Macoun'10

Digitaler Stadtplan

Ortwin Gentz

 gentz@futuretap.com

 @futuretap

Agenda

MapKit out of the box

Annotations

Overlays

Ausschnittssteuerung

Core Location-Simulation

Core Location-Neuheiten

Agenda

- MapKit out of the box
- Annotations
- Overlays
- Ausschnittssteuerung
- Core Location-Simulation
- Core Location-Neuheiten

MapKit out of the box

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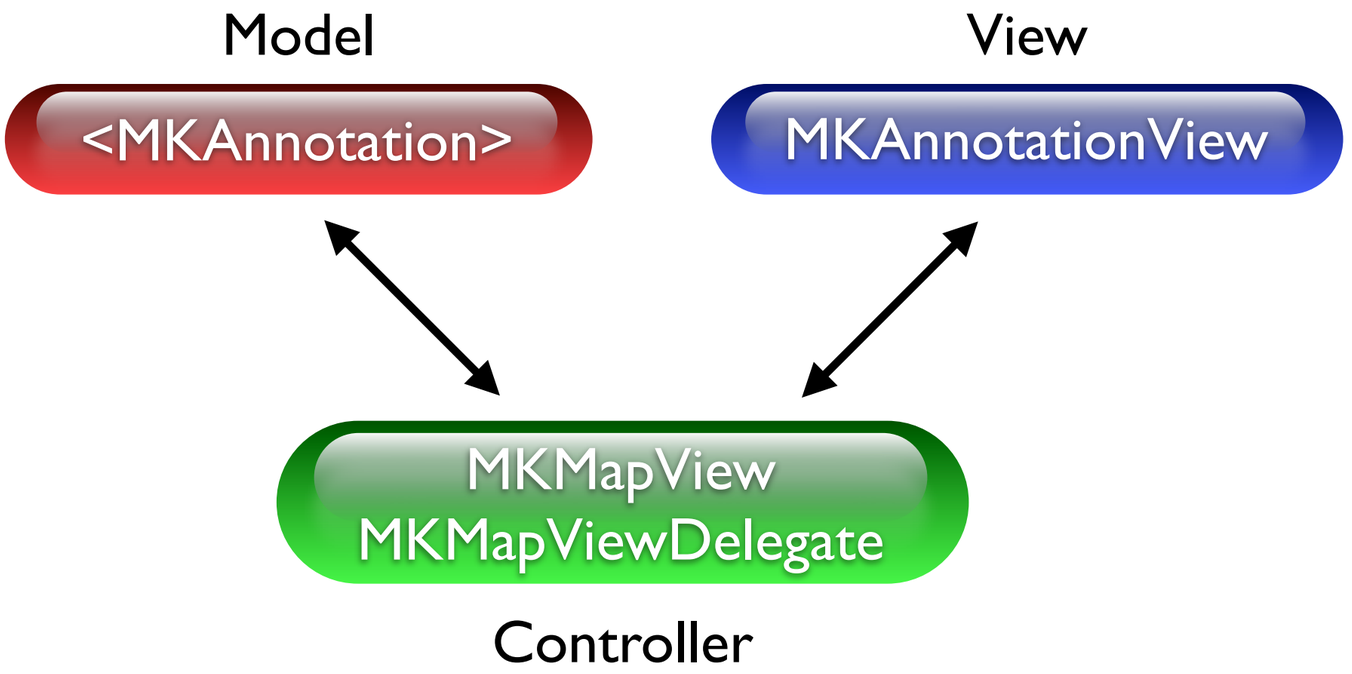
Annotations

- Selektierbare Punkt-Markierungen
- Standard-Pin oder selbst gestaltet
- Callout-Bubble
- Draggable (iOS 4)

Annotations




```
-mapView:viewForAnnotation:
```

Annotations

MKMapViewDelegate

```
- (MKAnnotationView*)mapView:(MKMapView*)map viewForAnnotation:(id)annotation {
  if ([annotation isMemberOfClass:[MKUserLocation class]]) {
    return nil; // let the OS handle it
  }

  MKAnnotationView *mkav;
  mkav = [map dequeueReusableAnnotationViewWithIdentifier:@“default“];
  if (!mkav) {
    mkav = [[[MKPinAnnotationView alloc] initWithAnnotation:annotation
                                             reuseIdentifier:@"default"] autorelease];
  }
  mkav.canShowCallout = YES;
  mkav.draggable = YES;
  return mkav;
}
```

Rezept: Annotations

- `MKAnnotation`-Protokoll unterstützen
- `MKMapViewDelegate: -mapView:viewForAnnotation:`
- Eigene `MKAnnotationView` oder `MKPinAnnotationView`
- Hinzufügen mit `-addAnnotation:` oder `-addAnnotations:`

Interaktion

- Selection
- Callout
- Dragging iOS 4

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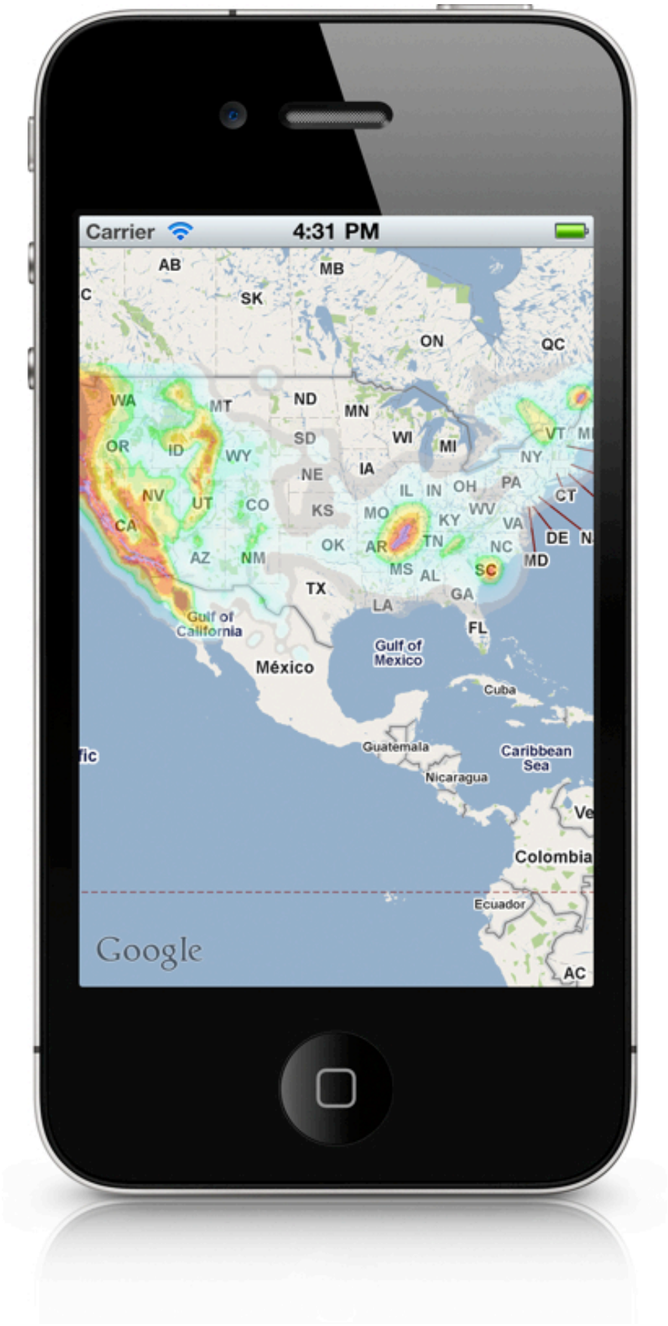
Overlays

