IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	Cheng et al.	
U.S. Patent No.:	7,970,674	Attorney Docket No. 30693-0090IPI
Issue Date:	June 28, 2011	
Appl. Serial No.:	11/347,024	
Filing Date:	February 3, 2006	
Title:	AUTOMATICALLY DETERMINING A CURRENT VALUE FOR A REAL ESTATE PROPERTY, SUCH AS A HOME, THAT IS TAILORED TO INPUT FROM A HUMAN USER, SUCH AS ITS OWNER	

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DECLARATION OF JOHN KILPATRICK UNDER 37 C.F.R. § 1.132

I, John Kilpatrick, declare as follows:

1. I hold a Ph.D. in Real Estate Finance and am a certified (general) real estate appraiser in Washington State as well as in 49 of the 50 states. I head up Greenfield Advisors (formerly known as Mundy Associates), a 37 year-old real estate appraisal and consulting firm headquartered in Seattle. For more than three decades, our firm has been a leading authority on difficult real estate appraisal problems.

2. I am the author or editor of four books on real estate and a contributing author to three others, most recently Brownfields: A Comprehensive Guide to Redeveloping Contaminated Property, Third Edition (2010), from the American Bar Association. I am presently or have recently been a consultant on complex real estate valuation issues to such clients as the Federal Housing Finance Authority, the U.S. General Services Administration, the U.S. Army, and numerous corporations, trusts, and private investors. At the invitation of the Japan Real Estate Institute, I co-authored the authoritative guide on the appraisal of environmentally impaired properties for use in that nation, published in the October 2003 issue of the Journal of the Japan Real Estate Institute. I am a member of the Editorial Board of The Appraisal Journal, the Editorial Board of the Journal of Sustainable Real Estate, and a reviewer for the Journal of Real Estate Research. I was a featured speaker on valuation methods at the 2012 annual meeting of the Appraisal Institute, and will also be a featured speaker on this topic at the upcoming 2013 meetings. I am regularly invited to be a presenter on real estate valuation topics at meetings of various academic societies, such as the 2013 American Real Estate Society annual meetings, held last month. I have also been an invited lecturer on real estate valuation to the Asian Real Estate Society (twice) and at various universities and meetings in the United States, Canada, and Europe.

3. In 2004, I became one of a handful of appraisers in the United States to be designated as a Nationally Certified Appraisal Standards Instructor by the Appraisal Standards Board in Washington, D.C. Also in 2004, I was honored by my peers in the industry by being nominated for a seat on the Appraisal Qualifications Board and by being named a Member (later elevated to be a Fellow) of the Faculty of Valuation of the British Royal Institution of Chartered Surveyors. I am also a Fellow of the American Real Estate Society. I have been professionally engaged in real estate finance, appraisal, development, and teaching for the past three decades. I have been accepted as an expert witness in various state and federal courts, the federal court of claims, and the federal tax court on matters relating to real estate appraisal, appraisal standards, automated valuation models and other mass appraisal techniques, and other issues regarding real estate markets, finance, and economics.

4. A copy of my C.V. is attached hereto as Exhibit A.

5. I have no financial interest in either party or in the outcome of this proceeding.

6. I am billing Zillow's counsel my standard hourly rate for my consulting on this project.

Overview of Opinion

7. I was asked to review the *Decision* of the Patent and Appeal Board, entered on April 2, 2013, in the above referenced matter ("the *Decision*"). In that regard, I have also reviewed the Zillow Patent, US 7,970,674 (the "'674 Patent"), the Dugan Patent, US 5,857,174 (the "Dugan Patent"), and U.S. Patent Publication No. 2005/015465 ("the Kim Application"). I have reviewed these from the perspective of a real estate expert, not as a patent attorney or expert on patent law. I have been advised, however, as to the principles relating to patent validity, including the principles of anticipation and obviousness. In considering these issues, I have focused on how the terms and disclosures of the '674 Patent, the Dugan Patent, and the Kim Application would be interpreted by persons of skill in the art as of February 3, 2006, the filing date of the '674 patent.

