Kim and Generative AI
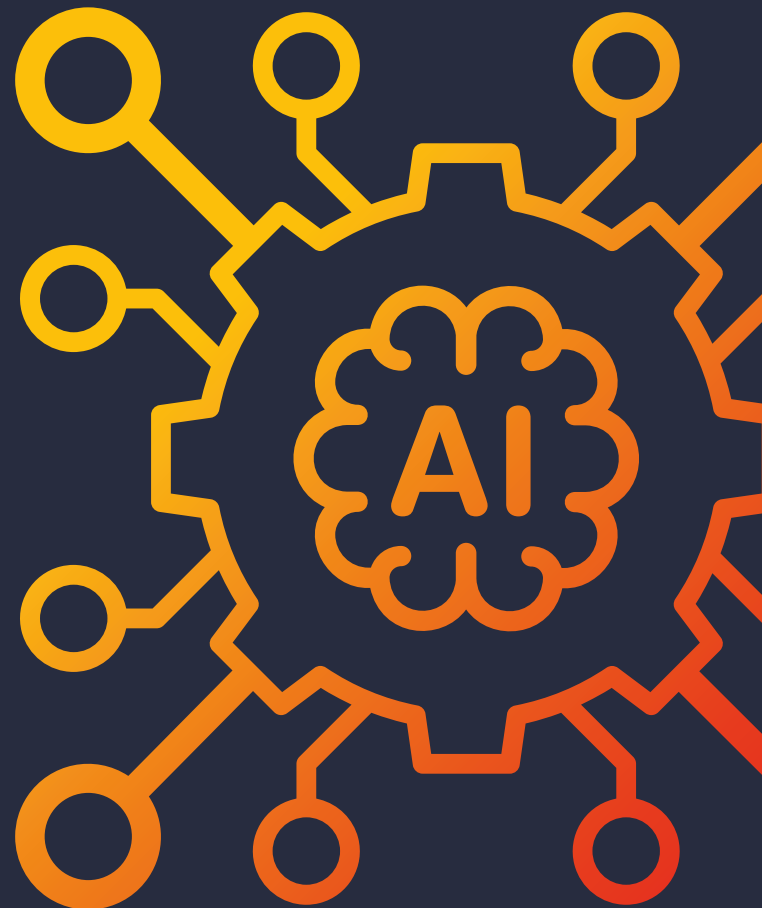
Kim, The Assimilation Machine That Delivers Certainty and Removes The Need to Rekey Data

Richard Yawn and Karl Chapman

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Executive Summary

Kim's AI

This white paper explains Kim's AI and core patent (see Sections 1 to 10). At the heart of Kim's technology is a neural net, which is a computational model inspired by the structure and functioning of the human brain. Instead of attempting to learn by assessing a corpus of information, Kim takes the approach of automating solutions from directive knowledge that can be adapted. As a result, Kim delivers certainty and does not hallucinate. Kim generates entire Applications from documents and no development skills are required. Kim is all about the data and the context.
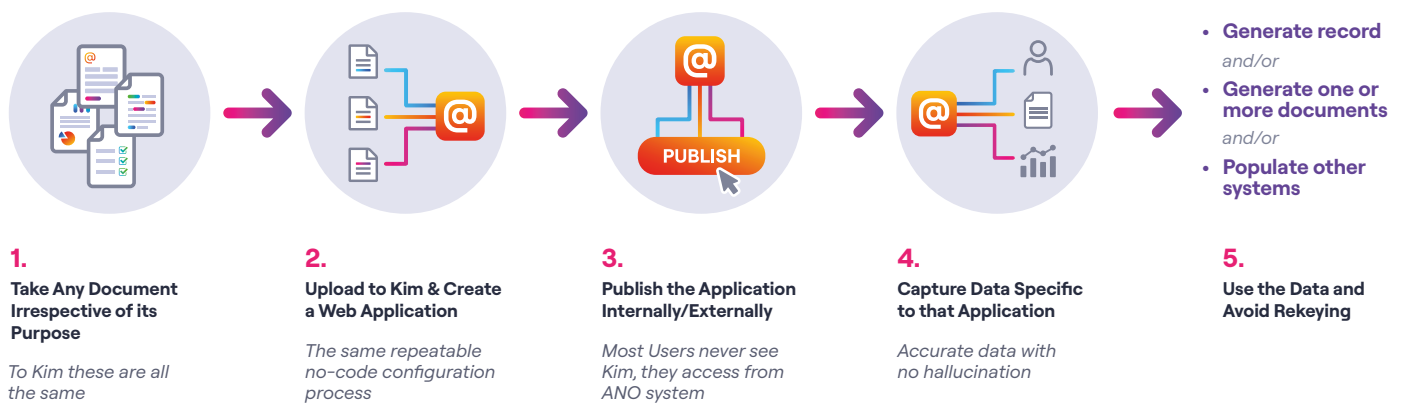
So What?