iOS 4

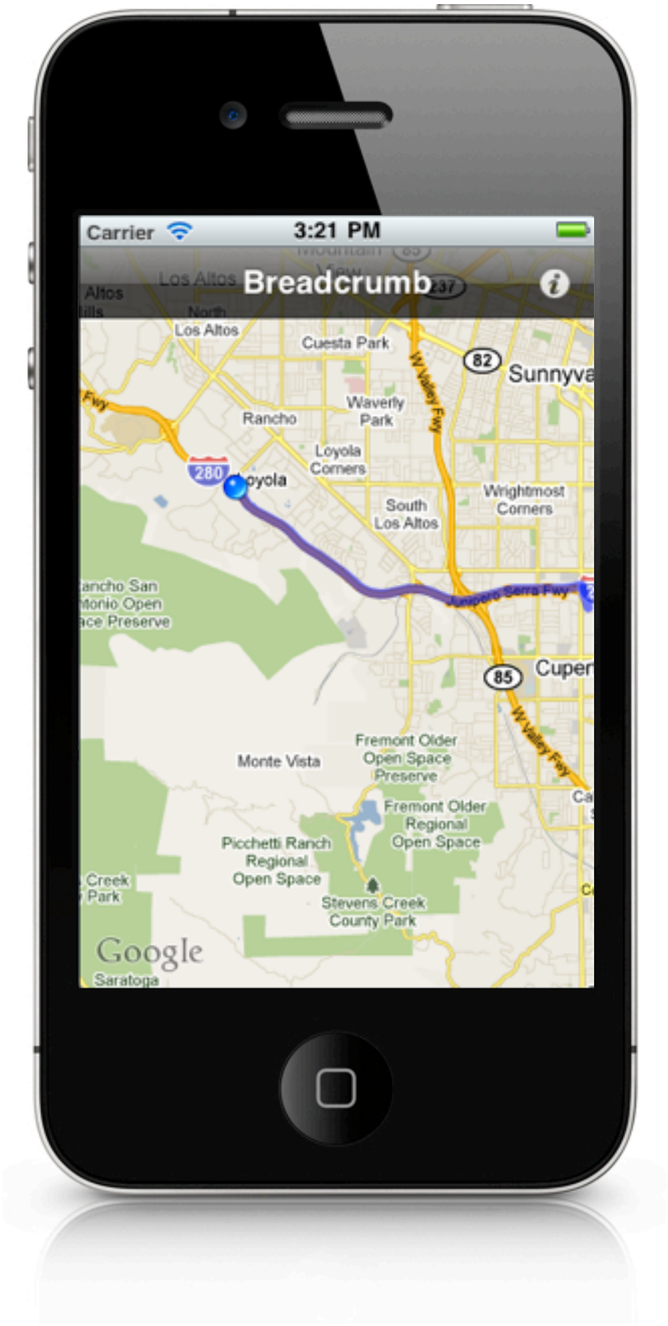
- Nicht-Punkte
- Keine Interaktion



Overlays

iOS 4

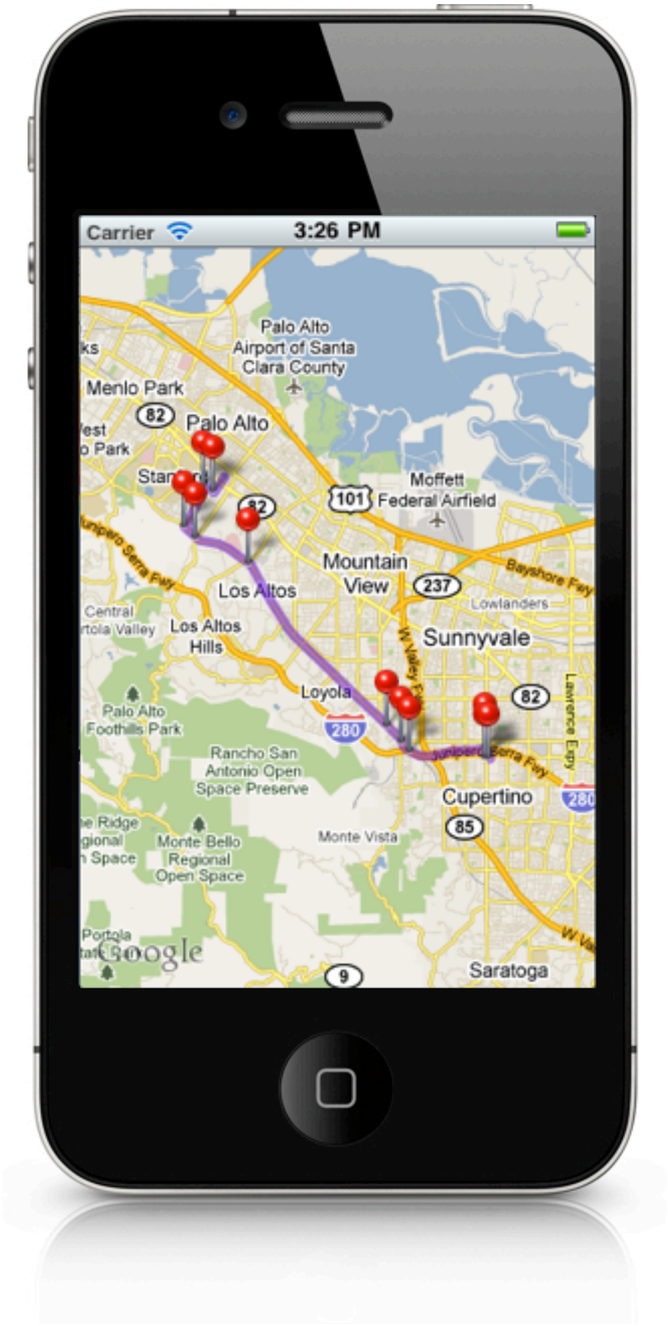
- Nicht-Punkte
- Keine Interaktion

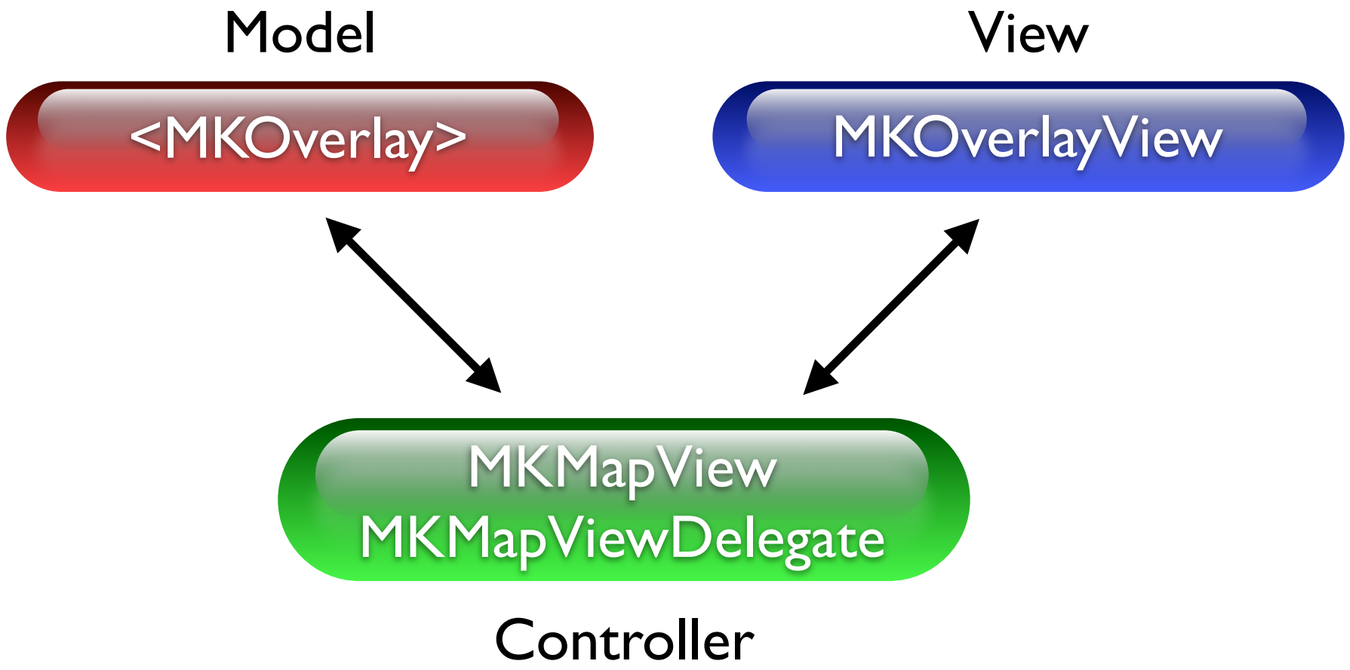


Overlays

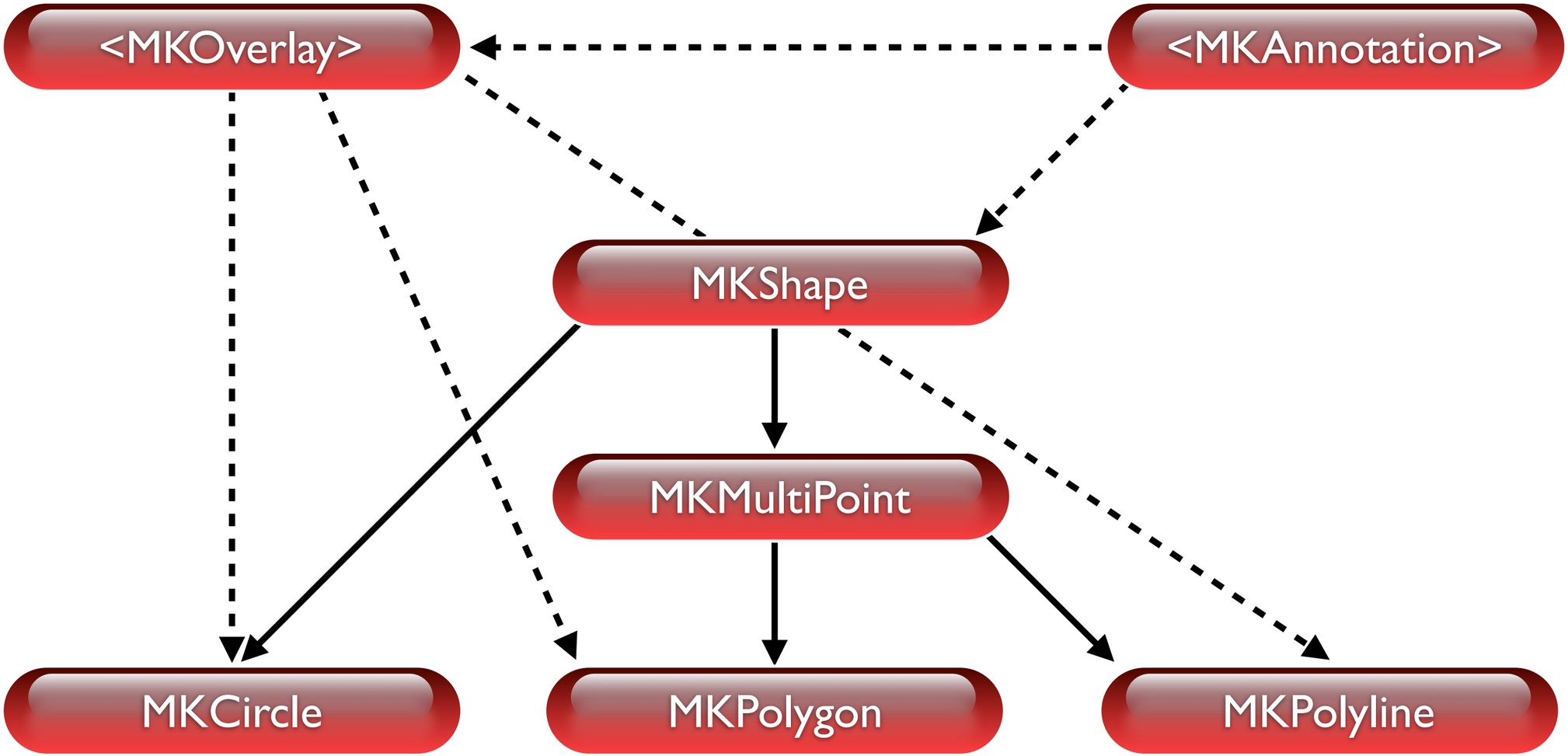
iOS 4

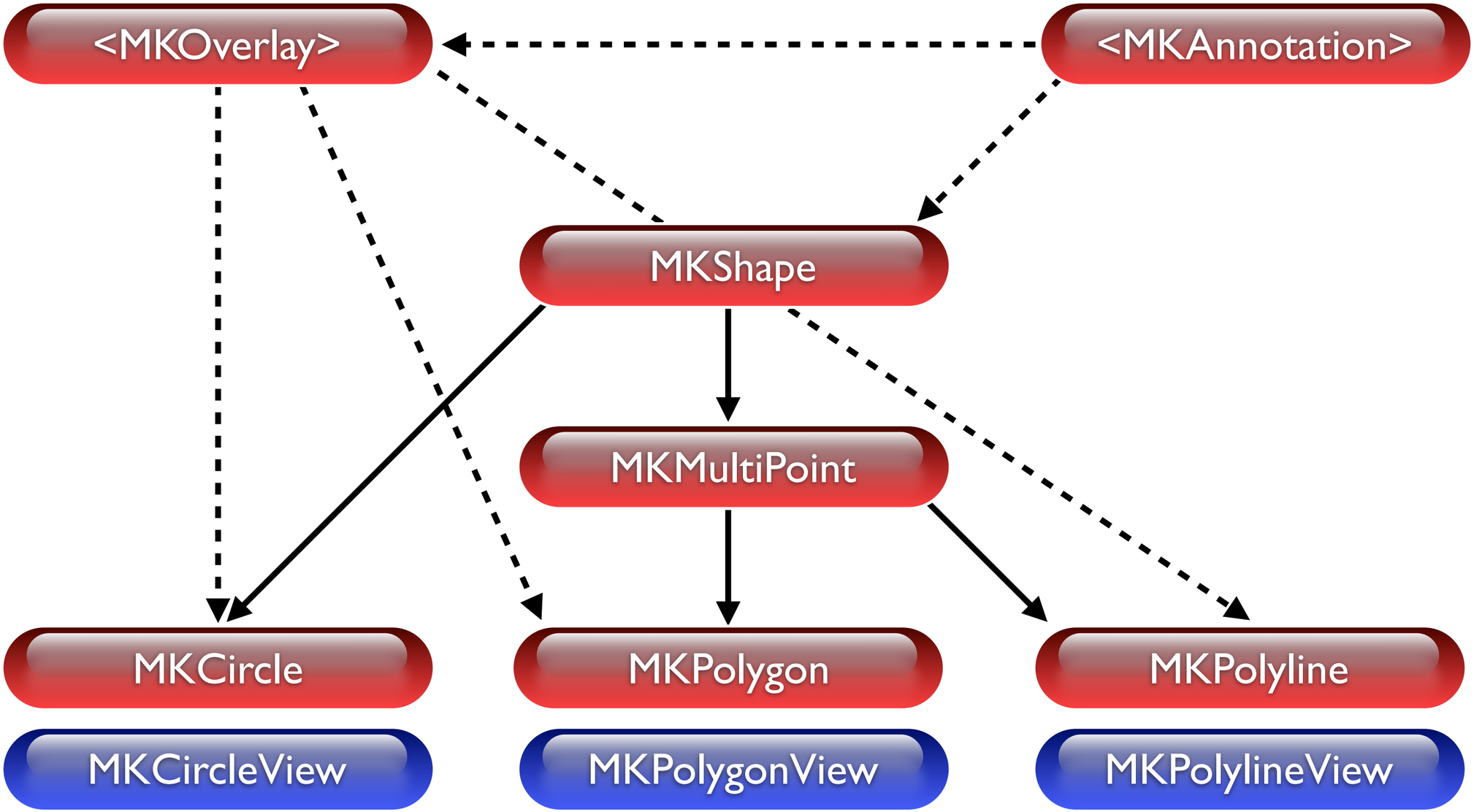
- Nicht-Punkte
- Keine Interaktion