8. The *Decision* asserts that there is a reasonable likelihood that the Petitioner would prevail on showing that certain claims of the '674 Patent are unpatentable due to the Dugan Patent alone or in combination with other patents (primarily the Kim Patent). I do not believe the Dugan Patent teaches the fundamental invention of the '674 Patent – allowing a property owner to have access to an automatic valuation model to refine or revise an existing valuation for his or her home, by inputting or adjusting aspects of information about the home (e.g., the number of bedrooms). The differences between Dugan and the '674 Patent can be summarized as follows: (1) Dugan utilizes a different meaning of "valuation" than used in the '674 Patent; (2) Dugan does not employ an "automatic" valuation model; and (3) Dugan does not provide the seller direct access to any valuation model (any revisions to input appear to be done with appraiser involvement). This last difference is significant, because general appraisal methodology has always involved the appraiser supervising the valuation process. In the '674 Patent, a homeowner is able to revise an existing valuation without appraiser involvement.

My Understanding of Patent Principles

9. I am not a patent lawyer, and do not have formal training in patent law. I have been advised, however, as to some of the principles relating to patent validity that are reflected in the *Decision*. I understand, for example, that patent validity is determined on a claim-by-clam basis. Some claims in a patent may include an introductory portion, referred to as the preamble, and then a body, which includes the claim elements. I understand the terms of the claim should be interpreted based on how a person of ordinary skill in the art would have understood them, in light of the patent disclosure, at the time the patent application was filed. With respect to the '674 Patent, for example, I understand that the terms should be interpreted as somebody of ordinary skill in the real estate appraisal art would have interpreted them as of February 3, 2006. I understand that the claim elements are presumed to constitute limitations on scope, and the preamble is presumed not to be a limitation, but may be a limitation where terms in the claim elements are introduced in the preamble. An independent claim stands on its own, while a dependent claim incorporates all of the limitations of any claim on which it depends.

10. I understand that a claim is "anticipated" where all of the elements of the claim are disclosed in a single prior art reference. I understand that a claim may be invalid as obvious if any differences between the claim limitations and one or more prior art reference would have been obvious to a person of ordinary skill in the art at the time the application was filed. For my analysis, I have focused primarily on whether the Dugan Patent discloses or teaches the invention claimed in the '674 Patent. In doing so, I have relied on how a person of ordinary skill in the art in 2006 would have understood the '674 invention, in light of the claim terms and the disclosure in the patent specification.

The '674 Patent

11. The '674 Patent is directed to methods and computer-readable media that "procure information about a . . . property from its owner . . . to refine an automatic valuation of the . . . property . . . ." '674 Patent Abstract.

12. The '674 Patent discloses an automatic valuation model that can generate valuations based on the characteristics of a subject property and sales data relating to comparable properties. Automatic valuation models are designed to work without appraiser involvement. While they can generate a value for a property, they are not considered a true "appraisal." An appraisal is conducted by an appraiser, while an automatic valuation model works "automatically" based upon a data set, without appraiser involvement. An automatic valuation can value multiple properties essentially simultaneously, while in an appraisal, an appraiser is focused on valuing a single “subject” property.

13. The '674 Patent distinguishes appraisals from "automatic valuations [that are] generally . . . performed based upon the contents of a public database, and without input from each home's owner or other information not in the public database." '674 Patent at 1:45-49. The '674 Patent model generates a value based upon a large set of sales data, through a regression analysis (i.e., a least-square error method) or a decision tree forest based model. See Figure 4B, steps 458-461, and col. 8:18-24 and 9:13-14.

14. Such "automatic" valuation models existed in the prior art. The '674 Patent is focused, however, on allowing a homeowner to refine a valuation from such an automatic model through the revision of the characteristics or attributes information about the subject property or, in other circumstances, by identifying more relevant comparable sales. There is no appraiser involvement.

15. More specifically, the '674 Patent discloses the display of an initial value of a home to its owner, and then soliciting updated information concerning home attributes, improvements, and other factors that might affect the value of the home from the owner, and then displaying a refined valuation. See Figure 14. The patent explains that "by enabling a user to refine a valuation of his or her home based upon information about the home known to the user, the [invention] in many cases makes the valuation more accurate than otherwise be possible and/or helps the user to more fully accept the valuation as appropriate." '674 Patent at 3:18-22.

16. I understand that the *Decision* found claims 15 and 17 are anticipated by Dugan, that claims 2, 5-10, 13, 14, 16, 26, 27, 29-33, 35-37, 39 and 40 are obvious in light of Dugan and Kim, and claims 11, 12, 28, 34 and 38 are obvious in light of Dugan, Kim and at least one other reference. Claim 15 is directed to a method for refining an *automatic* valuation of a home, from a user knowledgeable about the distinguished home (e.g., the owner), that includes obtaining input adjusting at least one aspect of information about the home used in its valuation, and *automatically* determining a refined valuation based on the user input. Claim 17 depends on claim 15, and also involves displaying the refined valuation to a user other than the user providing the input.

