

Patenting computer-implemented inventions in Australia

Part 1

Yes, it is still possible to patent software-based inventions in Australia!

Dr Sudhanshu Ayyagari, Wednesday 15th July 2020

This article is the first of a two-part series on patenting software-based inventions in Australia. In the first part of this series, we begin by analysing the key patent judgements in Australia, including a discussion on the origins of uncertainty, whilst also exploring the current approach followed by IP Australia in relation to the patentability of claims targeting software. In the second part, we compare the IP Australia's approach with other major jurisdictions including the United States and Europe. In addition some practice notes are also provided on drafting specifications and claims for software-based claims that pass the patentability requirements in Australia. Finally, thought is also placed on considering other potential avenues for IP protection for the concerned players in the software domain.

The modernisation of several industries due to the rapid advancement of computer-based technologies, and their relative ease of deployment over various sectors, has led to an emergence of a digital economy. Today, several technological processes and innovations in our economy rely solely on the software advances. Therefore, it is essential to

understand the implications of the patent law in relation to granting monopolies to these software inventions. A glance at the international patent landscape also reveals a variety of approaches in handling the patentability of software inventions. This article explores the current stance of Intellectual Property office of Australia (IP Australia), in relation to the patentability of inventions targeted towards computer programs, while addressing some of the recent High-level Australian Court decisions in this area, and providing some general guidance for operators in this domain.

Increasing the bar on patentability

Grant of monopoly to computer programs has been a highly contested topic all around the globe. The year 2014, in the form of the *Alice v CLS Bank*¹ in the United States, *Research Affiliates LLC v Commissioner of Patents*² in Australia, the implementation of 2013 Patents Act in New Zealand³ and the EPO's guidelines on patent eligibility requirements, has brought with it much needed guidance and harmony in the world of computer software-related patents.

1 *Alice Corp. v. CLS Bank* [134 S. Ct. 2347 (2014)].

2 *Research Affiliates LLC v Commissioner of Patents* [2014] FCAFC 150.

3 Patents Act 2013 (Cth).

Under these new patent law regimes/ guidelines, grant of patents for inventions involving computer programs including those relating to business methods and computer software has become increasingly complex. This is because of the exclusions that appear in the Acts/law in certain jurisdictions - for example, section 11 of NZ Patents Act 2013, section 1(2) of the UK patents act, which set out that a computer program 'as such' cannot be an invention. In effect, this introduces a requirement that in order to be patentable, an invention must generally be more than the implementation of an idea from a non-technical field as a computer program, on known computer hardware.

Although, similar exclusions are not explicitly present in the Australian Patents Act⁴, it appears that IP Australia also follows similar approach to that of Europe and NZ. This is clearly evident from the numerous high level Australian court decisions issued in the recent past.

Origins of uncertainty

Under the Australian law, which traces its origin to the nearly 400 year old Statute of Monopolies 1624, there are no specific exclusions for patentability of certain type of inventions. However, the Statute requires that for an invention to be patentable, what is claimed "as a matter of substance" should meet the requirements for a "manner of manufacture". This raised a level of uncertainty as to whether a method of performing an invention is patentable. This uncertainty was first addressed in the landmark Australian High Court case of National Research Development Corp v Commissioner of Patents (NRDC)⁵ in 1959.

Vendible product and physically observable effect

In NRDC, the High Court provided a statement of the law in regard of patentable subject matter. In addition to setting up a proposition of a "vendible product", NRDC also clarified that methods of implementing an invention need to result in an "artificially created state of affairs" in order to be patentable. The judgement in NRDC effectively meant that some physically observable effect of the invention may need to be

implicit in the claimed method. In NRDC, the claims related to a method of applying specific chemical compositions to crop-bearing land to eradicate weeds. The physical effect, observed in this case was the weed-free condition of the land.

New and improved result

NRDC also finds its relevance to the current software related inventions in their implementation (as software programs are predominantly a set of instructions for a processor to perform a sequence of method steps) and the determination of the patent eligibility (as long as the above requirements are met). Therefore, it is useful to track the development of patent law in this area.