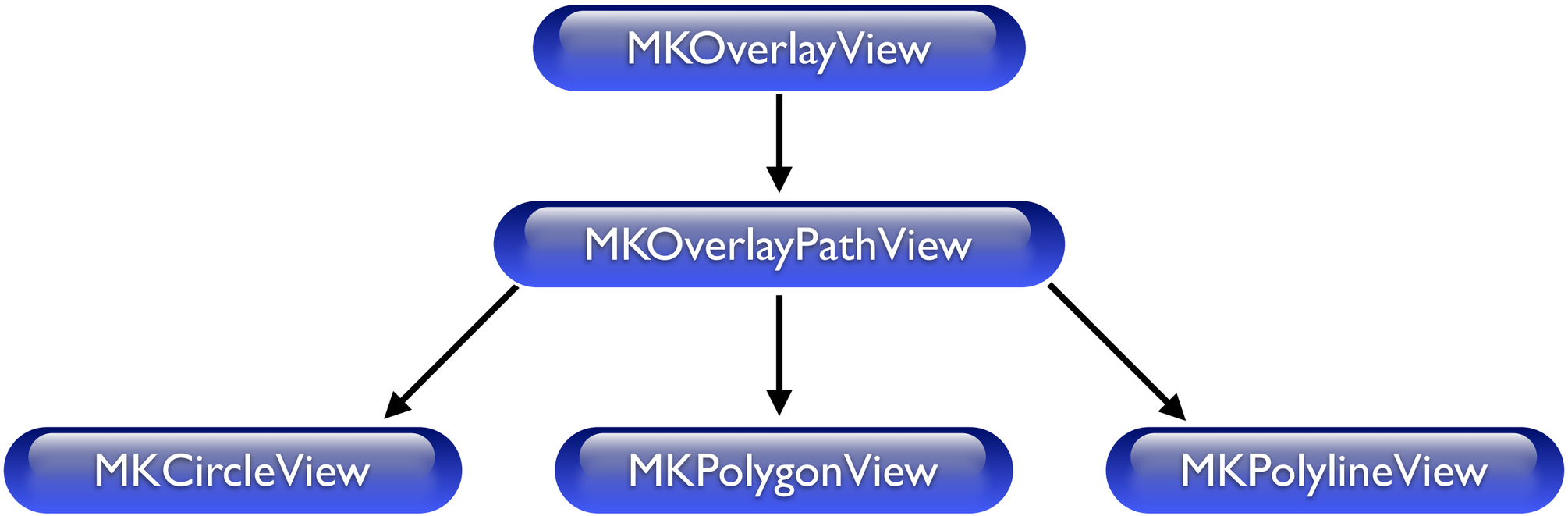





```
-mapView:viewForOverlay:
```


<MKOverlay>
<MKAnnotation>
MKShape
MKMultiPoint
MKCircle
MKPolygon
MKPolyline


<MKOverlay>
<MKAnnotation>
MKShape
MKMultiPoint
MKCircle
MKPolygon
MKPolyline
MKCircleView
MKPolygonView
MKPolylineView


MKOverlayView
MKOverlayPathView
MKCircleView
MKPolygonView
MKPolylineView

MKOverlayView Subclassing

- Implementieren von `-drawMapRect:zoomScale:inContext:`
- Sample Code: CrumbPathView, HazardMapView

Rezept: Overlays

- Model-Klassen nutzen oder `MKOverlay`-Protokoll unterstützen
- In `MKMapViewDelegate: -mapView:viewForOverlay:`
- Standard-View-Klassen oder `MKOverlayView` Subclass
- Hinzufügen mit `-addOverlay:` oder `-addOverlays:`

