# OpenSeaMap AR

Enhanced Seamark Sight using Augmented Reality (AR)
Einfache Seezeichenpeilung durch Augmented Reality (AR)

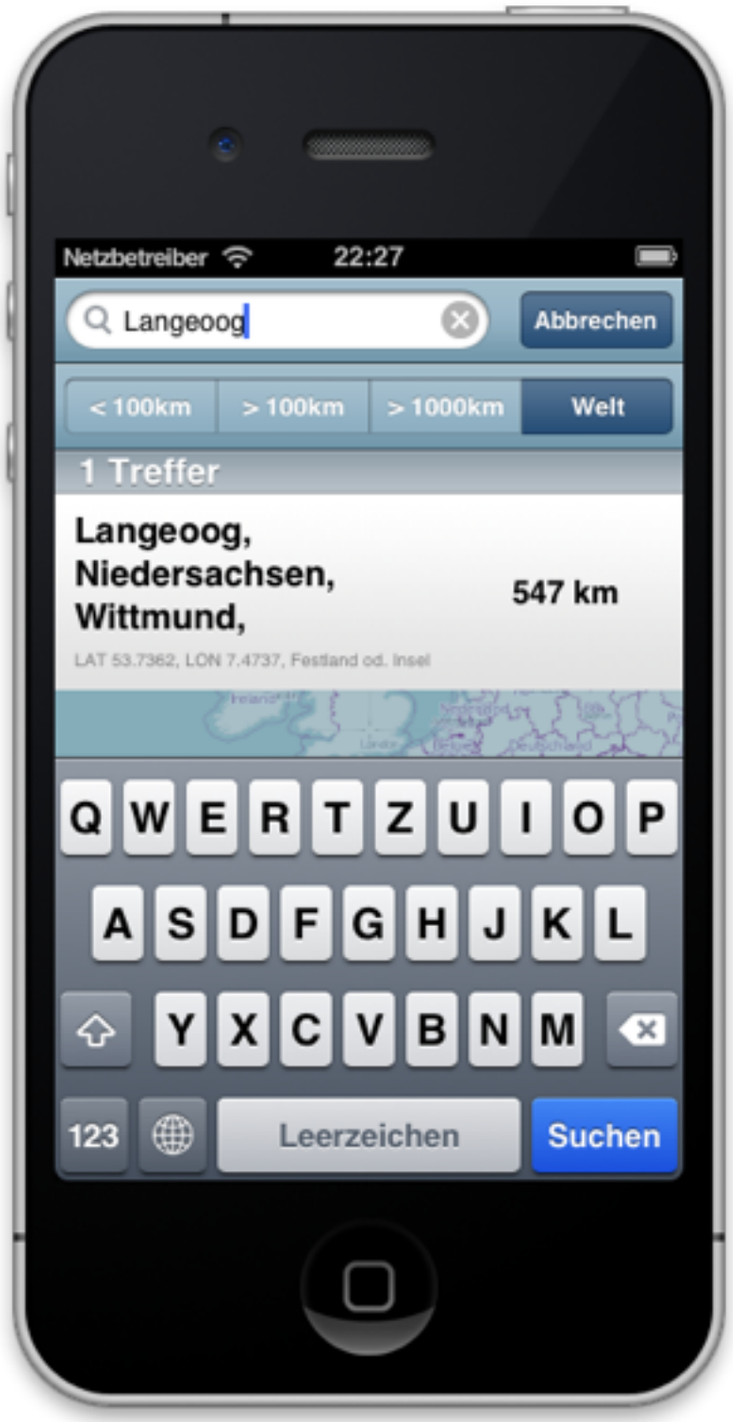
by trailblazr, dec2012@29c3

# OpenSeaMap App

State of the Art

by trailblazr, dec2012@29c3

# The iPhone/iPod App



by trailblazr, dec2012@29c3

# The iPad App

by trailblazr, dec2012@29c3

# **Success** of the OpenSeaMap App

- Started on **15th of January 2012** on the AppStore and since a high volume of total **> 20.000 downloads**

- Ranks **at 116** of Top downloaded Navigation-Apps in Germany

- Cited in several **publications** ("Hydrographische Nachrichten" 2.2012, gis.TRENDS+MARKETS" 3.2012)

- Currently **> 100 Downloads** per Day (Date: 30th of Dec 2012)