One of the first major Australian cases on this issue was that of IBM v Commissioner of Patents (1991)⁶ which involved a claim by IBM relating to a method for producing a visual representation of a curved image. In this case, Justice Barchett determined that the invention was a "commercially useful effect in computer graphics" and was inventive on the grounds that the production of the curve by the computer was a new and improved application to computers involving steps that were foreign to the normal use of computers.

Similar observations were also made in another case CCOM v Jiejing⁷, where a claim directed to computer processing apparatus for assembling text in Chinese language characters using a non-Chinese keyboard was found to be patentable as it provided a new and improved application to computers.

Substance of the invention

In the more recent times, the Full Federal Court decision of Research Affiliates LLC v Commissioner of Patents⁸, provided an addition to Australian case law concerning the patentability of business methods and software. This case was the first of its kind to provide clarification that a mere reference to computer implementation in patent claims will not be enough to satisfy IP Australia's requirements of patentable subject matter.

4 Patents Act 1990 (Cth).

5 National Research Development Corp v Commissioner of Patents (NRDC) HCA 67 [1959].

6 International Business Machines v Commissioner of Patents (1991) 33 FCR 218.

7 CCOM v Jiejing 28 IPR 481; (1994) AIPC 91-079.

8 Research Affiliates LLC v Commissioner of Patents [2014] FCAFC 150.

More specifically, in this case, the Federal court determined that the use of a computer was not sufficient, and emphasised that:

1. when assessing whether a claimed invention is patentable, the focus be placed on the **substance of the invention**, and
2. where a claimed invention is otherwise unpatentable, a computer must be important, if not integral, to the implementation of the claimed invention.

Determining whether substance of the invention is technical

When determining the substance of a computer implemented invention, it generally comes down to how the invention works. The substance will be found in the improvement it makes over what's already known in that field. One of the initial cases to observe this 'substance ideology' of Research Associates was *Commissioner of patents v RPL Central*⁹. In this case, the Court found that merely putting a business method or scheme into a computer is not patentable unless there is an invention in the way in which the computer carries out the scheme or method.

More than an abstract idea

The RPL Central judgement also provided that the claimed invention needed to be examined to determine whether it is in substance a mere scheme or plan, or whether it can be broadly be described as an improvement in computer technology. There must be more than an abstract idea, and the computer must be integral to the invention, rather than a mere tool on which the invention is performed. The judgement also meant that, for computerised business methods, the invention must lie in that computerisation. It is not sufficient to simply implement the business method using the computer for its well-known and understood functions.

More particularly, the Full Court provided the guidelines on determining patent eligibility as:

- a. *ascertaining whether the contribution to the claimed invention is technical in nature;*
- b. *considering whether the invention solves a "technical" problem within the computer or outside the computer, or whether it results in an*

improvement in the functioning of the computer, irrespective of the data being processed;

- c. *does the claimed method merely require generic computer implementation?*
- d. *is the computer merely the intermediary, configured to carry out the method using a computer readable medium containing program code for performing the method, but adding nothing to the substance of the idea'*

By way of example, consider a computer implemented for generating a user interface executing a financial trade by selecting trade parameters such as price or quantity, where the user simply moves a cursor with a mouse over designated areas of screen to select each parameter rather than clicking, and executes the trade based on the selected parameters. The above claim construction is considered to be more than an abstract scheme, because it clearly demonstrates that the claimed method involves technical features originating from the computer implementation of the method. The substance of the invention lies in the user interface if this kind of interface wasn't previously known, rather than the trade itself. The improvement to the interface provides a technical benefit as it allows actions to be completed in a more efficient manner without clicks.

Generic or non-generic

The Full federal court decision in *Encompass Corporation Pty Ltd v InfoTrack Pty Ltd*¹⁰ also re-affirmed the above guidelines that implementation of a 'mere scheme' or 'abstract idea' by 'generic software' will not transform an invention into patentable subject matter. The guidance also included that:

"[w]here the claimed invention is to a computerised business method, the invention must lie in that computerisation. [95]" It is not sufficient if the claims are no more than an instruction to apply an abstract idea (the steps of the method) using generic computer technology" [99].

