A Publisher-Centred Blockchain Model for the Book Publishing Industry

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No Point in Stopping White Paper: A Publisher-Centred Blockchain Model for the Book Publishing Industry

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**Glossary of Terms**

**Blockchain**
Blockchain is a digital ledger for the registry and verification of data, assets and transactions. Transactions on a blockchain system are distributed across an encrypted peer-to-peer computer network where all participants in the network must verify each transaction.

**Commissioning Letter**
A letter usually written by a commissioning editor in a publishing house that contacts an author regarding a book proposal or manuscript.

**Cryptocurrency**
A digital asset designed to work as a medium of exchange, like a currency, that uses cryptography, or secure communication methods, to track financial transactions, create additional units and verify transfers. Cryptocurrencies use decentralised control systems, such as a blockchain, as opposed to centralised digital currency and central banking systems.

**Hyperledger**
Hyperledger is a collaboration of organisations interested in developing and advancing cross-industry open source blockchain technologies. Created by The Linux Foundation in 2015, members include IBM, Intel, Accenture and Deutsche Bank, among many others. For more information see [https://www.hyperledger.org/](https://www.hyperledger.org/)

**Hyperledger Fabric Network**
Hyperledger Fabric is a modular blockchain framework that acts as a foundation for developing blockchain-based products, solutions and applications. A Fabric Network is a network of computers and associated tools built on this framework.

**ICO (Initial Coin Offering)**
The cryptocurrency industry’s equivalent to an Initial Public Offering (IPO). ICOs can raise funds for a company looking to create a new app, product or service. Interested investors can buy into the offering and receive a cryptocurrency token issued by the company. This token may give customers access to a product or service, or it may just represent a stake in the company or project.¹

**Micro-publisher**
Publishing houses of a smaller scale, both in revenue and market share, than large publishing houses. Also used to describe the use of print-on-demand services to print small runs of books, as needed, normally one to 500 copies.

**Paratext**
A supplementary and ancillary text, whether digital or material, that is produced during the creation of the original text of a novel. E.g. First drafts, emails about the novel, unpublished illustrations.

¹ Frankenfield, Jake. 2019. Initial Coin Offering (ICO), *Investopedia*, Nov 4. [https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp](https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp)
P&E (Print and Electronic Bundling)  In publishing, the sale of both print and electronic copies of a book in one purchase.

QR Code  A machine-readable code consisting of an array of black and white squares, typically used for storing URLs for reading by the camera on a smartphone.

Royalties  A percentage of sales of a book paid to the author or copyright holder.

Reader’s Report  A report usually written by literary agents and acquiring editors at a publishing house to summarise an unpublished manuscript. It usually includes a summary of the plot, a summary of strengths and weaknesses, and a recommendation to publish or not to publish.

Smart contract  An automated computer protocol that digitally enacts and verifies the conditions of a rules-based contract between two or more parties. As a self-executing script that resides on the blockchain, a smart contract allows for transactions without third parties.

System Architecture  A system architecture is a conceptual model that defines the structure and behaviour of a system. It illustrates the components of system hardware and software and the relationships and interactions between those components.

YAWL  YAWL is an open source, extensible business process management system. For more information, see [http://yawlfoundation.org](http://yawlfoundation.org)
1.0 The project: No Point in Stopping

There is a small but growing volume of academic research and innovative technological experiments in relation to blockchain and book publishing; however, the majority of this work focuses on blockchain’s benefits for authors and writers. The No Point in Stopping project is a response to a lack of research into how publishers, rather than just authors, may benefit from blockchain. This project explores a publisher-centred model of blockchain publishing that creates value for micro-publishers in terms of monetising existing intellectual property. The No Point in Stopping project involved creating and selling new digital products using the drafts, edits, and unpublished illustrations of a novella. Using the open source blockchain technology Hyperledger, the project developed a custom digital ledger to manage the intellectual property agreements and royalty payments for these digital products, and track both physical in-store and online purchases. In so doing, the research explores the potential of blockchain technology for models of book publishing that are mutually beneficial for both publishers and authors.

The project is the outcome of a two-year collaboration between researchers from the Creative Industries, Law, and Science and Engineering Faculties at the Queensland University of Technology (QUT), in Brisbane, Australia, and the Brisbane-based micro-publisher Tiny Owl Workshop (see Appendix 1). The No Point in Stopping project was funded by QUT’s Institute of Future Environments and a 2018 Catapult grant, a funding scheme designed to seed innovative transdisciplinary research that responds to the needs of industry, and in this case, the Australian book publishing industry.

The project resulted in three key outcomes:

- A special ‘Education Edition’ of the novella No Point in Stopping, written by Brisbane author Samuel Maguire, and published by Tiny Owl Workshop. This Education Edition comprised three bundles of paratexts designed for interested readers, independent writers and creative writing students;
- A custom blockchain platform prototype for rights management and royalties distribution that enacts micro-payments via smart contracts to all creative professionals involved in the writing and publishing process (namely the author, editor, illustrator and publisher); and
- A Print and Electronic (P&E) tracking system made possible by the design of a marketing bookmark that contains a QR code. This code gives purchasers of physical book copies a free download of one digital bundle from the ‘Education Edition’. It also links physical book purchases in bookstores to online downloads, and provides a ledger of where customer transactions originate.
The No Point in Stopping project’s unique innovations for the book publishing industry can be summarised as follows:

1. The creation of new digital products from the drafting and editing process, and monetising intellectual property that would not normally be monetised.
2. A unique pedagogical tool for independent writers and creative writing students interested in understanding the writing and publishing process. The No Point in Stopping Project seeks to make visible and make valuable these processes of drafting, editing, and illustrating.
3. A new contract and revenue system that values co-creation and disrupts the current value-chain and fee-for-service model by paying royalties to all creative professionals involved in the publishing process – namely, the author, editor, publisher and illustrator.

This white paper considers the opportunities and challenges offered by blockchain technologies to publishers, and micro-publishers in particular. To that end, this white paper begins by providing an overview of the book publishing industry, the effects of digital disruption on the industry, and outlining blockchain technology and its potential uses for book publishing. We then identify some of the keys ways in which blockchain could be beneficial to publishers, and end by outlining our publisher-centred model, the No Point in Stopping project, in detail.

2.0 Background: Why blockchain and book publishing?
In this section, we set the context for the project through establishing our central question: How can blockchain benefit book publishers?

The book publishing industry, specialising in the production, publication and dissemination of consumer books such as adult, juvenile, and mass-market paperbacks, is undergoing significant digital disruption that is fundamentally transforming and challenging long established norms and practices. The industry continues to adapt to a rapidly changing landscape that has seen digital technologies disrupt the physical production and sale of books, create new forms of literature, and alter our understanding of authorship as non-traditional relationships between publishers, authors, distributors, and readers emerge. At the same time, over the last two decades, digitisation, the ubiquity of broadband and online access, and the convergence of previously separate industry silos, has made it easier for more authors to self-publish than ever before. Yet, as Ross, Jutla and Holloway (2018) observe in an Alliance of Independent Authors (ALLi) white paper, the promise of the digital landscape and self-

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2 Greco, A.N. (2013). The Book Publishing Industry (3rd ed.). New York: Routledge.
publishing has not yet been fully realised. There are a number of significant problems for authors, and we would argue, publishers, which challenge the viability of digital publishing. Within this landscape, blockchain is a digital ledger, and a disruptive new technology, with the potential to fundamentally transform the book publishing industry.