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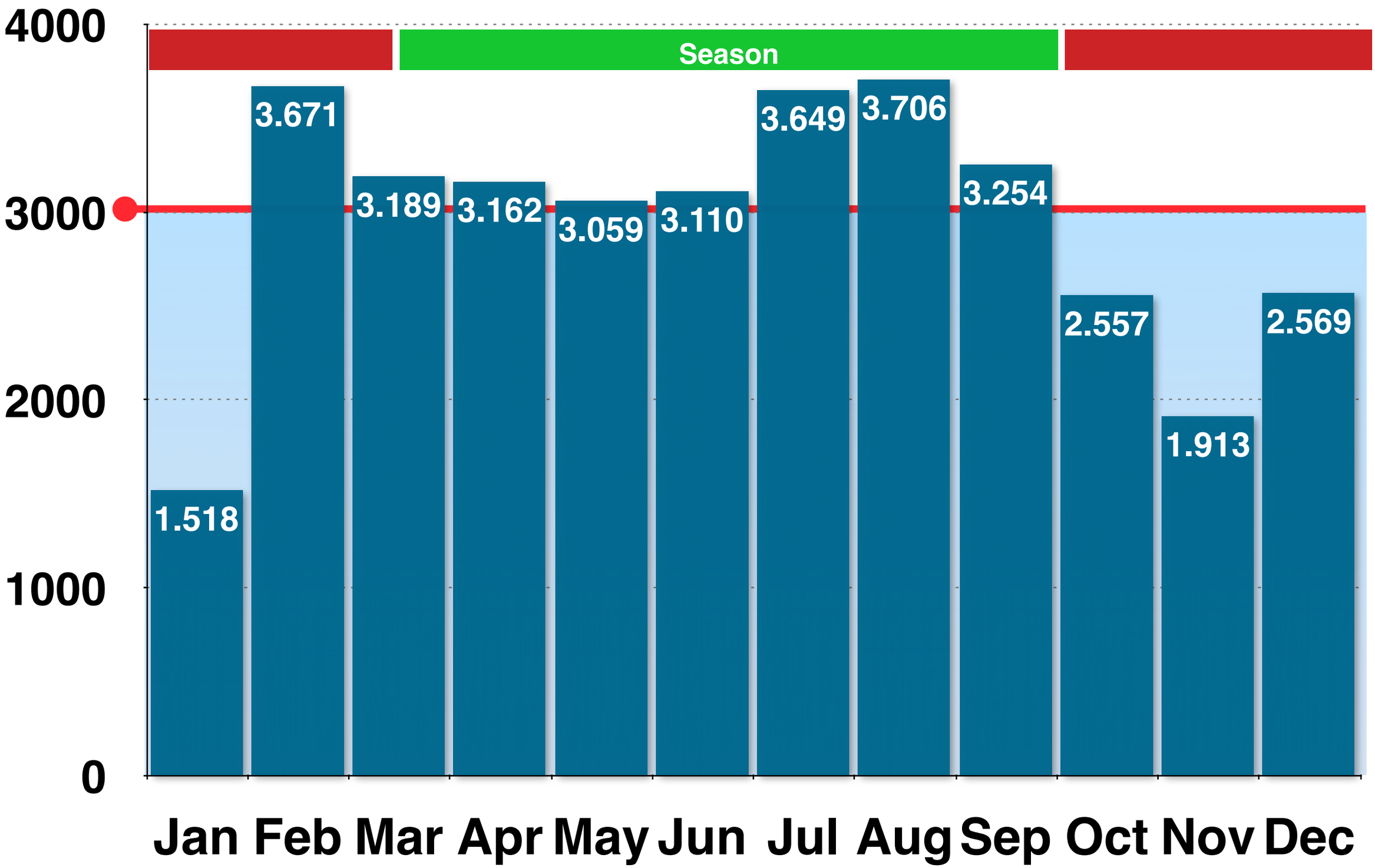
# Downloads in 2012




Last updated 30th Dec 2012 starting 15 Jan 2012

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# **Problems** of OpenSeaMap App

- MapTiles have very **small seamarks**, zooming reveals same small seamark just in different zoom level

- MapTiles in **@2x-Retina Resolution not available** for optimal display on iPhone & iPad/iPod

- **Difficult use in-place** on board (waves, change of lighting, need of skipper to focus & follow traffic)

- MapTiles need **lots of data/bandwidth** and lose all semantic data („dumb“ image), renders app most of the time useless because not really offline capable

