

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<i>In re</i> patent of Kahn, <i>et al.</i>	§	Petition for <i>Inter Partes</i> Review
	§	
U.S. Patent No. 8,872,646	§	Attorney Docket No.: 52959.48
	§	
Issued: October 28, 2014	§	Customer No.: 27683
	§	
Title: Method and System for	§	Real Party in Interest: Apple Inc.
Waking a Device Due to Motion	§	
	§	
	§	

**Declaration of Joseph A. Paradiso, PhD**  
**under 37 C.F.R. § 1.68**

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	QUALIFICATIONS AND PROFESSIONAL EXPERIENCE .....	3
	LEVEL OF ORDINARY SKILL IN THE ART .....	9
III.	RELEVANT LEGAL STANDARDS .....	10
	A. Anticipation.....	11
	B. Obviousness .....	11
IV.	BACKGROUND OF ACCELEROMETERS.....	13
V.	THE '646 PATENT.....	14
	A. Overview of the '646 Patent .....	14
	1. Alleged Problem.....	14
	2. Summary of Alleged Invention of the '646 Patent .....	15
	B. Prosecution History of the '646 Patent.....	16
VI.	BROADEST REASONABLE INTERPRETATION .....	20
	A. “glitch” .....	21
	B. “a change in the dominant axis” .....	21
	C. “dominant axis logic to determine an idle sample value for a dominant axis of the mobile device based on the motion data” .....	22
	D. “dominant axis logic ... to compare a difference between a current sample value along the dominant axis determined based on the motion of the device and the idle sample value of the dominant axis against a threshold value” .....	23
	E. “computation logic to determine whether the motion caused a change in the dominant axis” .....	25
	F. “power logic to wake up the device when the motion of the device indicates a change in the dominant axis of the device” .....	26

G.	“power logic to move the device from the inactive state to an active state upon detection of a change in the dominant axis which is the axis experiencing the largest effect of gravity” .....	27
H.	“long average logic to calculate an average of accelerations over a sample period” .....	28
I.	“device state logic to restore the device a last active state” .....	29
VII.	IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE....	30
A.	Challenge #1: Claims 1, 3, 5-7, 9-11, 13-15, 17, and 20 are unpatentable under 35 U.S.C § 103 over Pasolini in view of Goldman, McMahan, and Mizell.....	30
1.	Summary of Pasolini .....	31
2.	Summary of Goldman .....	34
3.	Reasons to combine Pasolini and Goldman.....	36
4.	Summary of McMahan .....	40
5.	Reasons to combine McMahan with Pasolini and Goldman .....	41
6.	Summary of Mizell .....	42
7.	Reasons to combine Mizell with Pasolini and Goldman .....	42
8.	Detailed Analysis .....	43
B.	Challenge #2: Claims 8, 16, and 18 are unpatentable under 35 U.S.C §103 over Pasolini in view of Goldman, McMahan, Mizell, and Park .....	82
1.	Summary of Park.....	82
2.	Reasons to Combine Park with Pasolini and Goldman .....	83
3.	Detailed Analysis .....	83
VIII.	CONCLUSION.....	86

## I. INTRODUCTION

1. I am making this declaration at the request of Apple Inc. in the matter of the *Inter Partes* Review of U.S. Patent No. 8,872,646 (“the ’646 patent”) to Kahn, *et al.*

2. I am being compensated for my work in this matter at the rate of \$500/hour. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

3. I have been asked to provide my opinions regarding whether claims 1, 3, 5-11, 13-18, and 20 of the ’646 patent are unpatentable, either because they are anticipated or would have been obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art. It is my opinion that all of the limitations of claims 1, 3, 5-11, 13-18, and 20 would have been obvious to a POSITA.

4. In the preparation of this declaration, I have studied:

- a) The ’646 patent, Exhibit 1001 (APPL-1001);
- b) The prosecution history of the ’646 patent, Exhibit 1002 APPL-1002);

- c) U.S. Patent No. 7,409,291 to Pasolini *et al.* (“Pasolini”), Exhibit 1003 (APPL-1003).
- d) *Using the LIS3L02AQ Accelerometer*, Ron Goldman, Sun Microsystems Inc. Dated February 23, 2007. (“Goldman”), Exhibit 1004 (APPL-1004);
- e) U.S. Patent No. 7,204,123 to McMahan *et al.* (“McMahan”), Exhibit 1005 (APPL-1005);
- f) U.S. Patent Publication No. 2006/0161377 to Rakkola *et al.* (“Rakkola”), Exhibit 1006 (APPL-1006);
- g) *Using Gravity to Estimate Accelerometer Orientation*,” David Mizell, Proceedings of the Seventh IEEE International Symposium on Wearable Computers (ISWC ’03) 2003. (“Mizell”), Exhibit 1007 (APPL-1007);
- h) *Dictionary of Scientific and Technical Terms*, McGraw-Hill (“McGraw-Hill”), 1994, Exhibit 1009 (APPL-1009);
- i) *Merriam-Webster’s Collegiate Dictionary, 10th Ed.*, Merriam-Webster, Inc., 2002, Exhibit 1013 (APPL-1013);
- j) U.S. Patent No. 7,028,220 to Park *et al.* (“Park”), Exhibit 1014 (APPL-1014).

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.