Blockchain’s potential benefits for various sectors of the economy are primarily that it offers transparency, security, anonymity and data integrity without any third party organisation in control of transactions. In terms of the creative industries and book publishing in particular, blockchain promises to radically alter the way copyright works are validated, commodified and exploited, allowing creatives to “not only communicate directly with the public in order to create a stronger relationship with their audience, but ... [to] directly enter into transactions with them and be rewarded”.

In recognition of the potentially disruptive impact of new technologies, such as blockchain, the Australian Copyright Council argues that, “[i]n this changing and challenging environment there is a continued need for copyright industries to develop, supported by copyright law, which provides certainty and the incentive to innovate and grow”.

However, to date, appropriate and feasible blockchain models for rights management and copyright exploitation remain largely untested in the Australian book publishing industry. Furthermore, in the last five years, most of the global experiments exploring blockchain systems for the book publishing industry have focussed on author-centred models of intellectual property and royalty management. Conversely, there has been limited focus on examining the potential of blockchain to facilitate publisher-centred models. As a result, there are few practical prototypes of best practice and there is little understanding of mutually beneficial blockchain models for rights management, transactions and reader incentives that are appropriate for both writers and publishers.

This white paper investigates how blockchain technology is useful for book publishers in terms of monetising existing intellectual property that would normally be an input into the publishing process rather than a commercial output. Blockchain could be especially useful for agile micro-publishers who have more flexibility in negotiating contracts with their authors, whereby both the author and the publisher may expand rights to the broader spectrum of intellectual property created. The small scale of micro-publishers mean they are also more able to experiment with novel technologies that can fundamentally transform organisational practices.

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3 Ross, O., Jutla, S., & Holloway, D. (2018). Authors and the Blockchain: Towards a Creator Centered Model. London: Alliance of Independent Authors. Retrieved from https://www.allianceindependentauthors.org/blockchain-for-books/
4 Yli-Huumo, J., Ko, D., Choi S, Park, S., Smolan der, K. (2016) Where Is Current Research on Blockchain Technology?—A Systematic Review. PLoS ONE 11(10).
5 De Filippi, P. (2015). Blockchain-Based Crowdfunding: What Impact on Artistic Production and Art Consumption? Observatório Itaú Cultural 19; p. 6. Retrieved from https://ssrn.com/abstract=2725373
6 PricewaterhouseCoopers (2017). The Economic Contribution of Australia’s Copyright Industries: 2002 – 2016. Prepared for the Australian Copyright Council. September. Sydney: PricewaterhouseCoopers Consulting. p. 5.
Book Publishing

Key Trends

- Rise of eBooks and self-publishing (desktop and print-on-demand) in the 1990s and 2000s

- This results in higher piracy, cheaper pricing, and more flexibility for authors and consumers

- eBook sales reach saturation in 2013, contrasted with rise of audiobook sales in the 2010s

- As of December 2019, print book sales are declining around the world, as well as for publishers and retailers in Australia

- Australian publishers and retailers face fierce competition from foreign international retailers such as Amazon and Book Depository which sell at much cheaper prices and deliver to the door

- Emergence and growth of online book review and fan communities through social media

- Rise in popularity of writers’ festivals and literary awards as public media events
3.0 The disruption of the book publishing industry

In this section, we outline key developments in the book publishing industry due to the introduction of new digital technologies.

While this research project focuses on the impacts and benefits of blockchain for book publishers, it is important to understand how the larger publishing industry as a whole has undergone massive shifts in the last twenty years. The term ‘publishing’ encompasses the “production of printed materials such as fiction and non-fiction books, periodicals including popular and specialist magazines and scholarly journals, and also the issuing of literature and other works in digital form”.7 Publishing has traditionally been divided into trade (consumer) publishing, and educational publishing, with scholarly publishers housed in universities working across both sectors, depending on their products. Trade publishing forms the largest segment of the industry, and specialised in products such as fiction novels, non-fiction books, and children’s books *inter alia*. Educational publishing includes the direct or retail sales of textbooks for schools and universities. Within the publishing industry more broadly, the trade publishing and specifically fiction book publishing industry has traditionally functioned with a linear structure. Publishing houses commission or receive book manuscripts from authors (or agents once a manuscript is written), edit, print, and license books that are then distributed as hard copies within bookstores and other retailers, before being purchased by consumers.

The industry as a whole has undergone major changes in the last few decades as globalisation, digital technologies, and changing consumer behaviours have significantly affected the way the industry functions. These changes have influenced all three key stakeholders in the book publishing industry: authors, (traditional, academic and collaborative), publishers (independent and established), and readers (online and offline). In a recent deep dive into these challenges, Ross et. al. (2018) describe these changes as self-publishing 1.0 and self-publishing 2.0.8 During self-publishing 1.0 in the 1970s, desktop publishing meant people could create digital page layouts on screen using texts and graphics. Newspapers and other media began using this in early 1980s. In 1985, the invention of the Apple LaserWriter printer meant consumers could print and publish at home. Desktop publishing essentially made print-on-demand (POD), or publishing single copies or small batches, economically viable. Self-publishing 2.0 came in the 1990s and 2000s when eBooks were created in .txt, .mobi, and .doc formats. In 1998, the first digital bookstores appeared online, in 2004, Sony released the first eBook reader and in 2007, Amazon released the first Kindle eReader.9

For authors, self-publishing 2.0 has brought significant benefits. Authors are now able to create and distribute their own digital files through various online platforms, including

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7 Baker, D.J., Brien, D.L., & and Webb, J. (2019). Publishing and Culture: An Introduction. In D.J. Baker, D.L. Brien, and J. Webb (Eds.), *Publishing and Culture* (pp. 1-17). Newcastle upon Tyne: Cambridge Scholars Publishing, p. 7.
8 Ross et. al (2018), p.6-7.
9 Ibid.
Amazon’s own self-publishing arm. This has seen the removal of agents, traditional publishers, and other distributors and booksellers from the value chain, bringing readers and authors closer together with only an online distributor in between. For book publishing around the world, the last decade has seen “a rise in the popularity of self-publishing, the entry and growth of new fee-for-service presses, and the availability of self-publishing platforms on booksellers’ online sites”. For publishers and retailers, the introduction of eBooks and eReaders meant a significant decline in physical book sales around the world and an increased rate of piracy as consumers could download free copies of books to their device.

### 4.0 Industry outlook and the unfulfilled promise of self-publishing

This section examines the key problems facing the book publishing industry today.