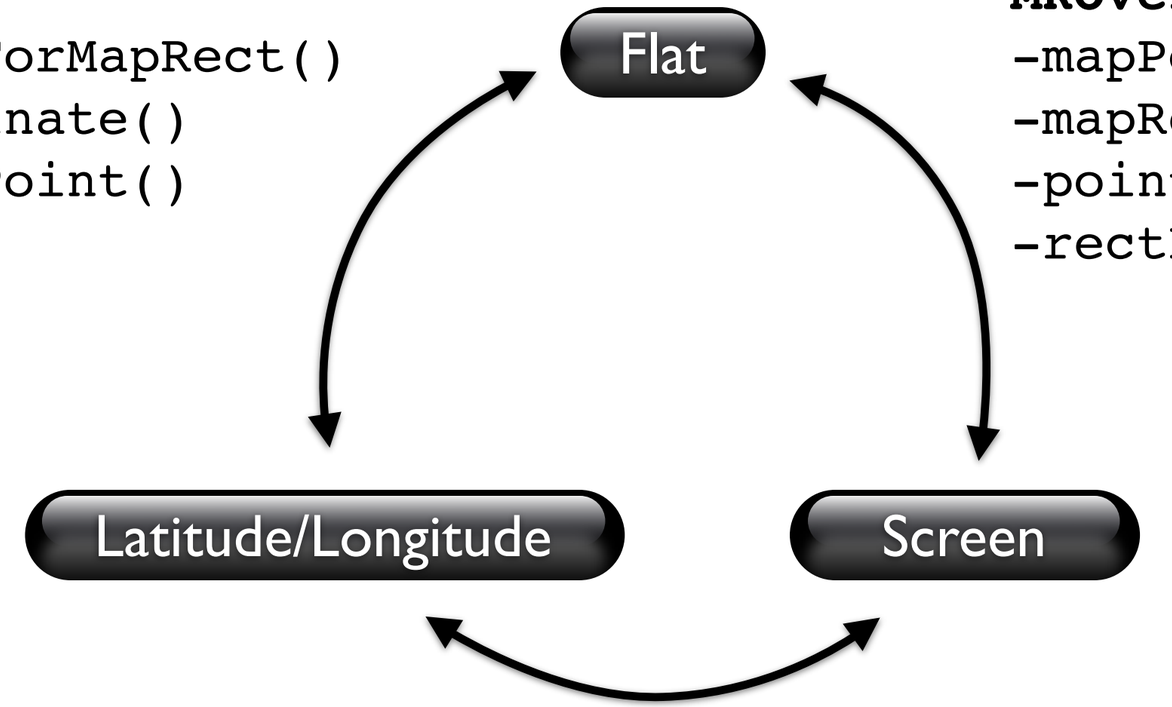
Maßeinheiten

Latitude/Longitude	Screen
`CLLocationCoordinate2D`	`CGPoint`
`MKCoordinateSpan`	`CGSize`
`MKCoordinateRegion`	`CGRect`

Maßeinheiten

Latitude/Longitude	Flat 	Screen
`CLLocationCoordinate2D`	`MKMapPoint`	`CGPoint`
`MKCoordinateSpan`	`MKMapSize`	`CGSize`
`MKCoordinateRegion`	`MKMapRect`	`CGRect`

```
MKCoordinateRegionForMapRect()
MKMapPointForCoordinate()
MKCoordinateForMapPoint()
```



MKOverlayView

```
-mapPointForPoint
-mapRectForRect:
-pointForMapPoint:
-rectForMapRect:
```

MKMapView

```
-convertCoordinate:toPointToView:
-convertPoint:toCoordinateFromView:
-convertRect:toRegionFromView:
-convertRegion:toRectToView:
```

Verwendung Maßeinheiten

Latitude/Longitude	Flat	Screen
`MKMapView`	`MKMapView`	`MKMapView`
`MKAnnotation`		
		`MKAnnotationView`
`MKOverlay`	`MKOverlay`	
	`MKOverlayView`	`MKOverlayView`

Agenda

MapKit out of the box

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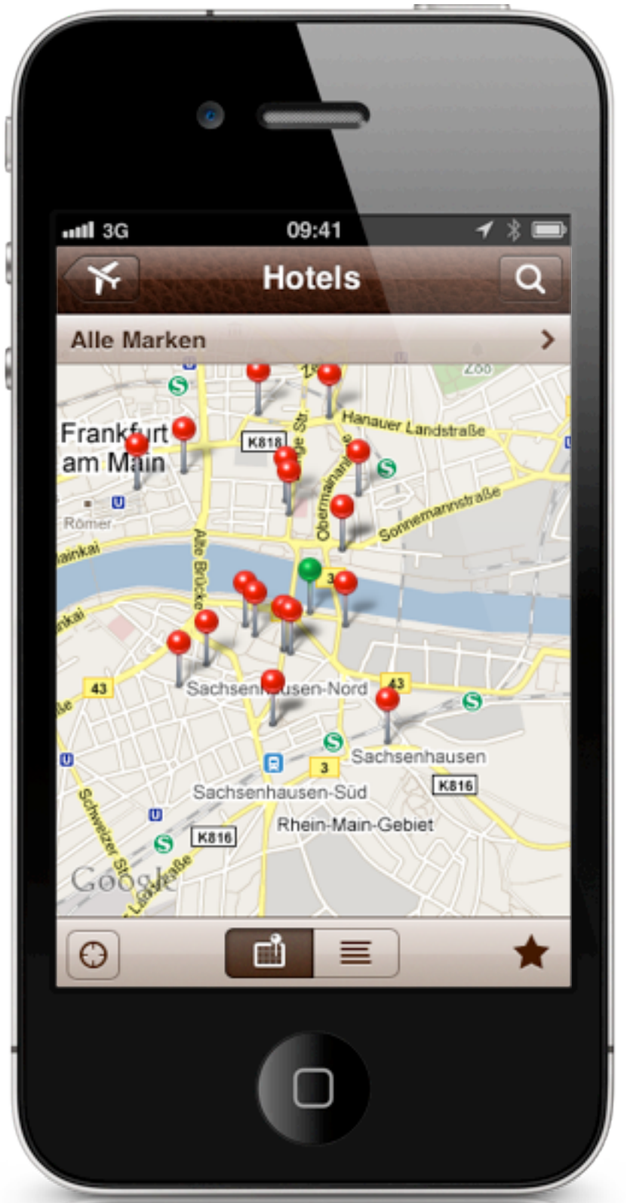
Ausschnittssteuerung