The Court also noted in this case that part of the requirements for patentability also include considering whether there has been some "improvement in the computer" or whether the invention is a mere generic computer implementation. The above principles

⁹ *Commissioner of Patents v RPL Central Pty Ltd* [2015] FCAFC 177.

¹⁰ *Encompass Corporation Pty Ltd v InfoTrack Pty Ltd* [2019] FCAFC 16.

were also re-affirmed in another case, *Repipe Pty Ltd v Commissioner of Patents*¹¹, where the claims were targeted to a system for providing occupational health and safety documentation to employees in the field via a database linked to a portable computing device. In the *Repipe* case, the Court took a consistent approach with *Encompass* and focussed on the question of whether the inventions relied on using generic computer technology, or if there could be said to be an innovative component to the implementation.

Holistic point of view

In another case, *Apple Inc.* [2018]¹², the delegate at IP Australia suggested that a holistic point of view in assessing the substance of the invention. The invention in this case, related to the use of animations when displaying the time on a touch sensitive display. Initially, the examiner at IP Australia rejected the application stating that the claims did not involve more than a generic utilisation of well-known functions of a computer, and therefore did not involve any invention or ingenuity.

Appealing the decision, Apple presented a number of technical benefits related to the claimed invention that it was not restricted to what is being displayed. Rather, it concerns the manner in which the object being displayed is generated.' (43). Specifically, the 'substance of the claimed invention was directed towards an interface, which, upon detection of a user input, is designed to generate and display a second user interface object and a third user interface object in the specific manner described...' (at [44]).

The delegate upon reviewing the Apple's submission determined that Apple should be given a second chance in examination and noted that:

The present case provided an example of why it is crucial, when assessing the substance of the invention, that one should not apply too narrow a view. ... [O]ne should not immediately conclude that an application is not for a manner of manufacture just because it may fall, generally within what typically constitutes excluded subject matter. Rather, an assessment of where the substance of the invention may lie should be approached with a holistic point of view.

Not all factors of patentability are relevant

In a more recent turn of events, a recent Australian Patent Office decision, *Facebook, Inc.* [2020]¹³, highlighted that not all factors indicative of patentable subject matter needed to be satisfied for a computer implemented invention to be found patentable. Through the findings in this case, it appeared that IP Australia may have somewhat relaxed its view on patentability, by suggesting using a generic computer implementation to solve a business problem can constitute patentable subject matter as long as the technical improvement offered by the invention is properly defined in the claims.

In this case, the claims related to a method of tracking when an advertisement on a social media platform about a phone app, was clicked on by someone so they could download the Advertised App from an app store. Facebook initially presented that this process overcame the difficulties of most apps being 'sandboxed' – a term that meant when one app's data (e.g. Facebook) is separate from another app's data (e.g. Google) and those two apps had no means of directly communicating with each other (or had access to each other's cookies). However, the Examiner argued that the invention circumvented a business rule (or deliberately set permissions of the device rather than any architectural limitation of the device) and did not overcome a technical limitation of the device, and thus did not constitute a manner of manufacture.

Upon appeal, the Delegate noted the importance of understanding the state of the art in respect of whether an invention is a manner of manufacture and found that:

- i. the 'computer' (i.e. phone) was not merely the intermediary, and the use of the computer was intrinsic to the method claimed;
- ii. the device was able to do something it could not do previously;
- iii. the sandboxing of apps was a technical limitation and by working around the sandboxing, the invention is a technical improvement in the device.

11 *Repipe Pty Ltd v Commissioner of Patents* [2019] FCA 1956.

12 *Apple Inc.* [2018] APO 54 (20 August 2018).

13 *Facebook, Inc.* [2020] APO 19 (21 April 2020).

Albeit, finding the invention constituted a manner of manufacture, through this decision the delegate appeared to be at odds with the existing case law above (RPL Central) by indicating that:

- i. the claims required a mere generic computer implementation;
- ii. no evidence was found on if the device operated more efficiently,
- iii. no improvement to the device was found by receiving executive data and sending it back.