The outlook for the book publishing industry is mixed. The Australian book publishing industry in particular is in a state of decline as foreign online retailers such as Amazon and its UK subsidiary Book Depository dominate sales with cheaper products: “Consumers have been increasingly buying print books and eBooks online rather than shopping at local bookstores, which has limited demand for domestically published books”. According to an Ibis World report on the Book Publishing Industry in Australia (2019), industry revenue in Australia has fallen 1.6% in the last five years to 1.42 billion in 2018-19, with a projected fall of a further 0.4% per year to 2023-24, to a total $1.39 billion. These figures reflect those in the America, which had an annual growth rate of -0.1% from 2013 to 2018. In the U.S., as elsewhere, the growth is in audiobooks, where “revenue grew 37% year over year through November 2018. Digital audio growth is currently outpacing the decline in e-book sales, which decreased by 3% in 2018”.

One of the major impacts on the book publishing industry is globalisation and the subsequent dominance of a few major multinational corporations who control large publishing houses such as Hachette, HarperCollins, Macmillan, Penguin Random House and Simon & Schuster. This results in a market with the ‘Big Five’ houses, who primarily produce works in English by American or British writers, on the one hand, and small independent publishing houses struggling to maintain market share, on the other hand.

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10 Ross et. al (2018), p.6-7.
11 Throsby, D., Zwar, J. & Morgan, C. (2018). Australian Book Publishers in the Global Industry: Survey Method and Results. *Macquarie Economics Research Papers*. Sydney: Department of Economics, Macquarie University, p.2.
12 Miller, T. (2019). Book Publishing in Australia. *IBISWorld Industry Report*, p. 5. Retrieved from https://my.ibisworld.com/download/au/en/industry/171/1/0/pdf
13 Ibid.
14 Walter, D. (2019, June 3) NPD Book Update. *American Booksellers Association*. Retrieved from https://www.bookweb.org/news/bookexpo-education-%E2%80%9C-state-publishing-industry-today%E2%80%9D-572763
15 Ibid.
16 Sapiro, G. (2010). Globalization and cultural diversity in the book market: The case of literary translations in the US and in France. *Poetics* 38 (4), 419–39. Davies, G. & Balkwill, R. (2011). *The Professionals’ Guide to Publishing*. London: Kogan Page. Baker, D. J. (2013). *Introduction to Editing and Publishing*. Lismore: Southern Cross University.
Globalisation has affected the complicated system of monitoring and enforcing intellectual property through copyright and royalty agreements for different countries and regions around the world, as authors’ works are published and distributed both on the internet and around the globe.

Forsyth (2017)
also affected the complicated system of monitoring and enforcing intellectual property through copyright and royalty agreements for different countries and regions around the world, as authors’ works are published and distributed both on the internet and around the globe.\(^{18}\)

Digital technologies and the internet have had both positive and negative impacts on the book publishing industry. As Francina Cantatore (2019) notes, “while technological advances have positively impacted on the availability and accessibility of books and increased publishing opportunities for authors ... [p]roblem areas for authors have included pirating of their work on the Internet through unauthorised copying, as well as a lack of knowledge on digital publishing and copyright protections on the Internet.”\(^{19}\) Baker et. al argue that the positive effect of digital disruption is the democratisation of the industry through self-publishing options such as Amazon, the emergence and growth of online book review and fan communities through social media, and a rise in the popularity of writers’ festivals, literary awards and prizes as public media events.\(^{20}\)

The counter arguments to these positive impacts of digital democratisation are that avenues for self-publishing floods the industry with poor-quality work, and small and micro-publishers find it hard to maintain profit margins in a market where consumers want both eBooks and print books at little to no cost.\(^{21}\) Similarly, Ross et. al (2018) argue that the promises of self-publishing 2.0 for authors have not been fulfilled: “Although self-publishing 2.0 brought authors three steps closer to their readers, content is still mediated by large corporations”.\(^{22}\) Furthermore, piracy is rampant and copyright contracts are complex and often unintelligible. Most publishers also expect authors to set up, and in most cases manage, their own ‘author platform’ or self-marketing tools such as a website, blog and social media accounts to drive marketing for their products. Yet this can be an additional burden for authors whose main skill and priority is writing.

Both publishers and authors are looking for new ways to reach readers, create value from their processes and earn new revenue streams. In response to these challenges, both large and small publishing houses have employed different strategies to use digital technologies to develop new business models and reach different or niche consumer markets. This has included experimenting with eBook pricing, direct-to-consumer print sales, using free digital samples to encourage purchase of the full copy, digital subscription models, licensing book apps, and attempting to create new avenues for commissioning and promoting books.

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\(^{18}\) Forsyth, M. (2017). Intellectual Property, in K. A. Reinert (Ed.), *Handbook of Globalisation and Development* (pp. 83-99). Cheltenham, UK: Edward Elgar.

\(^{19}\) Cantatore, F. (2019). Publishing and the Law: Copyright and Globalisation. In D.I. Baker, D.L. Brien, and J. Webb (Eds.) *Publishing and Culture* (pp. 41-64). Newcastle upon Tyne: Cambridge Scholars Publishing. p. 41.

\(^{20}\) Baker et. al. (2019).

\(^{21}\) Epstein, J. (2002). *Book Business: Publishing Past, Present and Future*. New York: W.W. Norton. Hewitt, P. (2015). *Introduction to Editing*. Toowoomba: University of Southern Queensland.

\(^{22}\) Ross et. al. (2018), p.7-8.
through the internet.23 Blockchain technology, as a relatively new digital technology, has had limited uptake in the book publishing industry.

5.0 What is blockchain technology?

In this section, we outline the key components of blockchain technology and its potential uses and benefits.

Blockchain, the basic technology underpinning cryptocurrencies such as Bitcoin, is a digital ledger for the registry and verification of data, assets and transactions. Importantly, blockchain is a decentralised ledger; unlike a centralised system where a single intermediary such as a bank verifies transactions, on a blockchain system transactions are distributed across an encrypted peer-to-peer computer network and must be verified by all participants in the network. As Konstantinos Christidis and Michael Devetsikiotis argue, blockchain “enables trustless networks, because the parties can transact even though they do not trust each other. The absence of a trusted intermediary means faster reconciliation between transacting parties”.24 Broadly speaking, there are three types of blockchain technologies: public, private and hybrid (or federated). Public systems allow anyone to join and contribute to the chain or ledger system; private blockchain systems, more like intranets, require permission to join and add to the chain; hybrid systems are a combination of both.