Core Location-Simulation

Core Location-Neuheiten

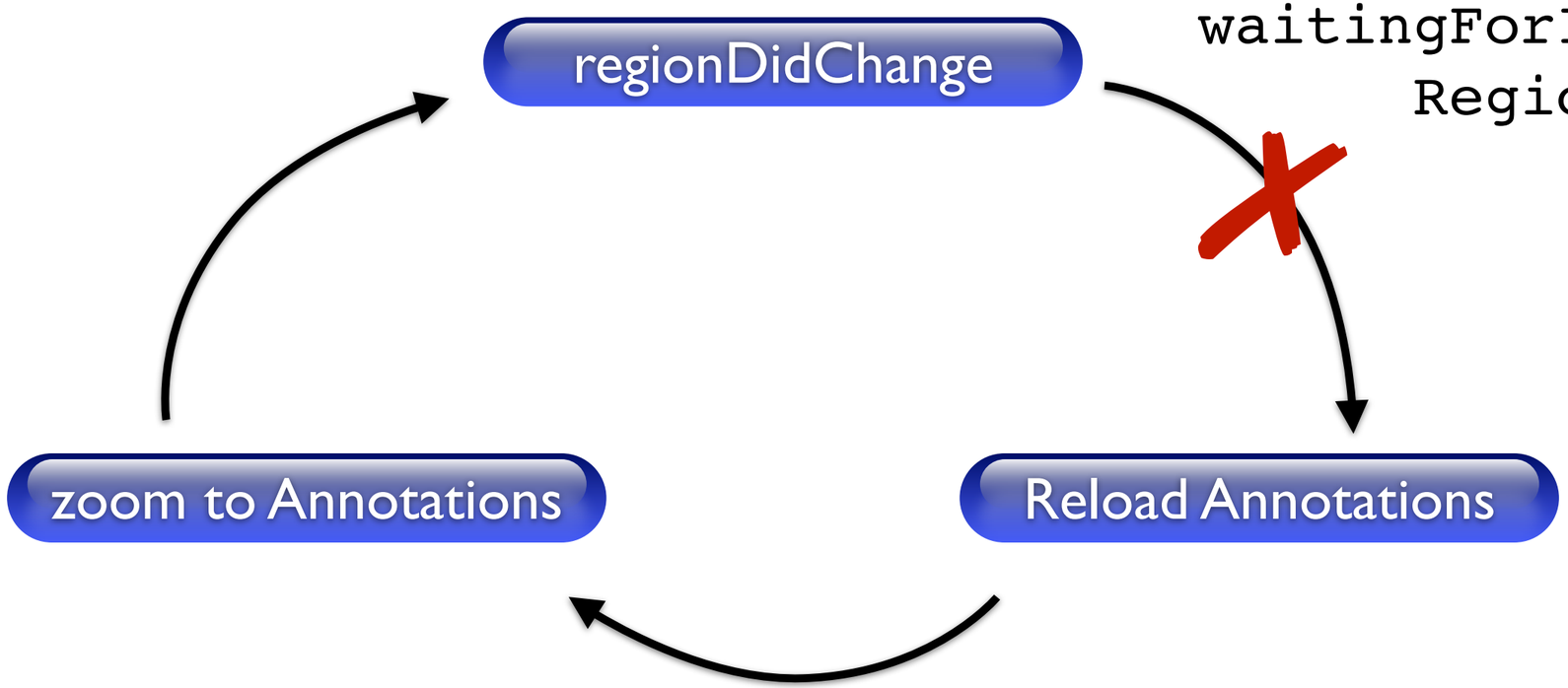
Zooming

- Minimaler Zoomlevel
- Sicherheitsreserve 10-20%
- Aufrundung Zoomlevel
- Verschieben: nicht `region`,
  sondern besser `centerCoordinate`



Erkennen von Verschiebungen

Flag:
`waitingForInternal RegionUpdate`



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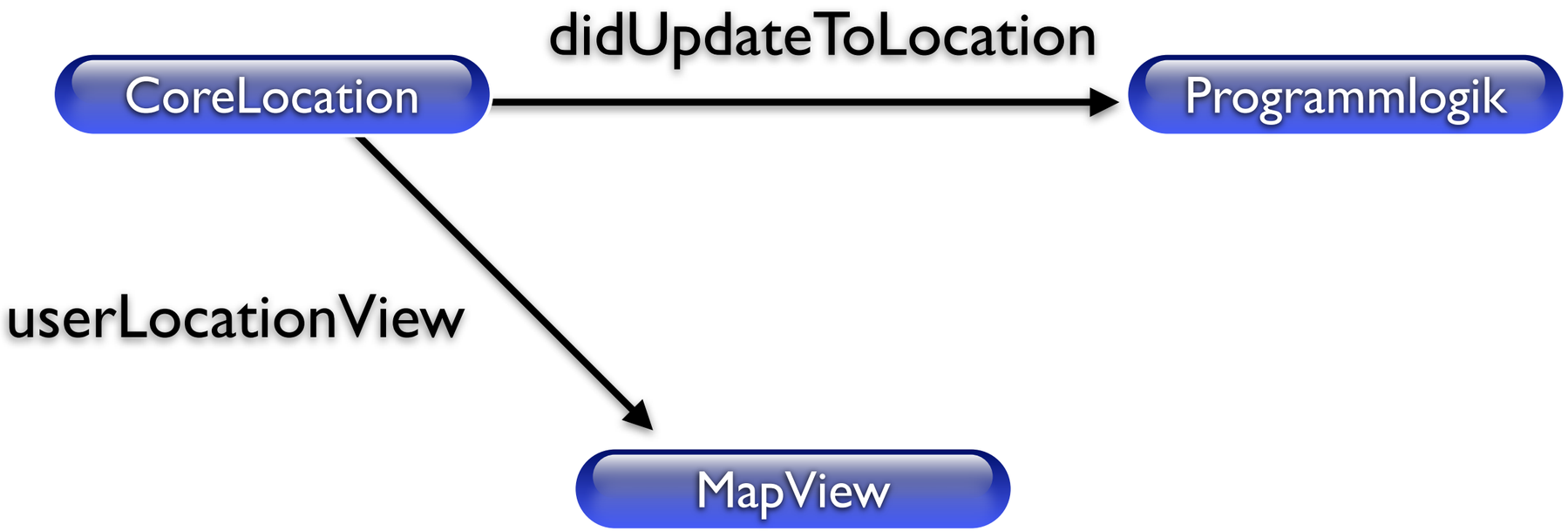
Ausschnittssteuerung

