view'a fade in animasyonu verilir.



Fade Through

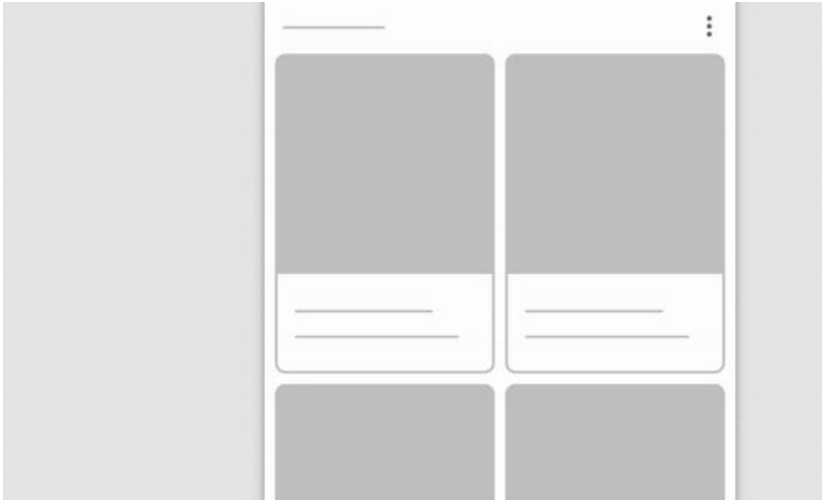


Fade Through

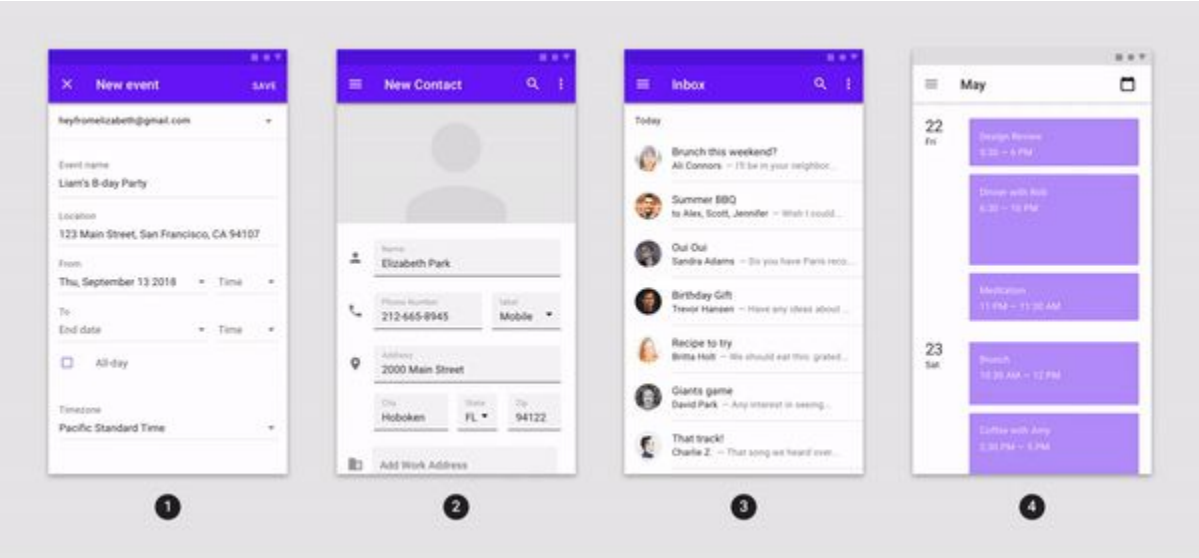


Fade (Entering and exiting)

Bu pattern, Dialog, Menu, Snackbar ya da FAB gibi ekrana girip/çıkan UI elementlerin kullanılacağı durumlarda tercih edilmeli.