Blockchain has substantial potential benefits for most sectors of the economy. According to Scott Manuel and Sarah Andrews (2016), a significant benefit of blockchain is that it can eliminate inefficiencies in existing financial markets and drive faster, lower-cost transactions that provide increased liquidity and security.25 For Alexander Savelyev (2018), the core benefits of blockchain are transparency, redundancy, immutability and disintermediation.26 Blockchain offers transparency because all data on the blockchain is public and thus is stored in a way that is easily verifiable. Blockchain eliminates redundancy because every user on the chain holds a copy of the data, so it cannot be taken offline easily. Similarly, blockchain offers immutability in that changing a record on the chain requires a consensus from every user in the network; blockchain is therefore considered highly secure. Cryptographic protocols enabling this technology makes ‘double-spending’ and the editing of data once part of the chain, almost impossible. Finally, as previously mentioned, blockchain provides disintermediation or decentralisation through the removal of ‘middlemen’ or ‘gatekeepers’ such as banks, lawyers, or central governmental control; the peer-to-peer distributed ledger allows for the democratisation of knowledge and information, particularly

23 Zwar, J. (2016) Disruption and Innovation in the Australian Book Industry: Case Studies of Trade and Education Publishers. The Australian Book Industry: Authors, Publishers and Readers in a Time of Change. Macquarie Economics Research Paper 1/2016, Macquarie University. p. 2-3; Throsby et. al. (2018), p. 2.
24 Christidis, K. & Devetsikiotis, M. (2016). Blockchains and Smart Contracts for the Internet of Things. IEEE Access (4), 2292-2303. doi: 10.1109/ACCESS.2016.2566339. p. 1
25 Manuel, S., & Andrews, S. (2016, January 16). Blockchain technology: Is 2016 the year of the blockchain? Thomson Reuters. Retrieved from https://blogs.thomsonreuters.com/answerson/blockchain-technology/
26 Savelyev, A. (2018) Copyright in the blockchain era: Promises and challenges. Computer Law & Security Review, 34(3), 550-561. doi: 10.1016/j.clsr.2017.11.008 p. 551.
Blockchain "enables trustless networks, because the parties can transact even though they do not trust each other. The absence of a trusted intermediary means faster reconciliation between transacting parties."

Christidis and Devetsikiotis (2016, p. 1)
in regards to financial management. In short, data entered to the blockchain is timestamped and records on the digital ledger are permanent, verifiable and highly secure.

5.1 Blockchain smart contracts

Smart contracts are central to blockchain’s potential for revolutionising business practices. A smart contract is an automated computer protocol that digitally enacts and verifies the conditions of a rules-based contract between two or more parties. As a self-executing script, it allows for transactions without third parties. A smart contract contains pre-defined rules agreed to by the various parties entering into the contract, and once these rules are successfully met, the contract is executed to produce an outcome. In the words of Ross et. al. (2018), “[a]utomated ‘smart’ digital contracts simultaneously represent ownership of an intellectual property and the conditions set by its owner. Such contracts automate rules, check conditions, and take actions with minimal human involvement and cost”.

Executing milestones using smart contracts are critical to blockchain’s potential for the publishing industry. Complex royalty payments can be managed using these automated protocols. Smart contracts can be used to check and administer copyright agreements and chain of title to facilitate scheduled release of funds to authorised parties. Importantly, in addition to payments, smart contracts can be used to facilitate important processes in relation to rights and copyright management. Smart contract systems can be put in place to notify the copyright holder and other relevant parties, such as the publisher, that copyright terms are about to expire, royalty statements are due, certain sales thresholds have been met, and so on.

6.0 Blockchain and its potential for the book publishing industry

This section considers the ways in which blockchain technology can solve problems faced by the book publishing industry and explores some existing experiments in this space.

Blockchain has enormous potential to transform traditional value chains and the relationships between authors, publishers, distributors and readers in ways that may result in new business models. Both academic and journalistic writing on the potential for blockchain technology in the publishing industry has discussed how it can enhance the traceability and enforceability of intellectual property rights through smart contracts; authenticate digital products online; track and trace crowdfunding projects or crowdsourced writing projects; or enhance existing technologies of self-publishing for authors through micro-payments. Much of the hype around blockchain in the publishing industry has focused on the technology’s value to authors, particularly its potential to coordinate rights management. As Ross et. al. (2018) observe: “[blockchain] can be used to maximize the value

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28 Savelyev (2018), p. 551.
29 Ross et. al. (2018), p.20.
of the authors’ intellectual property and moral and monetary rights. It could also deliver an author-centred financial model for the first time in publishing history”.

Some commentators have suggested we are now entering the potentially beneficial era of self-publishing 3.0, where authors can sell direct to their readers through their own websites, sidestepping publishers and major corporations such as Amazon. Blockchain could be a transformative technology in this space for several reasons:

As a technology, blockchain looks set to allow income from sales to be effortlessly split at the point of transaction between the author and anyone else involved in the making of the book, including services and booksellers, and to seamlessly allow direct payment. Thus, this technology has the potential to complete the disruption begun by the digitization [sic] of text of self-publishing 1.0, and ebook reading and online sales of self-publishing 2.0.

Consequently, the vast majority of blockchain experiments in publishing have focussed on developing new models of authorship that bypass intermediaries in the value chain such as publishers. These include the self-publishing platforms such as Publica and PUBLIQ, which incorporate token systems and smart contracts to perform a variety of funding, marketing, distribution, and rights and royalties management functions ordinarily performed by traditional publishing houses.

For example, PUBLIQ is a non-profit online media ecosystem, underpinned by a decentralised peer-to-peer network enabled by blockchain, which allows authors to contribute stories, verify the authenticity of a text, avoid censorship and combat fake news. Ultimately, this system “is designed as a decentralized reliable media platform equipped with an analytics reputation assessment engine as well as AI [artificial intelligence] algorithms to analyze viewer preferences and suggest articles with diverging opinions [sic]”. Other experiments, such as Cellarius, have focussed on collective writing projects. Cellarius is an online story universe that encourages collaborative storytelling methods. The blockchain logs, tracks and stores a record of authorship for each individual component of the co-created world.

Often blockchain publishing platforms combine rights and royalties management with crowdfunding and distribution to develop systems that collapse the traditional and specialised functions of a large publishing house. For example, it is now an established practice for prominent authors to release sample chapters, concept art and other smaller items of value to readers in the lead up to new books. This practice has grown in tandem with the rise of crowd-funding and other pre-sale systems. Publica combined these two practices on the blockchain when it aimed to raise the equivalent of $10,000 USD in what they claim as

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30 Ross et. al. 2018, p.4.
31 Ibid, p.9.
32 PUBLIQ Foundation. (2019) PUBLIQ White Paper. Retrieved from https://publiq.network/whitepaper/PUBLIQ_White_Paper_English.pdf p. 3
Executing milestones using smart contracts are critical to blockchain’s potential for the publishing industry.
the world’s first book ICO (Initial Coin [or Token] Offering) in February 2018.\(^{33}\) This works as a tokenised pre-sale system, which allowed readers access to chapters and portions of the upcoming text in advance. The tokens that they use to buy those portions are then redeemable when the creative work is completed. Publica automatically distributes the full copy of the completed work to those with tokens. The author is able to use the pre-sale money to fund the completion of the work and self-publish with direct distribution to interested readers. However, this process essentially requires authors to undertake tasks normally undertaken by publishers and distributors. Yet, in taking on these responsibilities, it puts pressure on the author to manage payments and distribution processes that take them away from what inspires them and what they do best: writing.