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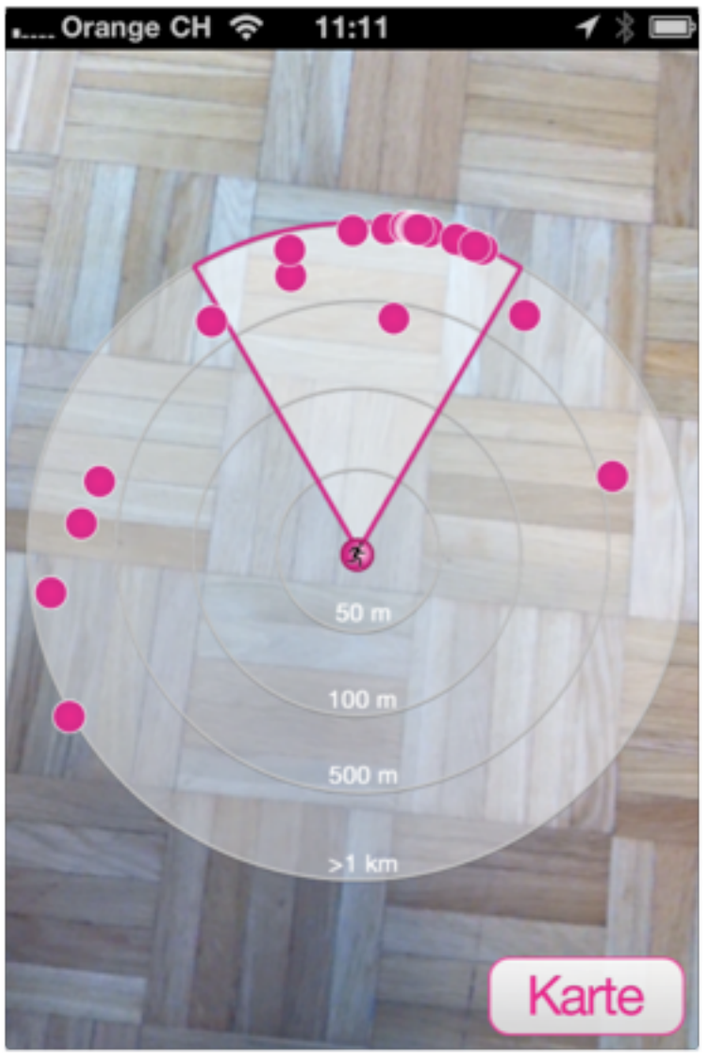
# **Idea:** some kind of radar/AR



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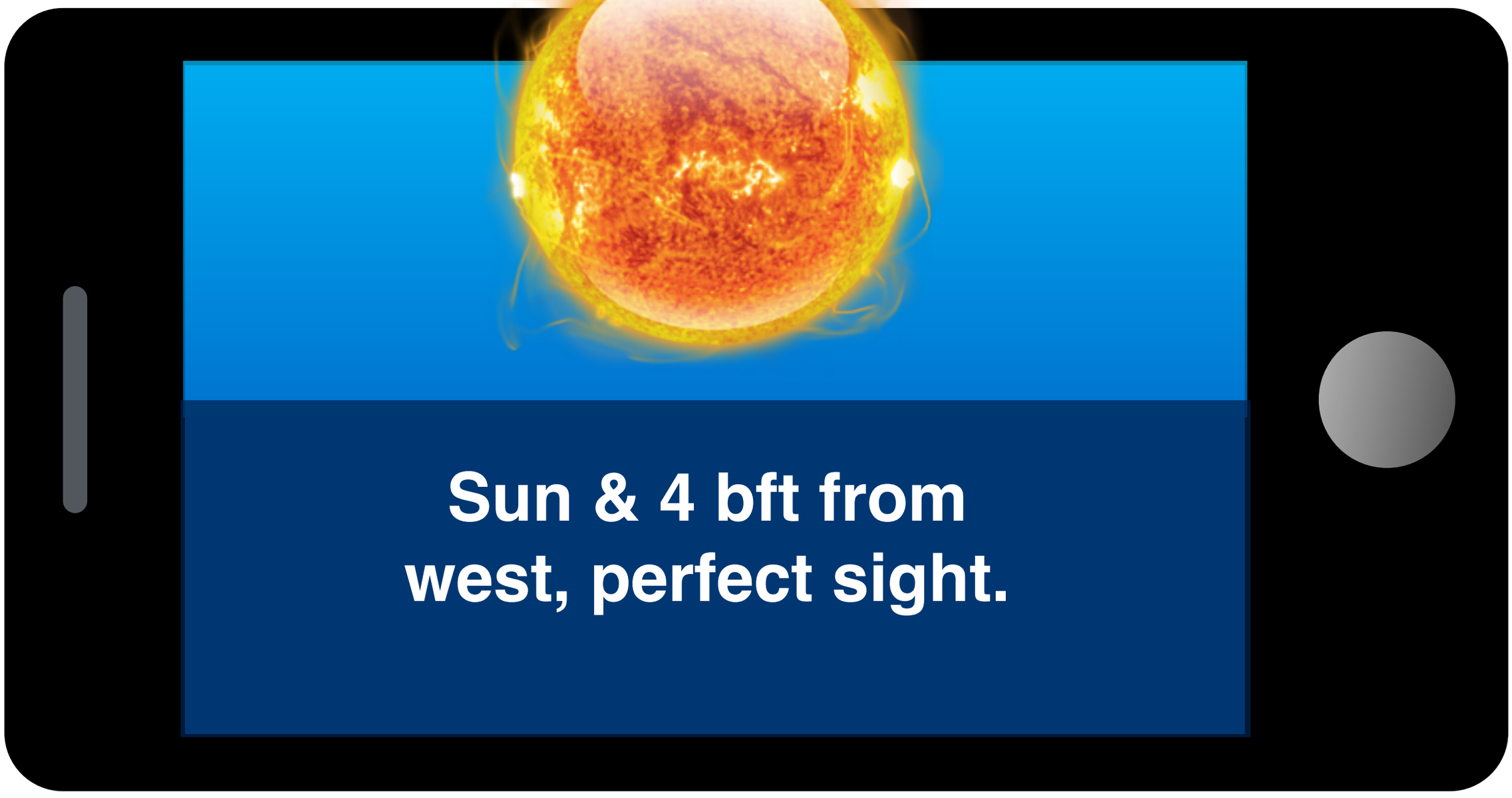
# Good Weather
# good sight & safe travel

