ConstraintLayout

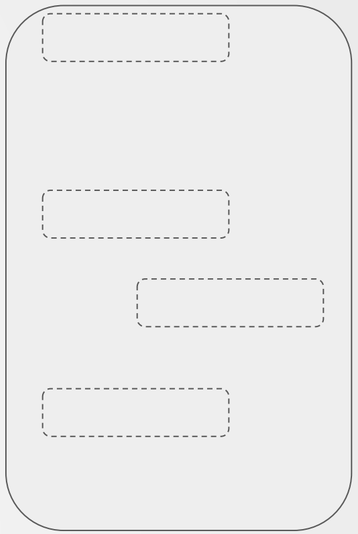
Introdução

- Primeira versão liberada juntamente com Android Studio 2.3 (meio 2018)
- Criado com a intenção de deixar a hierarquia plana e melhorar a performance da aplicação
- Melhorias significativas para que pudesse ser construído usando o Design do Android Studio além do XML
- Disponível a partir da API 9

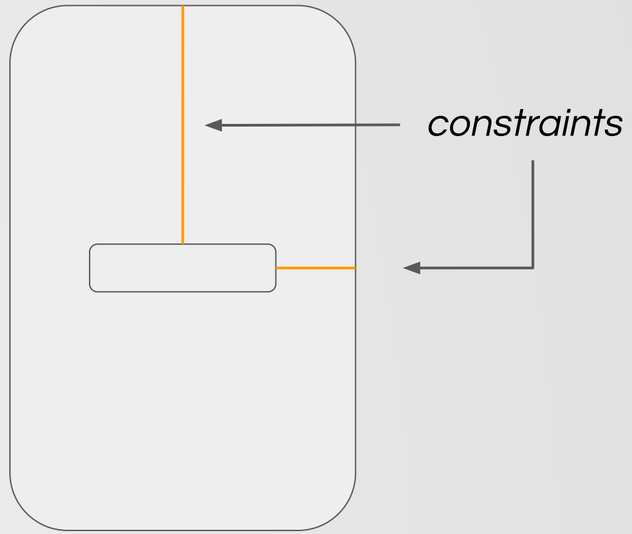
Melhores práticas

- **Ao criar um novo elemento somente com width e height, o Android Studio notifica sobre as “constraints” do elemento**
  - This view is not constrained, it only has designtime positions, so it will jump to (0,0) unless you add constraints.
  - Significa que o elemento não sabe como se comportar na tela. Assim, ao criar um elemento, é necessário dizer quais suas “constraints” que também pode ser chamadas de “restrições” ou “constantes”

- **match_parent não é uma boa prática**
  - Mesmo que muitas vezes tenha o funcionamento esperado, deve-se usar constraints left e right e atribuir 0dp



Incorreto



Correto

Equivalência RelativeLayout e ConstraintLayout

RelativeLayout	ConstraintLayout
android:layout_centerInParent="true"	app:layout_constraintBottom_toBottomOf="parent" app:layout_constraintLeft_toLeftOf="parent" app:layout_constraintStart_toStartOf="parent" app:layout_constraintRight_toRightOf="parent" app:layout_constraintEnd_toEndOf="parent" app:layout_constraintTop_toTopOf="parent"
android:layout_centerHorizontal="true"	app:layout_constraintLeft_toLeftOf="parent" app:layout_constraintStart_toStartOf="parent" app:layout_constraintRight_toRightOf="parent" app:layout_constraintEnd_toEndOf="parent"
android:layout_centerVertical="true"	app:layout_constraintBottom_toBottomOf="parent" app:layout_constraintTop_toTopOf="parent"

Equivalência RelativeLayout e ConstraintLayout

RelativeLayout	ConstraintLayout
android:layout_alignParentLeft="true"	app:layout_constraintLeft_toLeftOf="parent"
android:layout_alignParentStart="true"	app:layout_constraintStart_toStartOf="parent"
android:layout_alignParentRight="true"	app:layout_constraintRight_toRightOf="parent"
android:layout_alignParentEnd="true"	app:layout_constraintEnd_toEndOf="parent"
android:layout_alignParentTop="true"	app:layout_constraintTop_toTopOf="parent"
android:layout_alignParentBottom="true"	app:layout_constraintBottom_toBottomOf="parent"

Equivalência RelativeLayout e ConstraintLayout

RelativeLayout	ConstraintLayout
android:layout_alignStart="@id/view"	app:layout_constraintStart_toStartOf="@id/view"
android:layout_alignLeft="@id/view"	app:layout_constraintLeft_toLeftOf="@id/view"
android:layout_alignEnd="@id/view"	app:layout_constraintEnd_toEndOf="@id/view"
android:layout_alignRight="@id/view"	app:layout_constraintRight_toRightOf="@id/view"
android:layout_alignTop="@id/view"	app:layout_constraintTop_toTopOf="@id/view"
android:layout_alignBottom="@id/view"	app:layout_constraintBottom_toBottomOf="@id/view"
android:layout_alignBaseline="@id/view"	app:layout_constraintBaseline_toBaselineOf="@id/view"

Equivalência RelativeLayout e ConstraintLayout

RelativeLayout	ConstraintLayout
android:layout_toStartOf="@id/view"	app:layout_constraintEnd_toStartOf="@id/view"
android:layout_toLeftOf="@id/view"	app:layout_constraintRight_toLeftOf="@id/view"
android:layout_toEndOf="@id/view"	app:layout_constraintStart_toEndOf="@id/view"
android:layout_toRightOf="@id/view"	app:layout_constraintLeft_toRightOf="@id/view"
android:layout_above="@id/view"	app:layout_constraintBottom_toTopOf="@id/view"
android:layout_below="@id/view"	app:layout_constraintTop_toBottomOf="@id/view"