To date, there is no single blockchain solution for the publishing industry. Rather, there are a diverse range of approaches to developing and implementing distributed ledger technologies in response to the myriad problems facing the industry. Yet there are few publisher-centred blockchain experiments in the book publishing industry. The *No Point in Stopping* project aimed to fill this gap by exploring the ways in which blockchain technology could be used to benefit both publishers and authors. Hence, the following section outlines the key areas where we see blockchain technology as having potential applications for publishers.

### 7.0 Towards publisher-centred models of blockchain solutions

*Most experiments in blockchain and publishing have focused on authors. In this section, we outline five ways in which blockchain could be deployed to benefit both publishers and authors.*

There are five main areas where blockchain technologies can address problems facing book publishers:

1. Readership and Audience Engagement
2. Distribution
3. Rights Management
4. Royalty Tracking and Payments
5. Authorship Verification and Co-creation

#### 7.1 Readership and audience engagement

There are potentially many applications for blockchain to incentivise and engage readers and popular culture audiences more generally, but one of the main areas of

\(^{33}\) Ibid, p.20; Elevennews. (2018) World’s First Book ICO Is Now Live. 10 June. Retrieved from: [https://elevenews.com/2018/06/10/worlds-first-book-ico-is-now-live/](https://elevenews.com/2018/06/10/worlds-first-book-ico-is-now-live/).
intervention is rewarding and tracking fan behaviour. As previously mentioned, past experiments in blockchain have attempted to engage or indeed create an audience by releasing blockchain-logged tokens and crowdfunding the publication of a book. As more transmedia and cross-platform worlds are developed, publishers would be able to track involvement in a larger online story world (such as Lord of the Rings or the Harry Potter website for example) through logged interactions on the blockchain. Publishers could then link this audience engagement across films, games and movies to particular rewards when buying comics, novels or paratextual materials (art books, figurines, colouring-in books etc.), giving customers discounts or additional materials based on their previous interactions. Walmart, Nestle and Dole are already working with IBM in this area. More generally, the capabilities of blockchain in terms of incentivising readerships and user engagement revolve around rewarding readers for their past engagement and purchases in a direct, immutable and transparent way if the publisher so wished.

7.2 Distribution: Linking the physical and the digital world

What if buying a physical copy of something gave you access to the digital copy in a secure and efficient manner? A large amount of publishing companies are currently bundling physical and digital eBooks for customers and providing ancillary paratexts (such as the author’s original notes or deleted chapters). A high-profile example of this publishing model is O’Reilly, which gives customers access to print, electronic and audio books, as well as videos and online tutorials through one linked account. In publishing literature, a current major problem for Print and Electronic (P+E) bundling is that customers sometimes find the existing technological processes involved for transactions cumbersome (multiple clicks, multiple codes etc.), and there are difficulties in tracking the transactions for retailers and publishers. A blockchain-based system could link these purchases to a user account and allow for physical stores, especially small, independent booksellers, to sell physical publications with exclusive links to digital publications. That is, people who visited a bookstore would have a secure way of accessing certain digital extensions or digital versions of their book. These customers could potentially receive a permanent digital code for a specific product that could be stored in and accessible via a personal digital wallet. The video game industry is currently experimenting with a similar economic model to varying success, releasing video games that are incomplete without extra downloadable content (DLC) behind a paywall. Publishers wanting to exploit blockchain technologies to link print and electronic assets could avoid potential pitfalls of this model by making pricing and content expectations upfront and transparent to customers.

34 Hackett, R. (2017, August 22). Walmart and 9 Food Giants Team Up on IBM Blockchain Plans. Fortune. Retrieved from https://fortune.com/2017/08/22/walmart-blockchain-ibm-food-nestle-unilever-tyson-dole/

35 See https://www.oreilly.com/.

36 Benhamou, F. (2015). Fair use and fair competition for digitized cultural goods: the case of eBooks. Journal of Cultural Economics 39(2), 123-131. doi: https://doi.org/10.1007/s10824-015-9241-x
What if buying a physical copy of something gave you access to the digital copy in a secure and efficient manner?
7.3 Rights management

The management of publishing contracts can be complicated due to the many different ways that copyright interests can be divided. Publishing contracts may divide up copyright according to:

a. **Rights.** Copyright in a literary work includes the rights to: publish the work, reproduce the work, publicly perform the work, adapt the work, and communicate the work to the public. Different rights may be given to different people – for example, the publisher may own the right to publish the work, and the author may own all the other rights. Or the publishing contract may provide for adaptation rights, such as translating the work to other languages, or adapting a novel to a screenplay. These rights may vest in different parties or be controlled by different parties.

b. **Types of works within a book.** Several different creative works may come together in one book, but the law treats each of them as separate. For example, the written words in a book are treated as a separate copyright work (‘the literary work’) to any illustrations or images in the book (‘artistic works’). Publishers will have yet another separate copyright that sits on top of the literary work copyright, called copyright in the published edition. This gives the publisher rights in the layout of the work. Different parties may legally and morally own the rights to different parts of the same book.

c. **Purposes and formats.** Rights may be allocated for particular purposes – for example, a right may be given to publish a book in hard cover but not soft cover, or only in electronic format, or rights may be granted for all formats but the scope of the rights (level of permissions, duration etc.) may differ for each format. Another example is that the author may retain the right to reproduce sections of the book in an anthology or at book festivals, but not online.

d. **Jurisdiction.** Rights may also be divided according to jurisdiction – so a contract may provide that it only applies in Australia, or that it applies worldwide. Copyright management may differ for the U.S. market, the European market, or the Australian market.

e. **Time periods.** Finally, rights may be granted for discrete periods of time. For example, the publisher may have the exclusive right to publish the book for the period of one year only. Alternatively, the author may transfer copyright to the publisher, but the contract may provide that the rights revert back to the author after a period of five years or when the book goes out of print (‘reversion’).
The management of complex rights can create problems for both authors and publishers. For authors, because rights are not necessarily stored or available in a central and easily accessible (and transparent) location it is easy for authors to lose track of different rights and the agreed time periods of certain contracts. This is particularly the case for more nuanced aspects of contracts in terms of electronic and republication rights. Conversely, for publishers, recontracting and relicensing works requires an investment in time and resources. In extreme cases, and this is particularly the case in terms of the publication of short story collections, a publisher may decide to republish a work only to discover that authors have already republished the work with another publisher. Blockchain provides a secure and immutable ledger of rights for intellectual property that could prevent such incidents from occurring. The use of smart contracts can also automate the triggering of notifications regarding the possibility of the renewal of rights for both author and publisher, as well as the end of a licensing period.