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# Bad weather, bad sight & dangerous travel

by trailblazr, dec2012@29c3

# **BUT:** SmartPhone to the rescue in your pocket!

by trailblazr, dec2012@29c3

Just turn on...
...your Superpower™

# Seamark Sight with Augmented Reality

Make me see through things with Superpower™.

by trailblazr, dec2012@29c3

# Comparison

| Superman | AR | |
|---|---|---|
| **X-Ray Vision** | Seamark DB + GPS + AR/ Camera | ✓ |
| **Heat Vision** | Weather DB + Map | ✓ |
| **Tele- & Microscopic Vision** | Map Zoom + AR Zoom | ✓ |
| **Electromagnetic Wave Vision** | Teslameter of Phone | ✓ |
| **Radar Vision** | Seamark DB + GPS + AR/ Camera | ✓ |
| **Solar Eye Laser (shoot)** | O.K, we fail on that one. ;-) | ✗ |

Source: http://io9.com/heat-vision/

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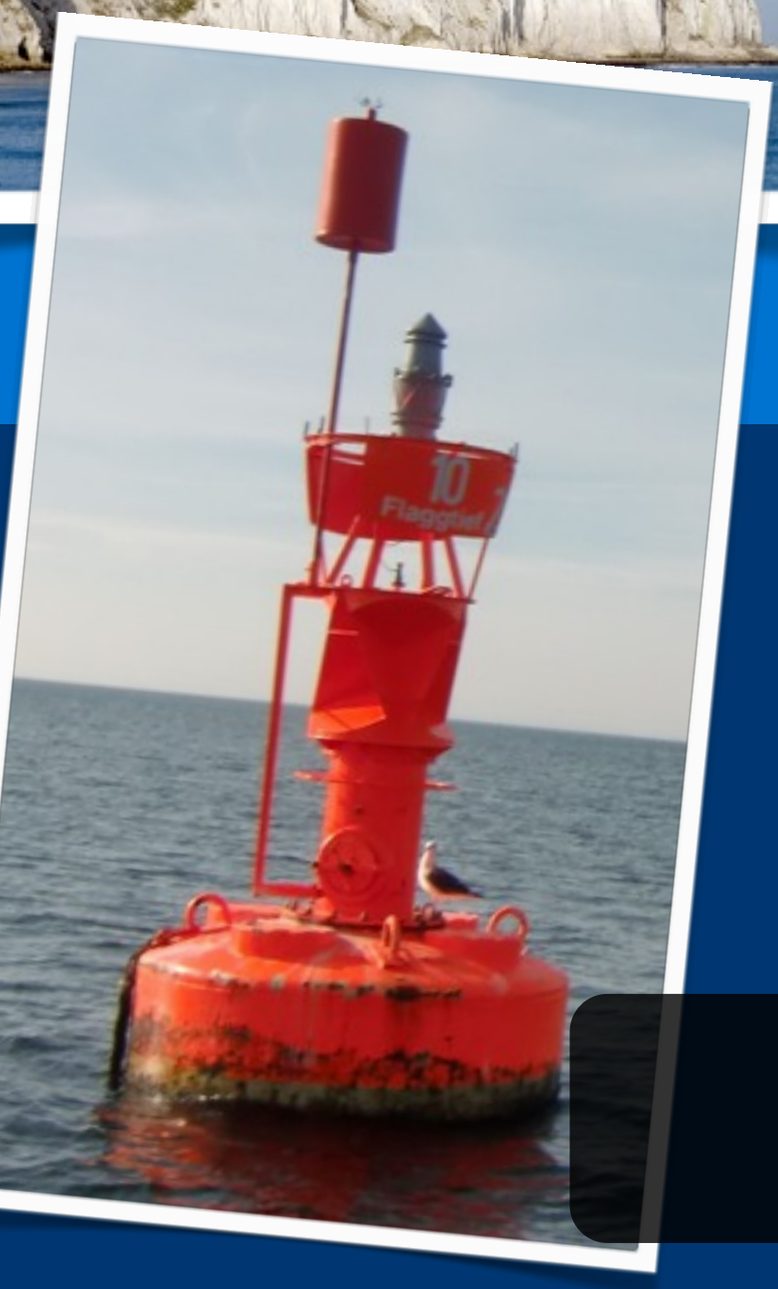
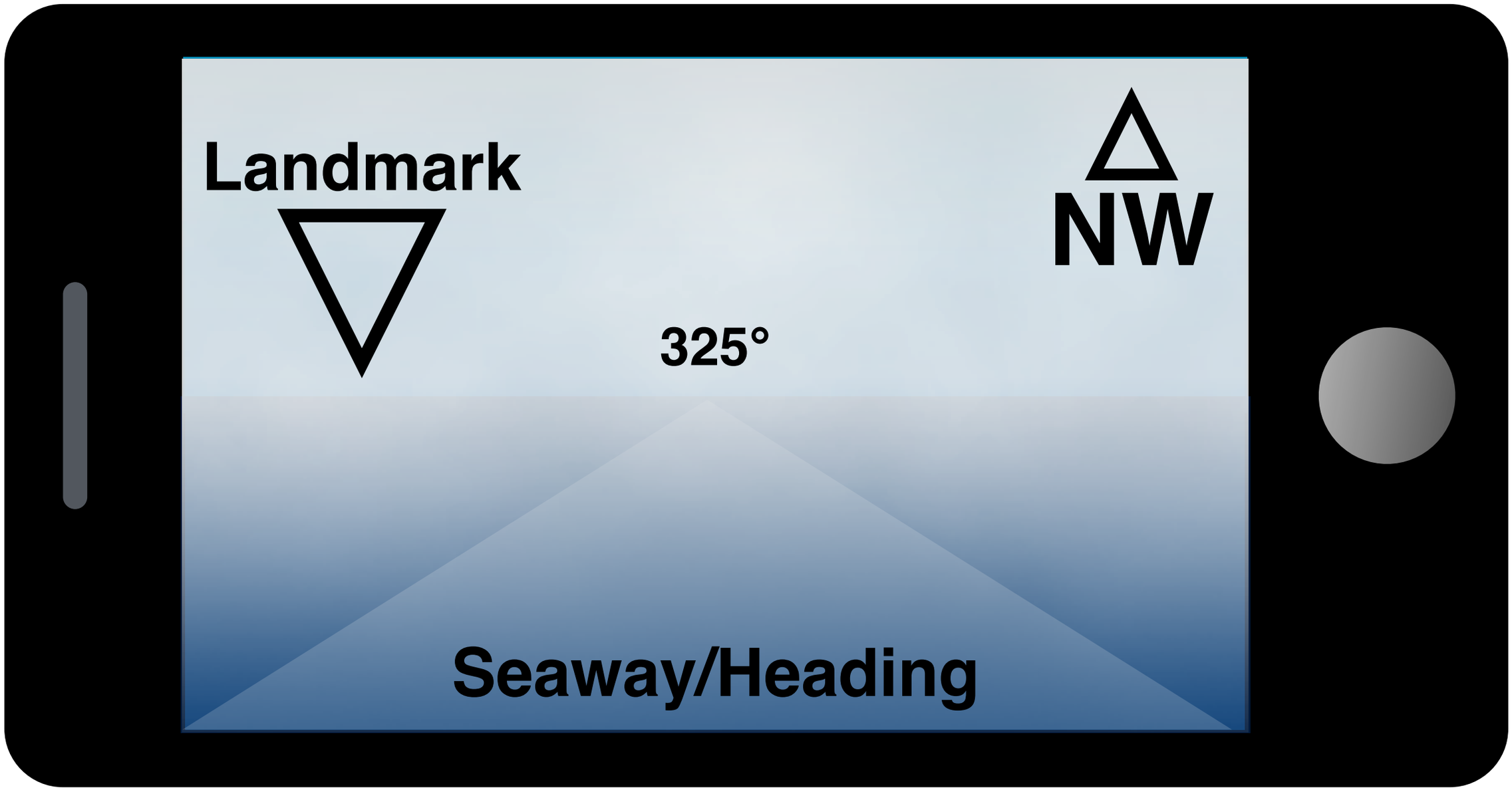