Is it a mere scheme?

In a significant recent decision in *Commissioner of Patents v Rukt Pte Ltd*¹⁴. In this case, the Full Federal Court reversed the decision of the trial judge, finding for the Commissioner of Patents that Rukt's digital advertising systems and methods invention does not constitute patentable subject matter.

In Rukt, the invention related to a field of digital advertising systems and methods. The claims targeted a computer implemented system and method that linked users to online advertising by presenting an "engagement offer" when a user accessed a website, where the engagement offer was targeted based on a user's previous interactions. Essentially, the system provided for a context-based advertising system in which users who were more likely to engage with advertising were shown specific offers to increase engagement over traditional methods of digital advertising.

The courts in this case considered the relevant principles for patent eligibility and found that:

- i. the invention as claimed must in substance be a manner of manufacture - merely dressing up an otherwise unpatentable scheme into a computer is not sufficient to determine patent eligibility (following RPL Central);
- ii. claims targeting a mere instruction to apply an abstract idea or scheme will not be patent eligible on their own (following Encompass);
- iii. common general knowledge and prior art have only a limited role to play in the assessment of manner of manufacture;

- iv. a key consideration to be placed whether the description and the claims in substance are more than a mere scheme that utilises computers in generic fashion.

As such, in applying the above principles and in consistency with Encompass case, the Full Court concluded that Rukt's invention was mere instruction to carry out a marketing scheme, expressed at a level of abstraction. Furthermore, the Court also provided that the invention was not a manner of manufacture as the claimed steps were to be implemented using computer technology for its well-known and understood functions.

Game (not) over – a 'two step' approach to patent eligibility

While Rukt's judgement provides that the patentability of computer-implemented inventions that utilise generic and well-known computing systems, do constitute patentable subject matter in Australia, the latest Aristocrat decision seems to offer some hope for patentability of computer-implemented inventions where which includes a combination of physical parts and computer software to produce a particular outcome in the form of gameplay" is for a "manner of manufacture" (the Australian patentable subject matter requirement)

In *Aristocrat Technologies Australia Pty Limited v Commissioner of Patents*¹⁵, Justice Burley, after reviewing the current case law in Australia, including the Research Affiliates, RPL Central, Encompass, and Rukt decisions, clarified that the test for determining patent eligibility as a two-step approach as follows:

- The initial question is whether the claimed invention is a business method, or mere scheme; and if answered in the affirmative,
- a subsequent inquiry is needed as to whether:
 - the invention lies in the computerisation of the method, or
 - the computer is a "mere tool" in which the scheme is performed, noting that "plugging an unpatentable scheme into a computer does not make it a manner of manufacture".

¹⁴ *Commissioner of Patents v Rukt Pte Ltd* [2020] FCAFC 86.

¹⁵ *Aristocrat Technologies Australia Pty Limited v Commissioner of Patents* [2020] FCA 778.

In applying the above two-step tests, in *Aristocrat* the Court considered whether “mechanisms of a particular construction, the operation of which involves a combination of physical parts and software to produce a particular outcome” of four innovation patents to constitute a manner of manufacture. More specifically, the Court found that the hardware, firmware, and software components present in the claim, including a display, reels, a credit input mechanism, meters, a game play mechanism, and a game controller, to produce a particular outcome that was inventive over the existing systems. Consequently, the Court found that the claimed inventions were in substance not directed to a business method or mere scheme, and as such, concluded that it was unnecessary to consider the second question of the two-step test.

Conclusion

Although, patentability is established on a case-specific approach, it appears that these recent decisions indicate a step in the positive direction for software-based inventions in Australia – so long as the patent application demonstrates: how the computerisation of a method achieves a technical solution (referencing to *Encompass* and *Rokt*), and the how the interaction of physical features of hardware with software result in a desired technical outcome (*Aristocrat*).

Continuing on the learnings from the above judgements, in our second part of this series, we will explore the relevance of these judgements in view of the case law in other major jurisdictions, whilst also evaluating impact of these judgements from a claim and specification drafting perspective.

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