7.4 Royalty tracking and payments

Because the rights to the intellectual property of creative works can sometimes be created by more than just a single author and licenced for different platforms worldwide, royalty payments can be opaque and complex. For a publisher, utilising smart contracts to manage the distribution of royalties can help with tracking transactions and finances for complex contractual arrangements.

Automated smart contracts simultaneously represent ownership of an intellectual property and the conditions set by its owner. There is minimal human involvement and cost, as using smart contracts replaces interested parties with a disinterested network of machines. This means that the right person ‘pays’ the right amount and the right person ‘is paid’ automatically.\(^{37}\) Smart contracts can be used to facilitate faster micro-transactions for incremental works, such as early chapter releases and short stories from notable authors. When placed on a blockchain, these provide a secure and transparent system in which publishers can facilitate multiple automated micro-transactions for portions of a work. Providing all terms that the author has agreed to are fulfilled, smart contracts can facilitate the automated release of funds to an authorised party.

7.5 Authorship: Verification, co-creation and decentralised networks

Verifying a book as a genuine first edition can be a lengthy process involving multiple experts. Tamper-proof book publishing could be enabled via crypto-graphically linking the book itself to a blockchain system, effectively linking the book to the Internet of Things. Blockchain technology could allow publishers to securely verify texts and their authenticity. This could include first editions, reprints, limited editions, previously unpublished drafts,\(^{37}\) Ross et. al. (2018), p.13.

\(^{37}\) Ross et. al. (2018), p.13.
For a publisher, utilising smart contracts to manage the distribution of royalties can help with tracking transactions and finances for complex contractual arrangements.
special illustrations, and so on. Plagiarism becomes much more difficult if files are logged on the blockchain. Ownership becomes indisputable, easier to verify and more accurate.

Notions of authorship and control is another area that blockchain can also disrupt as they allow for a more transparent and collaborative process. A prominent experiment already in this space is *A Universe Explodes*. Created as part of the Editions at Play initiative by Visual Editions and Google’s Creative Lab, *A Universe Explodes* is an example of using a blockchain system for the remixing and co-creation of a work. Each user accesses a previous copy of the book, originally written by Tea Uglow, and on opening it, deletes two words and adds one to the text before they complete the story. Their contribution and action then adds to the blockchain and changes the final product.

Adjusting the management system for a book’s life cycle into one that includes smart-contracts and a blockchain-enabled distributed ledger could provide significant boons to publishers. For independent publishers, this type of process has been tested by platforms like the now defunct Authorship. Authorship aimed to decentralise the publishing system so that authors upload their work to the system and market their work to publishers, while small independent publishers can access a diverse network of authors. The system also incorporated translators who could earn money translating the works, which are then distributed into global publishing markets around the world. Readers purchase books with tokens and the authors, publishers, and translators were given instant payments via smart contracts.

While platforms like this can allow authors, publishers and readers to connect with ease like never before, blockchain also has the potential to securely verify authorship for all professionals who provide creative input into the publishing process such as editors, illustrators, translators, external readers and so on. It therefore provides rights management systems that can transparently track and monetise these various forms of authorship. Given these contributors are usually paid on a fee-for-service basis, blockchain also has the potential to restructure how they are acknowledged and paid for their input into the creative process.
8.0 The No Point in Stopping project: What we did

This section outlines the key components of the No Point in Stopping project and how it is of potential benefit to micro-publishers, educators and writers.

The No Point in Stopping project attempts to address the lack of publisher-centred blockchain models currently available for the publishing industry. This project used blockchain to innovate existing publishing models, creating new value and potential new revenue streams for the creatives involved and the micro-publisher Tiny Owl Workshop, by monetising existing intellectual property.

The project resulted in three key outcomes: a co-designed special ‘Education Edition’ of Samuel Maguire’s novella No Point in Stopping; a custom blockchain platform prototype for rights management and royalties distribution system that tracks and distributes micro-payments via smart contracts to all creative professionals involved in the writing and publishing process; and a Print and Electronic (P&E) tracking system that links physical copies to digital downloads through a QR code on a marketing bookmark distributed with physical copies of the book.

8.1 No Point in Stopping: The ‘Education Edition’

No Point in Stopping is a novella by Brisbane author Samuel Maguire. Published by Tiny Owl Workshop in 2018, the novella was inspired by a series of blog posts by the author about his experiences of bipolar disorder. The story is set in various locations in and around Brisbane, Australia, including Annerley, Ipswich, Toogoom, and Lowood. After reworking the posts into a manuscript, Maguire submitted it to Tiny Owl for consideration. Once accepted, editor and author Harlan Ambrose was commissioned to edit the novella – a memoir that revolves around dabbling in magic to deal with mental health. The story blurs imagination and real life, and received critical acclaim from prominent Australian authors such as Cass Moriarty, Trent Jamieson and Sue Saliba.

After an extensive phase of scoping existing blockchain experiments in the book publishing industry to identify a novel project, No Point in Stopping was selected by the research team and Tiny Owl Workshop from a short list of four potential options. No Point in Stopping was ultimately chosen as the final project for several primary reasons. First, the project responded to key gaps in the book publishing industry in terms of blockchain experimentation. The project was identified by Tiny Owl Workshop as a niche opportunity to test how existing intellectual property could be used to derive new revenue streams for authors, other creatives and small publishers. That is, the project identified new ways in which creative professionals could be paid for their input into the publishing process: potentially receiving royalties (in addition to payment for services) delivered through auto-executing smart contracts. Finally, the project was manageable in terms of scope and scale.

The central idea for the project was to publish a digital edition of the original book accompanied by three bundles of paratexts that make visible the publishing and writing
Tiny Owl Workshop is an award winning micro-publisher based in Brisbane, Australia.

Owned and run by Sue Wright, Tiny Owl Workshop is a member of the Small Press Network.

Tiny Owl Workshop is known for its creative approach to publishing, winning industry awards for short story projects like *Napkin Stories* and *Krampus Crackers* (curated and edited by Kahli Scott, Steve Toase and Vicky Pointing).