# Turn THIS

Turn THIS

**Into THIS**

# **Augmented Seamark Sight**
makes you see the Seamarks

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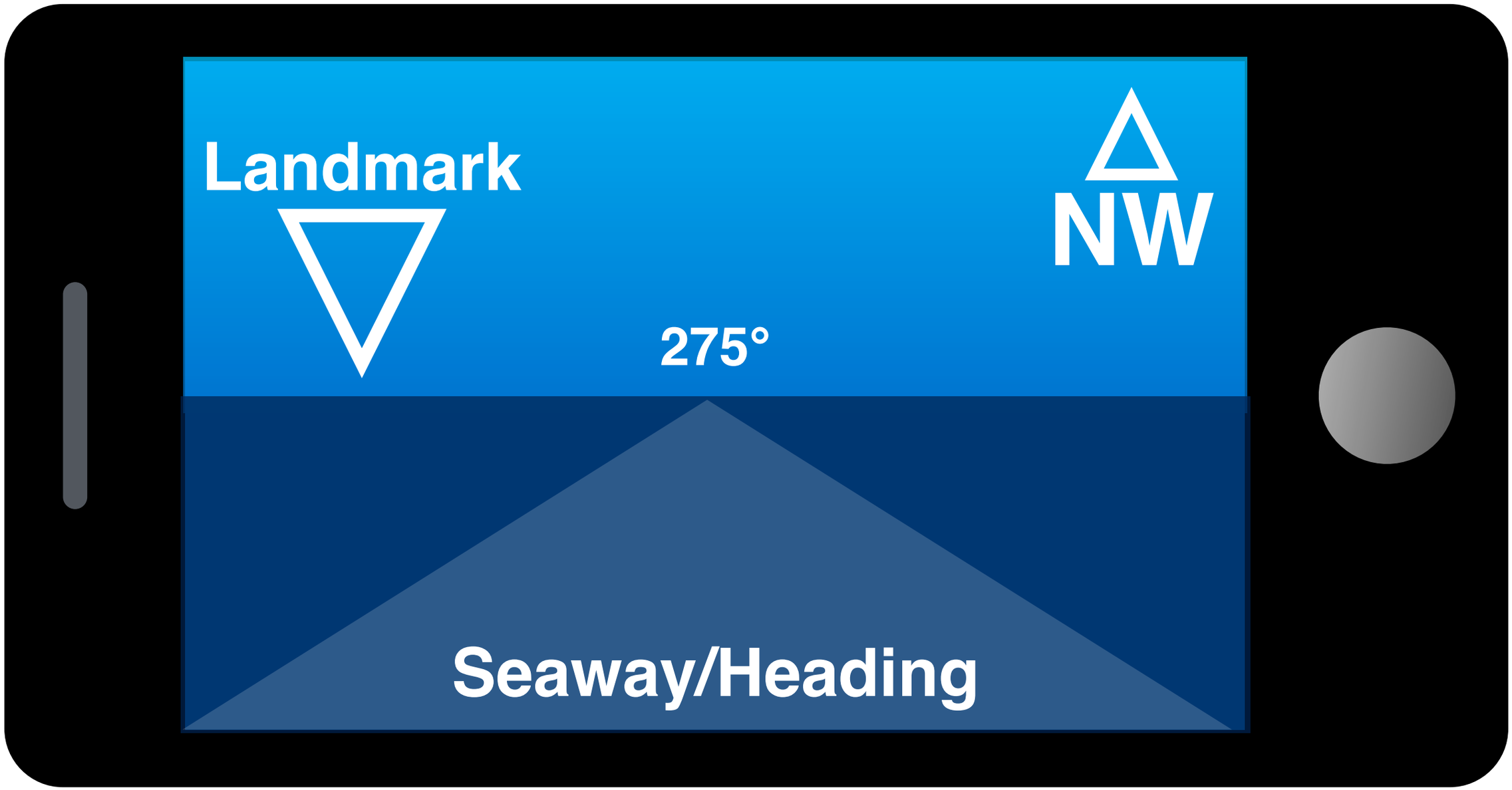
# **Augmented Seamark Sight**

