# Homework 9: Patent Liability Analysis

***Due: Friday, March 31, at NOON***

**Team Code Name: Digital Real-time Intelligent Networked Kegerator Group No. 4**

**Team Member Completing This Homework: Matthew Kocsis**

**E-mail Address of Report Author: mkocsis @ purdue.edu**

NOTE: This is the second in a series of four "professional component" homework assignments, each of which is to be completed by one team member. The completed homework will count for 10% of the team member's individual grade. It should be a minimum of five printed pages.

**Evaluation:**

| Component/Criterion | Score | Multiplier | Points |
|---|---|---|---|
| Introduction and Summary | 0 1 2 3 4 5 6 7 8 9 10 | X 1 | |
| Results of Patent/Product Search | 0 1 2 3 4 5 6 7 8 9 10 | X 4 | |
| Analysis of Patent Liability | 0 1 2 3 4 5 6 7 8 9 10 | X 2 | |
| Action Recommended | 0 1 2 3 4 5 6 7 8 9 10 | X 1 | |
| List of References | 0 1 2 3 4 5 6 7 8 9 10 | X 1 | |
| Technical Writing Style | 0 1 2 3 4 5 6 7 8 9 10 | X 1 | |
| | | **TOTAL** | |

**Comments:**

_____

_____

_____

_____

_____

## 1.0 Introduction

The Digital Real-time Intelligent Networked Kegerator is designed to assist the dispensing of draft beverages to people. The system is designed to recognize users and then monitor and control the amount of liquid dispensed based on prior usage and system policy. Users will interact with the device through a rotary pulse generator, a biometric sensor, RFID tags, and a LCD display. Administrators will be able to control user accounts and settings through a web interface. These individual functions are not unique to this design; therefore patent information about the individual and overall functions must be assessed. This report will examine similar patents, assess possible infringement of specific claims in the found patents, and recommend action based on the findings.

## 2.0 Results of Patent and Product Search

Using the United States Patent website, a search was conducted to assess if the DRINK design has aspects in common with existing patents. Terms such as beverage, monitor, dispenser, draft, beer, and tap were used to search for patents. Existing commercial products were also searched using similar terms. Two patents and one product were found to have similar characteristics to our design.

United States Patent number 5,893,483. November 24, 1998: Beverage dispenser with serving time monitor. [1]

This patent is for a device that attaches to a beverage tap and measures electrically how long the tap is open. It also claims a method of calibrating pour time to estimate pour volume and using it to classify pours as short, valid, or servings. There is no information on how these measurements are to be calculated, or exactly how the system monitor uses the statistics. Our system shares this function; however we implement it in a different way. This patent specifically claims a device that attaches to the tap handle of a manually poured beverage.

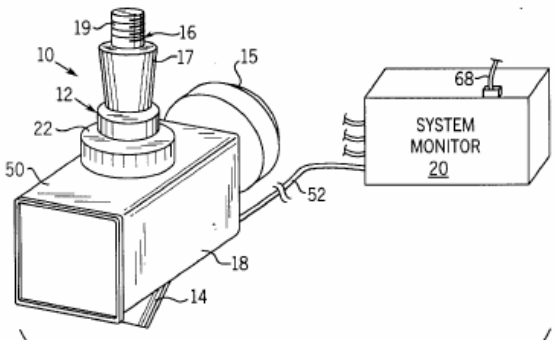


Figure 1 – Patent 5893483 drawing

United States Patent number 6,934,602. February 28, 2002. Beverage dispenser including an improved electronic control system. [2]

This patent claims a beverage dispenser that includes an electronic control system with a user interface, a dispensing valve, a valve interface, and a microcontroller with firmware that is externally updatable. The claim also states that this system can be operated with RS-232 or modem interfaces. The patent also includes a device that has a diagnostic routine that can be initiated by a user. All of these claims are similar to functions in the DRINK system due to the nature of using a microprocessor to control external interfaces.

The Draft Sentinel. Trademark of the Berg Company, a Wisconsin Limited Liability Company. Trademark Year 1998. [3]

The Draft Sentinel is the most versatile commercially available product that monitors beverage consumption of multiple beverages. The Sentinel monitors beverage quantity based on flowmeter inputs and reports statistics to a computer or a user screen. The Sentinel does not have any pending or issued patents. [4]


Figure 2 – Draft Sentinel User Interface

### 3.0 Analysis of Patent Liability

Our system has many common components with all of the analyzed patents in this report. The essence of all found patents is the ability to monitor and control beverage dispensing. The DRINK system had this same functionality, so possible infringements must be studied.

Literal patent infringement of our design could be possible only when considering how broad the second patent presented is. Our design measures beverage dispensing with a microcontroller and a user interface, which is what the claim states. All other commercial applications also do this, however, so this is not a unique technique.

Under the doctrine of equivalents, our entire design does a different overall function when compared to the patents and products. Some of the sub functions of the DRINK system are very similar to the functions claimed in these patents, however many are a simple result of using a device such as a flowmeter. Due to the overall user interactive nature of the DRINK system, the end results of each system are different.

## 4.0 Action Recommended

Due to the possibility of patent infringement, special attention will need to be taken to avoid specific design techniques used in the registered patents. Since our device measures flow, not only length of time in which the device is pouring, there should be no issues with the first patent. The second patent is much more difficult to navigate around if each component is to be completely avoided. The broad wording of the patent includes any digital design dealing with beverage dispensing. Since this is a relatively new patent, contacting the holder would be possible and is recommended to further understand the claims made and possible applications.

## 5.0 Summary

The DRINK system has functionality that is similar to several existing patents and products. From a legal and ethical standpoint, it is important to consider these patents and make sure that the design of the DRINK system does not infringe on anybody's prior work. Understanding the overall functionality and specific technologies of the DRINK system are crucial to correctly assess any infringement. Care must also be taken to design the system in a way that is not currently someone's intellectual property.

**List of References**

**[1]** United States Patent and Trademark Office, "Beverage dispenser with serving time monitor," [Online Document], 1998 Nov 24, [cited 2006 Mar 29], Available HTTP: http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=4&f=G&l=50&co1=AND&d=ptxt&s1=beverage.TTL.&s2=monitor.TTL.&OS=TTL/beverage+AND+TTL/monitor&RS=TTL/beverage+AND+TTL/monitor

**[2]** United States Patent and Trademark Office, "Beverage dispenser including an improved electronic control system," [Online Document], 2002 Feb 28, [cited 2006 Mar 29], Available HTTP: http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=11&f=G&l=50&co1=AND&d=ptxt&s1=beverage.TTL.&s2=dispenser.TTL.&OS=TTL/beverage+AND+TTL/dispenser&RS=TTL/beverage+AND+TTL/dispenser

**[3]** Berg Company, "Draft Sentinel Beer Monitoring Equipment inexpensively monitors a large number of taps," [Online Document], 1999 Sep. [cited 2006 Feb 7], Available HTTP: http://www.berg-controls.com/draft.htm

**[4]** Giles, Tom, "Draft Sentinel," [Email to Matthew Kocsis], 2006 Mar 31.

**IMPORTANT: Use standard IEEE format for references, and CITE ALL REFERENCES listed in the body of your report. Any URLs cited should be "hot" links.**