Tiny Owl Workshop’s second children’s book, *MEEP* by Andy Geppert, was also long listed for a Children’s Book Council of Australia Book of the Year Award. Tiny Owl Workshop currently has a number of novellas in press.
process behind creating the original novella. As illustrated in Figure 1, the ‘Education Edition’ of *No Point in Stopping* was comprised of the following bundles of paratexts:

- **No Point in Stopping: The Edits**
- **No Point in Stopping: The Reader’s Report**
- **No Point in Stopping: Illustrations**

*Figure 1: No Point in Stopping Online Shop and the Digital Bundles*

Each bundle draws together and digitises numerous assets created during the writing, editing, design and layout processes. The first digital bundle, *No Point in Stopping: The Edits*, contains a new digital edition of the original novella and samples of original blog posts, the publisher’s commissioning letter (in email form), marked-up original chapter drafts, editorial advice and dialogue between the writer and editor, and revised sections of the text (see Figure 2). The second digital bundle, *No Point in Stopping: Reader’s Report*, contained just the commissioning letter and the reader’s (editor’s) report, with additional comments from the author on the editing process. The third bundle, *No Point in Stopping: Illustrations*, contained a collection of additional unpublished illustrations and working drafts of the cover image, as well as documentation of the commissioning process between Tiny Owl Workshop and the cover designer and illustrator Simon Cottee. It also contains material from the development process for these illustrations involving the publisher, author and illustrator (see Figure 3). These digital bundles were co-created by Sue Wright from Tiny Owl Workshop (with the consent of the other creatives involved) and the QUT Creative Industries research team. Given the origins of the material, there are different attributions for each paratext and therefore for each digital bundle; some include rights attributed to the writer, editor, publisher, and illustrator, or a combination.
CHAPTER 1 (ORIGINAL)

I have been doing a lot of magic lately. It is hard to tell people about these things but I figure if you don’t know how to explain something then it is best to just tell the truth and let the rest sort itself out. Magic is something I have always done. I don’t know how, I just do it. The same way I write or ride a bicycle. I push my brain further every night now. I am getting somewhere, following a little spark for as long as it takes me.

I had been trying to learn as much as I could about fighting. I had to do it a lot but never in real life; only in the places my brain takes me. My friend and I agreed to have a fist fight because neither of us had been in one before.

We agreed not to punch each other in the face because he wanted to have sex with his girlfriend that night. I hit him a lot, in the ribs and kidneys and stomach. My punches did nothing. He barreled towards me as calm as a torturer, swinging right...
Simon to Sam and Tiny (early February 2018): Heya gang! Sorry for taking so long on the next version. Attached are 3 different colour versions of a potential new cover! I tried to make it a little less Harry Potter and added some dragon and more beast related stuff in there. This is still rough linework so the final will be much cleaner.
8.2 Why release these texts?

This ‘Education Edition’ of No Point in Stopping was conceptualised as a pedagogical tool for interested readers, independent writers and creative writing students. The aim was to make transparent the ‘behind the scenes’ process involved in the commissioning, development and production of a published book. The various digital bundles allow purchasers to see decisions and processes involved in the creation of a publishable product. These paratexts may therefore be of interest to creative writing educators and students, both at high school and tertiary level, up-and-coming authors who are looking to break into the market, writing workshop and development organisations such as Writers Centres and State Libraries, as well as readers and fans of the author who would like to see what went into creating the final book. Publishers and other authors will not only be able to see how a project develops from its early stages to a fully published work, but also how the commissioning and editing stages shape a finished book. While the creative outcome of this project may be of interest to any reader, it creates value that may be of particular interest to the publishing industry and professional writing education. The ‘Education Edition’ of No Point in Stopping therefore straddles both the ‘trade’ and ‘educational’ markets. The No Point in Stopping project both makes visible and makes valuable the editing and development process that goes into the creation of a final published work. Importantly, the project also demonstrates how publishers could use blockchain technologies to effectively monetise a range of existing intellectual property in new and innovative ways.

8.3 A digital ledger system managing and distributing royalties

To house the No Point in Stopping digital bundles and link them to the blockchain system managing copyright ownership and royalty payments, an online store (https://nopointinstopping.com/) was created to function as the convergence point for the project’s creative outcome and the underpinning blockchain ledger. The entire suite of texts, or each individual bundle, can be purchased for a micro-payment. As established, blockchain can securely verify authorship for all inputs into the publishing process. This includes not just authors, but illustrators, editors, and co-creators. The first and second digital bundles, No Point in Stopping: The Edits and No Point in Stopping: Reader’s Report, contained intellectual property from the author Samuel Maguire, the publisher Tiny Owl Workshop and editor Harlan Ambrose. The third bundle, No Point in Stopping: Illustrations contained intellectual property from the author Samuel Maguire, the illustrator Simon Cottee and Tiny Owl Workshop. Consequently, intellectual property and royalty agreements were made between Tiny Owl and each creative professional for each of the new digital bundles. The rights management system developed for this project established the individual contributor’s stake in the ownership of intellectual property and the agreed share of royalties for each bundle.
The *No Point in Stopping* Project both makes visible and makes valuable the drafting and editing process that goes into the creation of a final published work.
8.4 No Point in Stopping smart contracts

Once these royalty agreements were finalised, the copyright ownership and agreed royalty splits were coded into smart contracts and then linked to each bundle via the online store. The workflow for how these smart contracts function is illustrated in Figure 4. The smart contracts are compiled and stored on the blockchain. Each time a sale is made at the shopfront website, a smart contract is invoked and the details are sent to the blockchain. The smart contract calculates the distribution of royalties to each relevant participant, depending on the type of bundle sold and the sale price, and then writes a new ledger item on the blockchain. The source code of each smart contract is also stored on the blockchain and can be accessed by any participant. This ensures that the content of the contract can be verified for correctness and adherence to previously agreed to terms at any time.
“No in Point Stopping” Blockchain Project

Customer arrives on the website via a QR code on a bookmark provided with a hard copy of the book

Customer arrives directly on the website

Website

QR code takes C1 to specific URL for their free download of No Point in Stopping: The Edits

Website

Customer presented with the option to purchase one or more bundles of paratext.

Customer makes selection.

Customer makes payment via Paypal or similar service.

Smart Contract

Website creates a Smart Contract between Customer and Publisher, Author, Illustrator and Editor.

Smart Contract automates:
1. Obligation to release paratext bundle(s) for download.
2. Ledger entry assigning particular paratext bundle(s) to Customer.
3. Accounting entry stating what amount is owed to the Publisher, Author, Illustrator, Editor in accordance with the agreed split of royalties.

Publisher receives payment and holds this for distribution to Author, Illustrator and Editor.

Publisher is able to view all royalty distributions to each contributor on the ledger.

Publisher reconciles the accounts for the relevant payment period and distributes total royalties owing.

Legend

C1 Customer who has purchased a hard copy
C2 Customer arriving directly on the website
P Publisher
A Author
I Illustrator
Ed Editor

Figure 4: No Point in Stopping Workflow Diagram (Image by Brydon Wang)
8.5 Linking the physical and digital: The bookmark

The final component of the No Point in Stopping project was using blockchain to track the sale of physical copies from a bookstore in combination with the download of digital copies. To achieve this, a select run of physical copies were distributed to independent Brisbane bookstores, such as Avid Reader and Riverbend Books, with specially designed marketing bookmarks (see Figure 5).

**Figure 5: Bookmark Design**

The bookmark has several key functions. The bookmark featured a QR code sending customers to the online store where they could access a free download of the No Point in Stopping: The Edits bundle. As outlined in the project’s workflow model in Figure 4, each
customer who purchases a physical copy and connects to the website via the QR code is timestamped, identified as a physical book purchaser, and logged on the blockchain. Digital downloads are also timestamped and logged on the blockchain.