helps navigating at good sight

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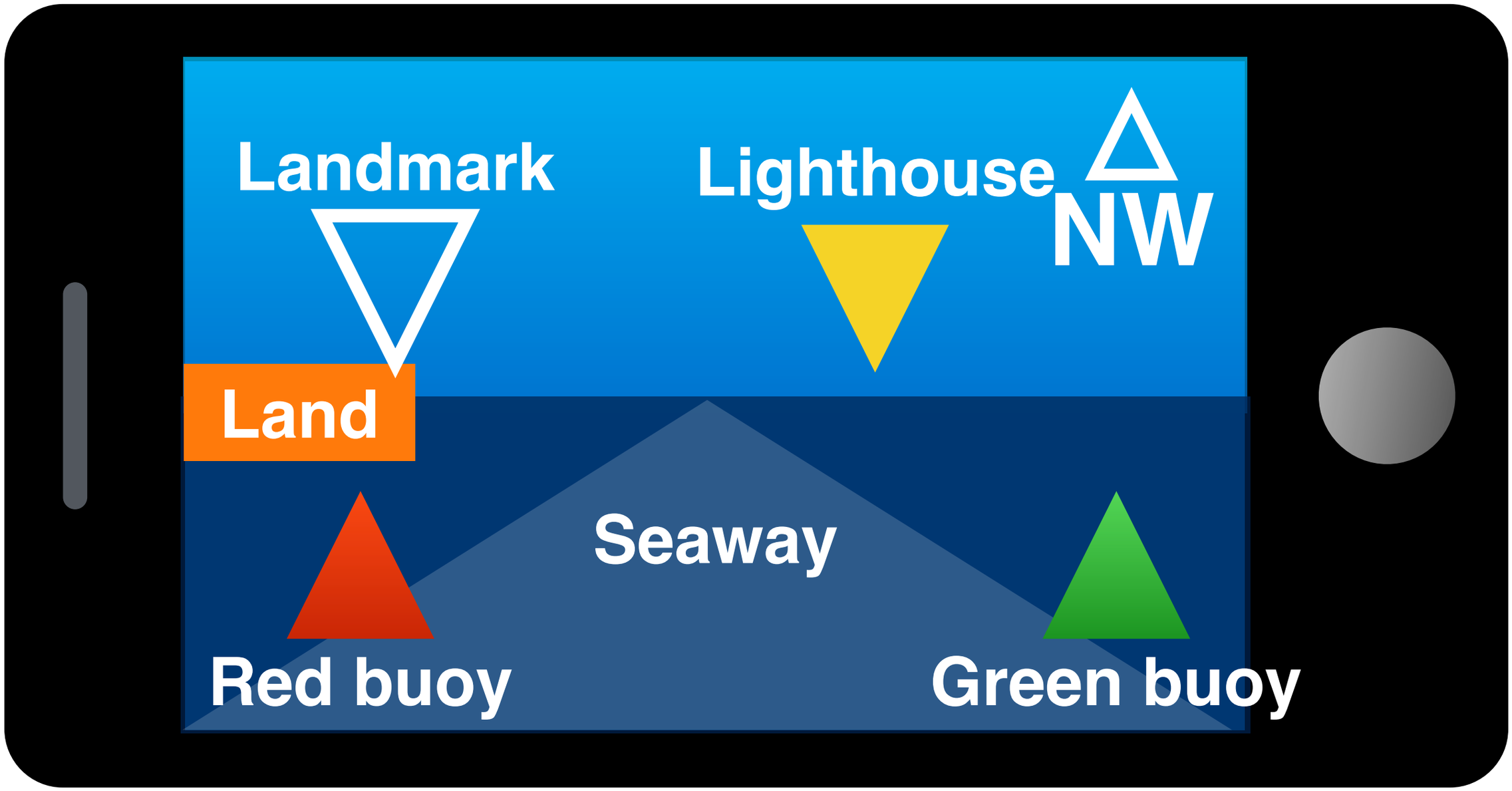
# **Augmented Seamark Sight**