Core Location-Simulation

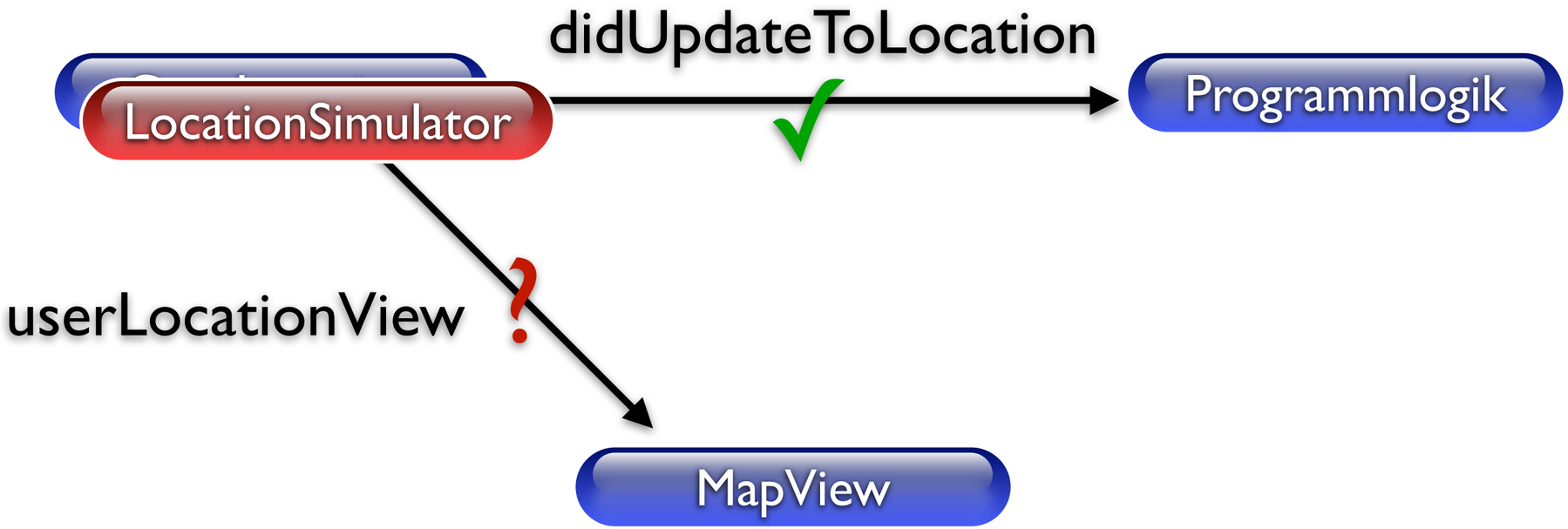
Core Location-Neuheiten

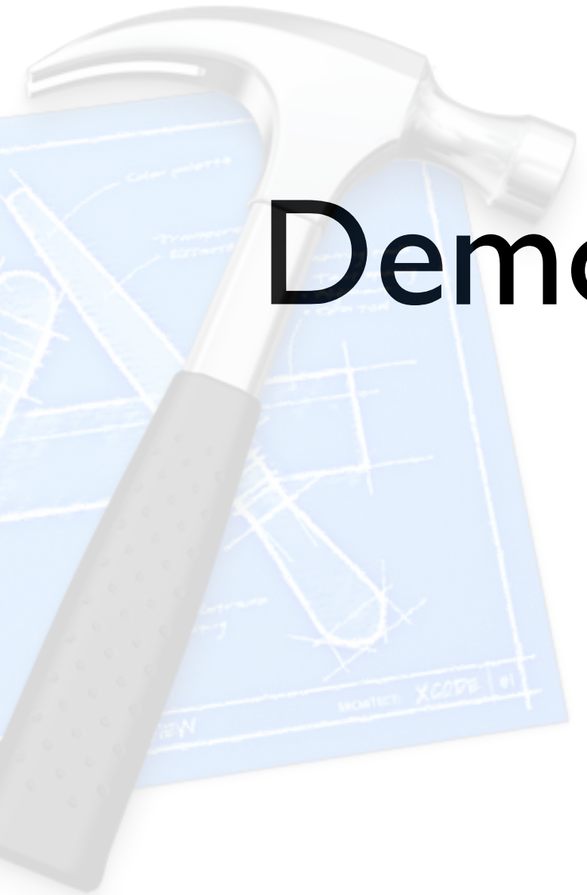

Wohin?
Kategorien
Hinweis

Core Location Simulation



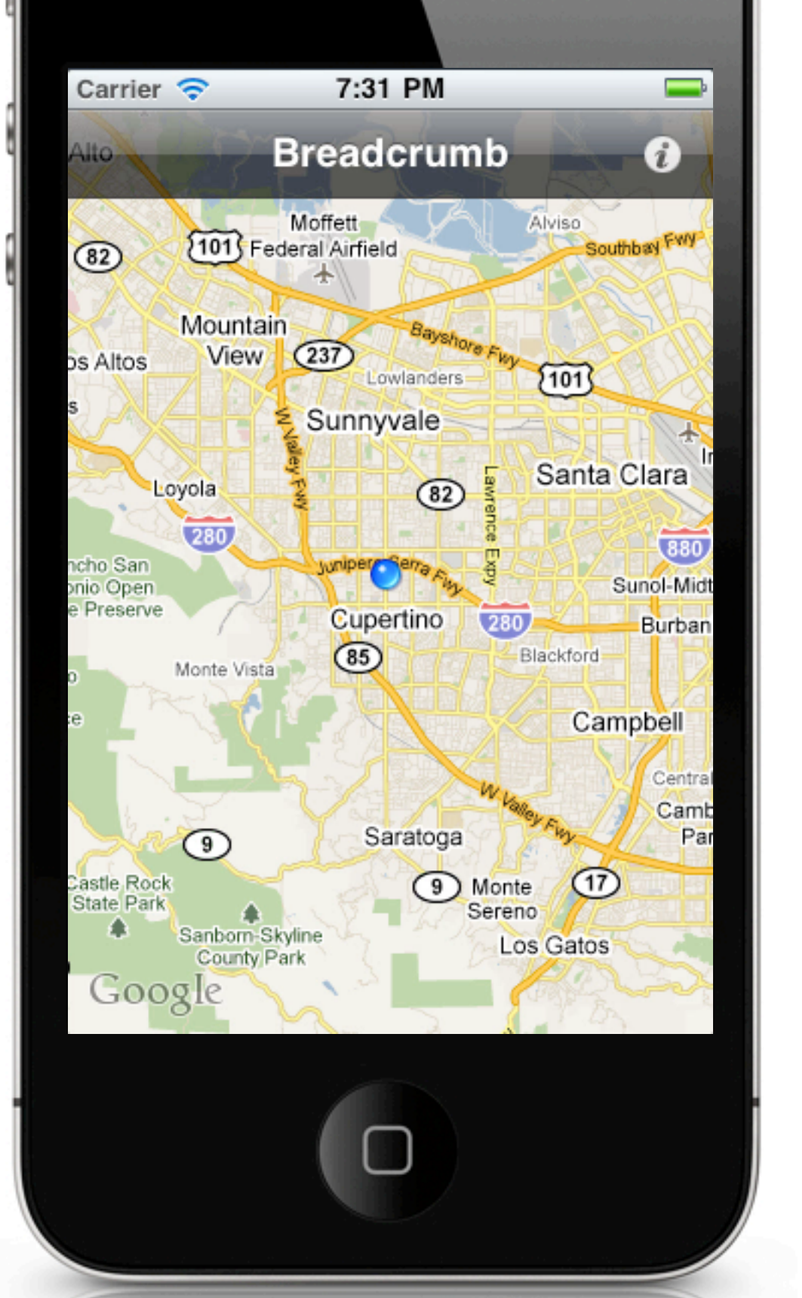
Core Location Simulation





Demo

iOS [redacted]



CLLocationManager

- ✓ delegate
- ✓ location
- ✓ -startUpdatingLocation
- ✓ -stopUpdatingLocation
- ✗ desiredAccuracy
- ✗ distanceFilter *)
- ✗ Region Monitoring
- ✗ SignificantLocationChanges
- ✗ Heading

CLLocation

- ✓ coordinate
- ✓ location
- ✓ timestamp
- ✗ altitude *)
- ✗ course *)
- ✗ speed *)
- ✗ horizontalAccuracy
- ✗ verticalAccuracy

*) Wäre technisch möglich

Rezept: FTLocationSimulator

- Alle Vorkommen von CLLocationManager #ifdef'en
- `delegate` und `mapView` properties setzen
- In `MKMapViewDelegate -fakeUserLocationView` einbauen
- `FAKE_CORE_LOCATION_UPDATE_INTERVAL` anpassen
- KML-File „fakeLocations.kml“ ändern wenn gewünscht

Defizite

- Berücksichtigung der Distanz von KML-Punkten
- GPS Locating-Animation

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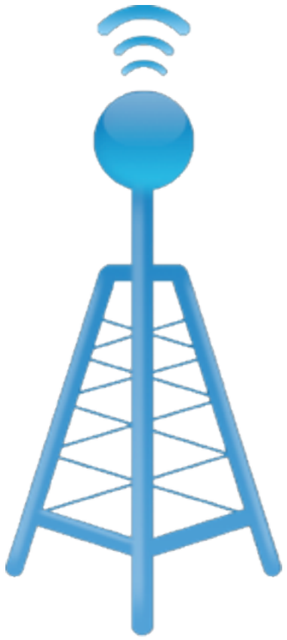
Technologien