Book publishers wanting to track and trace the flow of customers from bricks-and-mortar book retailers to online spaces could potentially exploit this feature. For example, a publisher could track where sales have come from, and provide incentives to purchasers of physical copies in bookstores. Publishers could also monitor whether marketing campaigns, book launches and special events result in digital or physical sales spikes depending on the strategy.

While each transaction is logged on the blockchain, it is also logged on a ledger system accessible to the publisher on a separate page of the *No Point in Stopping* website. A distinct ledger is maintained on the blockchain for each participant (author, editor, illustrator, and publisher): each ledger item is timestamped and records the type of digital bundle sold, and the relevant royalty amount for the participant. The ledger also creates a record for Tiny Owl Workshop of the number of physical book purchasers connecting to the digital edition. At any time, the publisher can view the current balance and full history of transactions on the ledger for each participant (see Figure 6).
8.6 Hyperledger and the blockchain prototype

A prototype system was developed as a proof-of-concept for the project. Firstly, a Hyperledger Fabric network was installed across several virtual servers behind the QUT firewall. A Hyperledger Fabric blockchain network was chosen primarily because it is open-source, can be deployed freely, does not require crypto-currency payments for its operations and supports a permissioned network natively. A suite of smart contracts was developed in
the Java programming language and deployed to the blockchain using the Java software development kit (SDK) for Hyperledger.

Next, a blockchain web service was developed in the YAWL Business Process Management environment to handle communication with the blockchain. The YAWL environment was selected as the implementation platform because it is robust, fully open-source, and offers a service-oriented architecture, allowing an interactive blockchain service to be implemented independent of existing components. In addition to providing a link between business process executions and a blockchain network, the service acts as a middleware component between the blockchain and any web clients that are authorised to communicate with it. One such web client is the *No Point in Stopping* shopfront described earlier. Figure 7 provides an overview of the system architecture.

**Figure 7: System Architecture (Image by Michael Adams)**

Finally, plugins were developed for the shopfront web pages that managed communication with the blockchain service. A trigger event was added to the payment process so that when payment was confirmed, its details were relayed to the service, which in turn transferred them to the blockchain for distribution to the various ledgers affected. Another page was added to the shopfront so that administrators could query the various blockchain ledgers to retrieve current balances and/or transaction histories. The ledger for a particular participant can be viewed, as well as an overall summary of all ledger balances. A sample of the former can be seen in Figure 6.
9.0 Conclusion: The unique contribution of the No Point in Stopping project

The project resulted in several unique innovations for the book publishing industry and the creative writing education sector.

First, the project illustrates how publishers can create new products from, and monetise, existing intellectual property using blockchain technology. The drafts, edits, and reports used in this project normally have little more than archival value or are typically seen as part of the writing and development stages in traditional publishing models. The blockchain was able to create trackable and registered digital versions of existing intellectual property, and it was able to leverage these paratexts as additional income for Tiny Owl Workshop. Monetising the drafting and editing processes that occur behind the closed doors of publishing houses provides potential additional revenue streams for publishers.

Second, the project resulted in the development of a unique pedagogical tool that sheds light on elements of the publishing industry that would not normally be public. For an independent writer or creative writing student, a fundamental part of writing and publishing is developing an understanding of why certain books are published, what makes a manuscript publishable, as well as key editorial decisions involved in commissioning and editing. The No Point in Stopping project makes visible and commercialises the drafting and editing procedures involved in the creation of a final book.

Finally, while authors normally receive royalties depending on their contractual arrangements, creative professionals such as editors, graphic designers, and illustrators generally receive a fee-for-service. This project, however, developed a decentralised publishing model that values co-creation and pays royalties to all the professionals involved in the publishing process. It tests a workflow model that logs the purchase of different digital assets on the blockchain, and generates smart contracts so that the rights and royalties for each of those digital assets is tracked and distributed accordingly. The rights of all contributors to the paratexts – Samuel Maguire, Harlan Ambrose, Simon Cottee and Sue Wright – are logged on the blockchain and royalty payments for the relevant sales of bundles are then paid to the relevant contributor.
Appendix 1:

Research Team and Acknowledgements

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Tiny Owl Workshop
Sue Wright

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Appendix 2: Project Plan

Scoping and industry consultation
- Creative team research and evaluate existing blockchain models for publishing (e.g. Rights Chain, Like Coin, Po.et).
- Information Systems team commence scoping existing blockchain technologies and evaluating their suitability against partner requirements.
- Creative team consult with book publishing industry expert, Kate Eltham, to discuss key issues facing the book publishing industry as well as industry experts at the State Library of Queensland and Queensland Writers Centre.

Pre-Development
- Information Systems team articulate end user requirements in YAWL workflow language and software.
- Creative team consult with industry partner Tiny Owl Workshop and develop a long list of creative options presented to the publisher.
- Creative team and Tiny Owl choose *No Point in Stopping* as the creative project.
- Final implementation proposal developed: publishing a digital special edition of the novella *No Point in Stopping* by Brisbane author Samuel Maguire that includes a range of accompanying paratexts. These paratexts would be the reader’s report, commissioning letter, unseen illustrations and various drafts of the novel, exposing and monetising the publishing and writing process that led to the final copy of the book. The blockchain would track and trace the different attributions and royalties payments for each paratext through smart contracts. Digital edition promoted through the marketing bookmark distributed with hard copies of the novel.

Development
- Information Systems team develop smart contracts.
- Information Systems team develop prototype specification to adapt YAWL system to compile workflow rules into executable smart contracts.
- Legal team test and evaluate creative options (collaboration between Law and Information Systems researchers to identify risk and suitability).
- Creative team consult with Craig Boland, a writer and creative writing lecturer at QUT regarding the structure of the *No Point in Stopping* ‘Education Edition’ proposal.

Creation
- The Creative team and Tiny Owl Workshop develop three digital bundles to create the special ‘Education Edition’ of novella *No Point in Stopping*:
  1. *No Point in Stopping: The Edits*
  2. *No Point in Stopping: Reader’s Report*
  3. *No Point in Stopping: Illustrations*
• Editing of creative pieces and finalisation of licensing agreements.
• Digital editions run by the Information Systems and Law teams to check workflow, legal requirements and smart contracts.
• *No Point in Stopping* website created with storefront in Woo Commerce, digital editions uploaded for sale.
• Creation of proof-of-concept prototype blockchain application on a Hyperledger network connected to online store, bridged through a deployment of the YAWL open-source Business Process Management environment.
• The Creative team co-design the marketing bookmark for physical book copies with industry partner Tiny Owl. Bookmark contains unique QR code that directs readers to the website for a free digital download of *No Point in Stopping: The Edits*.
• Blockchain ledger interface created for Tiny Owl Workshop to track royalties amounts payable to each creative contributor, plus overall site visits from bookmark QR code.
• Printing of bookmarks to be distributed with physical book copies.

**Launch**
• Website goes live, proof of concept release of creative works for purchase and digital download, using smart contracts for rights management and royalty flows.
• Bookmarks distributed with physical book copies.
• Blockchain ledger closes after three years (in 2022).
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