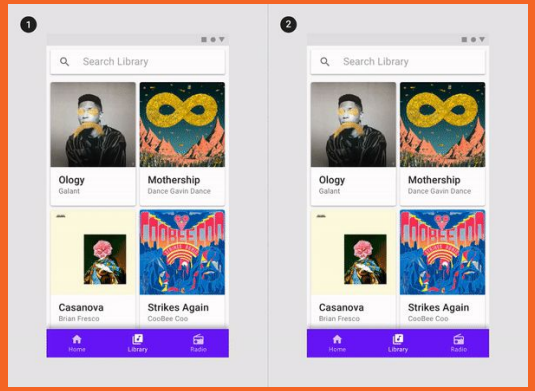
Fade


New event
SAVE
heyfromelizabeth@gmail.com
Event name
Liam's B-day Party
Location
123 Main Street, San Francisco, CA 94107
From
Thu, September 13 2018
Time
To
End date
Time
All-day
Timezone
Pacific Standard Time
1
New Contact
Name
Elizabeth Park
Phone Number
212-665-8945
Label
Mobile
Address
2000 Main Street
City
Hoboken
State
FL
Zip
94122
Add Work Address
2
Inbox
Today
Brunch this weekend?
Ali Connors
Summer BBQ
to Alex, Scott, Jennifer
Oui Oui
Sandra Adams
Birthday Gift
Trevor Hansen
Recipe to try
Britta Holt
Giants game
David Park
That track!
Charlie Z.
3
May
22
Fri
23
Sat
4

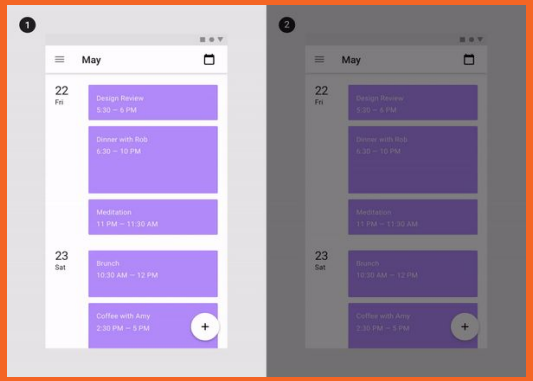
Fade


12:00
Compose
From
lily@google.com
To
Ziad Aouad
So Duri
Cc
Bcc
Subject
Compose email
1
12:00
Messages
All
Personal
Work
Updates
Mohammad, Lily, So
Now
That looks so good!
Fabian Reza
10 min
Hey! I'm heading over now
Ruichi Qiang
20 min
加油!
Ziad Aouad
Yesterday
Love it! Will look for it now
Thea Schöder
Yesterday
See you tomorrow at the usual cafe?
Kees
Yesterday
Finished my homework
Mohammad Karimi
Yesterday
Bonjour from Paris - I got my film...
Lily Macdonald
Yesterday
Dinner Club - Yes! I forgot about
2
12:00
Mohammad, Lily, So
Sounds good. Talk to you soon
Yesterday
Do you want to try sushi tonight?
maybe pizza?
Homemade Dumplings
everydumplingever.com
or we could make this?
That looks so good!
Let's do it
Great!
Aa
3
12:00
Search replies
豆花鱼
Dinner Club
I think it's time for us to finally try that new noodle shop downtown that doesn't use menus. Anyone els...
This food show is made for you
Ping- you'd love this new food show I started watching. It's produced by a Thai drummer who star...
4

Speed



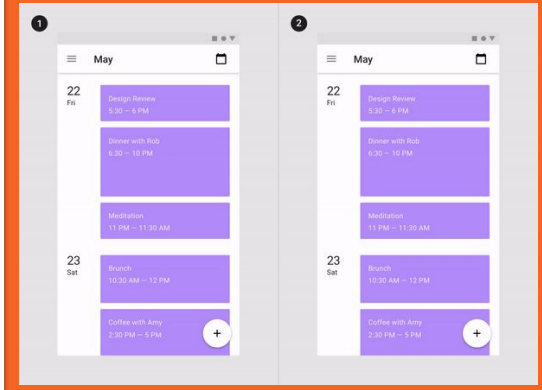
Motion Path



Customization

- **Speed**
  Transition ve Easing Süreleri
- **Motion Path**
  Linear ya da Arched
- **Oscillation**
  Bounce efekti
- **Stagger**
  Fade in delay

Oscillation



Stagger