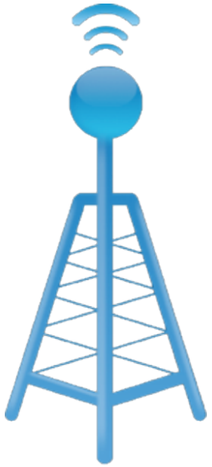


Mobilfunk

Wi-Fi

GPS

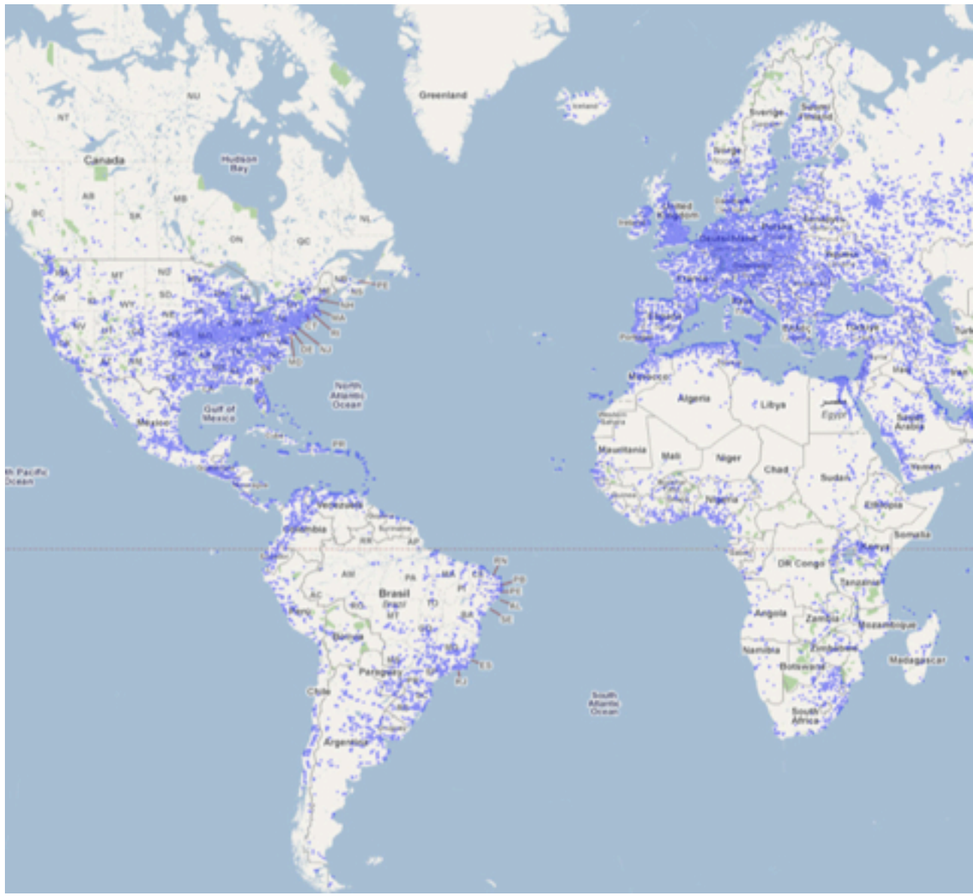
	iPhone	iPhone 3G/3GS/4	iPad Wi-Fi	iPad Wi-Fi+3G	iPod touch
					
					
					



Neuheiten

iOS 4

- Caching
- Significant Location Changes (iPhone 4)



Neuheiten

- Goodbye Skyhook Wireless
- Abdeckung
- Caching

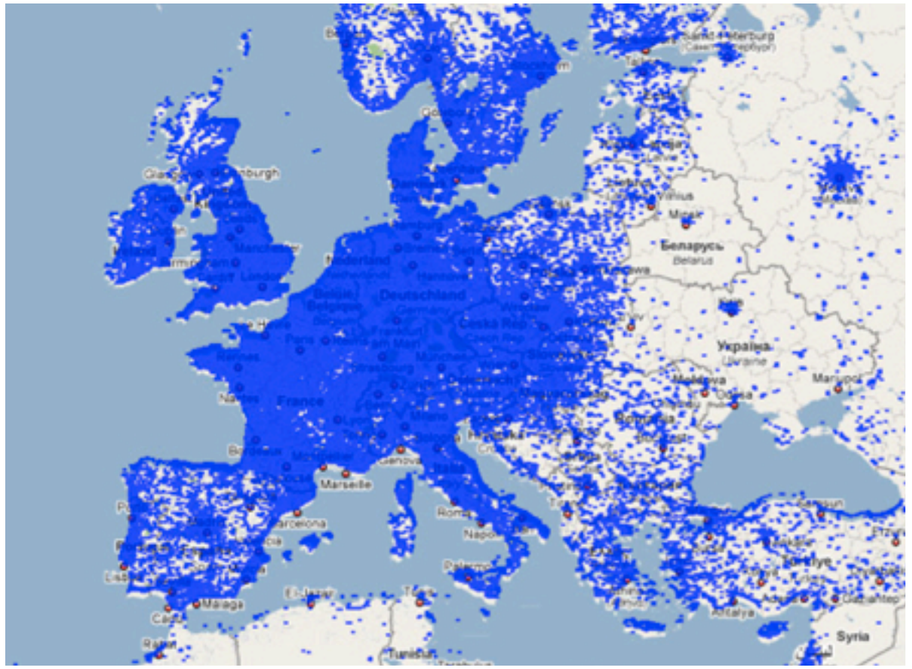
bis iOS 3.1

Neuheiten

iOS 4

ab iOS 3.2

- Goodbye Skyhook Wireless
- Abdeckung
- Caching



Neuheiten

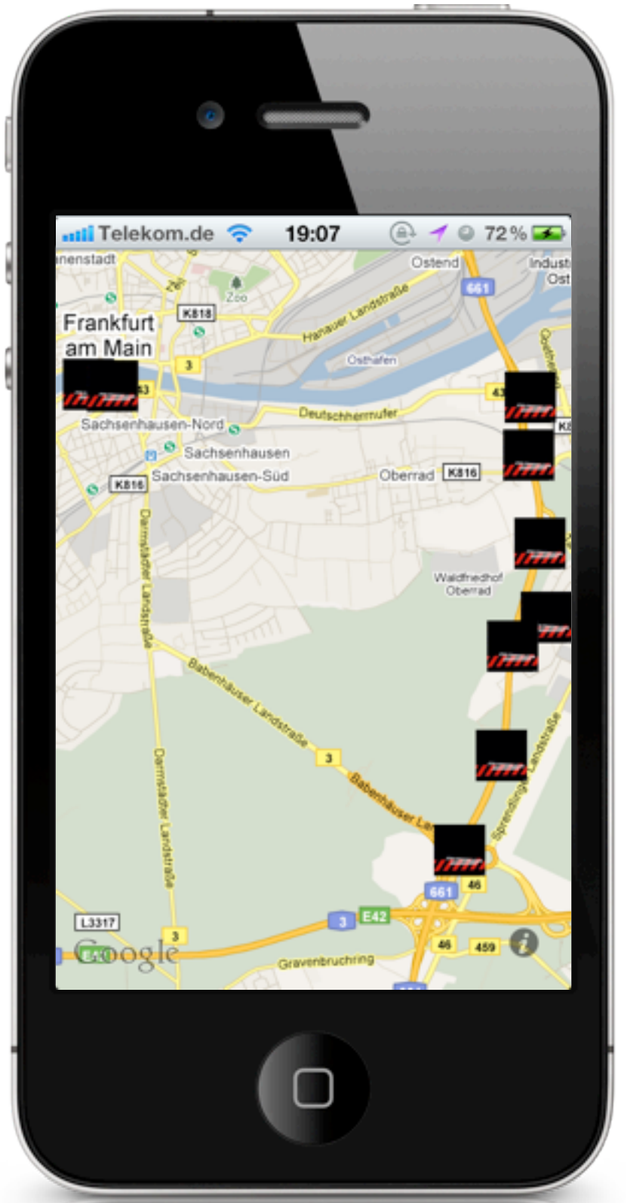
iOS 4

- Genauigkeit (iPad, iPhone 4)
- Energieverbrauch (iPad, iPhone 4)

Neuheiten

iOS 4

- Significant Location Changes (iPhone 4)
- Region Monitoring (iPhone 4)
- Backgrounding, Relaunching



Neuheiten

iOS 4

- Significant Location Changes (iPhone 4)
- Region Monitoring (iPhone 4)
- Backgrounding, Relaunching

Fragen?

 gentz@futuretap.com

 @futuretap

Vielen Dank

Macoun'10