simplify to the maximum possible

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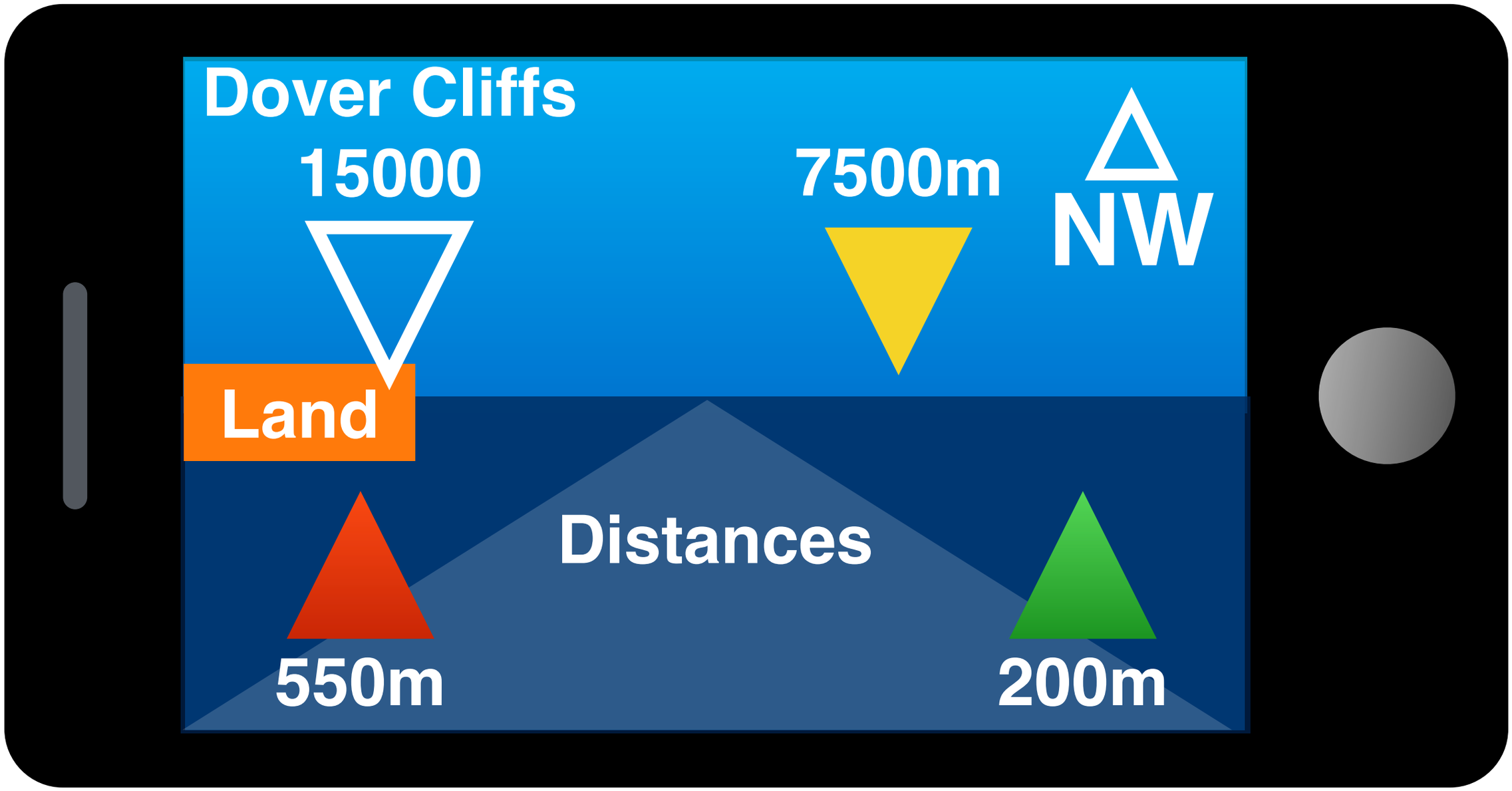
# **Augmented Seamark Sight**

immediately see distance to mark

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# **Augmented Reality**
# What does it actually do?

- **No MapTiles** & no download of **„dumb“ image data (DID)** anymore

- **Full semantic seamark XML-data for offline use** to orient yourself quickly under difficult weather/sight/emergency conditions

- Heavy use of **GPS**, **Compass**, **Gyro**, **Camera**, **3D Graphics**

**by trailblazr, dec2012@29c3**

# **Needed:** AR Renderer

**OpenStreetMap**
DB

**Seamark Layer**
XML Seamark Data

**OpenSeaMap**
Map Tile Renderer

**XML Seamark Data** **(NEW!!!!)**

**TileMap (optional)**

**OpenSeaMap**
Tile Server

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# OpenSeaMap AR

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using Augmented Reality (AR)

help code it? contact me.

**trailblazr@noxymo.com**

**www.openseamap.org**

up next from 19th-27th,Jan 2013:

**boot 2013, düsseldorf, germany**

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