17. Claim 2 has similar limitations, but is directed to a computer readable medium that causes a computer system to perform the method, and also specifies that the system procures information from the home owner to refine an automatic valuation, and displays to the owner the refined valuation.

18. Claims 5-10 are dependent on claim 2, and describe the nature of the input from the home owner (e.g., altered property attributes, improvement, recent comparable sales). Claims 11 and 12 depend on claims 2 and 8, but also provide for the displaying of a map that allows an owner to select or identify recent comparable sales.

19. Other dependent claims have similar limitations, and include claims that are specifically focused on details relating to the identification of comparable sales. My report does not address every detail of the claims, but assesses broadly whether Dugan discloses the thrust of the '674 invention, and why someone of ordinary skill in the art would not look to Dugan to arrive at the '674 invention.

The Dugan Patent

20. The Dugan Patent does not focus on "automatic" valuation models, much less letting a homeowner directly access such a model to revise an existing valuation. Instead, Dugan focuses, essentially, on providing a tool for the more conventional appraisal approach, where a single home is appraised by an appraiser based on comparable sales. Dugan also

focuses on a significantly different valuation – a valuation based on the individual preferences of a buyer or seller. A traditional sales comparison approach[1], as used in a traditional appraisal, starts by selecting a series of comparable sales (typically 3 or so for the appraisal of a single family residence). Since "comparable" does not mean "identical," there will typically be differences between each of the comparables and the subject property being appraised. These differences require adjustments to the sales price of the comparables. Good appraisal practice dictates the use of comparables with minimal adjustments. Fannie Mae, for example, requires that "gross" adjustments to any one comparable not exceed 25%, and "net" adjustments not exceed 15%[2]. After all adjustments are made, each comparable has an "adjusted sales price" which may be very different from the actual sales price. The appraiser will then weight these adjusted sales prices so that the sum of the weights equals 100%[3]. While the Uniform Standards of Professional Appraisal Practice ("USPAP"), which can be found through this link -- www.uspap.org -- is silent to the specific manner of determining weights, other authoritative guidance can be found in specific situations. For example, the IRS requires that the appraiser put the most weight on the comparable with the least adjustment[4]. Thus, the value determined by the sales comparison approach is the weighted average of the adjusted sales prices.

21. Dugan discloses a method to combine both the adjustments as well as the weighting with an index which he refers to as his "Ideal Point System" ("IPS"). This IPS is at the heart of the Dugan patent; nothing like it appears in the '674 patent.

22. The Dugan Patent mentions, in passing, that the operator may revise the record of either the subject property or one of the comparable properties (see step 50 and discussion at Column 8, line 19). Apparently, this revision can be to correct errors in the characteristics of the subject or comparable or to revise the IPS rankings. However, the option of revising characteristics data is clearly not an objective of his patent, as it is not listed among the objectives at Column 4. Indeed, the Dugan Patent does not depend on this option, as is noted in Column 14, Lines 44-54. Specifically, "[i]t is also recognized that the system 10 may be configured so that an appraiser is unable to modify records stored at a national database." At the least, Dugan does not disclose the owner revising the database records.

23. Indeed, the core objective of the Dugan Patent is to be able to assign numbers to this IPS index. This index allows the Dugan patent to combine both the sales adjustment process along with the weighting process for a given subject property. He notes that the modification step 50 is where the IPS values are input and/or updated for the comparables and the subject property (see Column 8, lines 22-24). The crux of the Dugan Patent is that, using his index, the adjusted sales prices (156) of the comparables will vary depending on the subject property (see Column 12, lines 61-67 and Column 13, lines 1-3).

24. Dugan notes that his appraisal will result in varying mathematical outcomes depending on who uses it. For example, for a given subject property with a fixed set of

[1] Note that Dugan confusingly calls this the "Market Data Approach," a leftover from some older, outdated verbiage. USPAP uses the more accurate term "Sales Comparison Approach", since other approaches, such as Cost and Income, will also use "market data."
[2] Fannie Mae Selling Guide, June 30, 2010, Section B4-1.4-17
[3] Note that even a simple averaging of the adjusted sales prices is a weighting, with all of the weights being equal.
[4] See IRS Publication 561

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