I can drive my car, but I do not know how my engine works. What, in day-to-day practice, does Kim do and why is it so helpful to organizations?

Kim helps organizations capture data easily and quickly. It stops organizations rekeying data. Off the data captured Kim (i) generates a record, (ii) generates one or more documents, and (iii) populates other systems. To do this requires no specialist IT or applications development resource. Organizations can start small and scale to enterprise level, integrating with their existing tech stack. Kim accelerates Time-to-Market, reduces Total Cost of Ownership (TCO), and delivers a high Return on Investment (ROI) (+50%).

How does Kim do it?

Every Kim web Application created by a customer, regardless of its industry or purpose, follows the same repeatable no-code configuration. To the end user, each Application created appears as a single, focused, relevant solution, and it conceals the complexity. Imagine an Application as a Blood Transfusion Consent Form, a Client Onboarding Checklist, a Real Estate Contract or a Transaction Reporting Attestation for MDs in an Investment Bank. Ostensibly, these are all very different, but to Kim, because of its neural net and assimilation capabilities, these are all the same.

1.

Take Any Document Irrespective of its Purpose

To Kim these are all the same

2.

Upload to Kim & Create a Web Application

The same repeatable no-code configuration process

3.

Publish the Application Internally/Externally

Most Users never see Kim, they access from ANO system

4.

Capture Data Specific to that Application

Accurate data with no hallucination

5.

Use the Data and Avoid Rekeying

- **Generate record** *and/or*
- **Generate one or more documents** *and/or*
- **Populate other systems**

This is why customers, and particularly Chief Technology Officers (CTOs), are concluding that Kim is a 'no-lose' decision in the context of Generative AI. Tactically, Kim's Applications solve real-world data capture, data management and document automation problems today. Strategically, because Kim is deterministic and provides certainty (i.e. it does not hallucinate), Kim is a key part of any organizations future AI tech stack.

Whatever anyone says.
Always remember.
It is all about the data and context.

In the world of artificial intelligence (AI), breakthrough technologies are continually pushing the boundaries of what's possible, whilst press releases full of hallucination are setting unrealistic expectations. Since its launch in 2013, Kim, as demonstrated by its patents, has been at the forefront of no-code and generative technologies. Without the need for an application software development team, Kim generates web-enabled, deterministic 'Applications' that resolve real-world problems today without false positives. In this context, an 'Application' is a no-code data capture, document automation and/or low-code integration solution configured in Kim. See the 'Practical Applications and Avoiding Hallucination' section.

So, technically, where does Kim fit into this AI revolution? Much more importantly, when you put Kim's tech DNA to one side, what real-world problems does Kim solve?

What follows answers these questions. But clues to these answers and Kim's DNA are in the Kim name itself. Kim stands for **K**nowledge, **I**ntelligence, **M**eaning. Put simply, Knowledge is widely available, but knowledge does not provide intelligence. For intelligence, you need meaning (or context). Kim delivers context. Your organizations' context. Without having to learn a corpus of information.

Yes, without having to learn a corpus of data.

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2. Neural Nets, Clusters and Archetypes – Kim's AI

At the heart of Kim's technology lies a neural net. A computational model inspired by the structure and functioning of the human brain. Instead of attempting to learn by assessing a corpus of information, Kim takes the approach of automating solutions from directive knowledge that can be adapted (see note *1 at end).

For example, think about the onboarding checklist used by HR when new people join the company. In practice, your business requirements are the variable fields in the checklist (i.e. Name, Address, Role, etc). It is the same with any letter, form, compliance record, checklist, or contract, the requirements are in the document.

Kim's AI can best be understood as an assimilation hive with innate capability that is similar to a human's innate sensory, forming capability from it that consists of interconnected artificial neurons organized into layers, including an input layer(s), hidden layer(s) and an 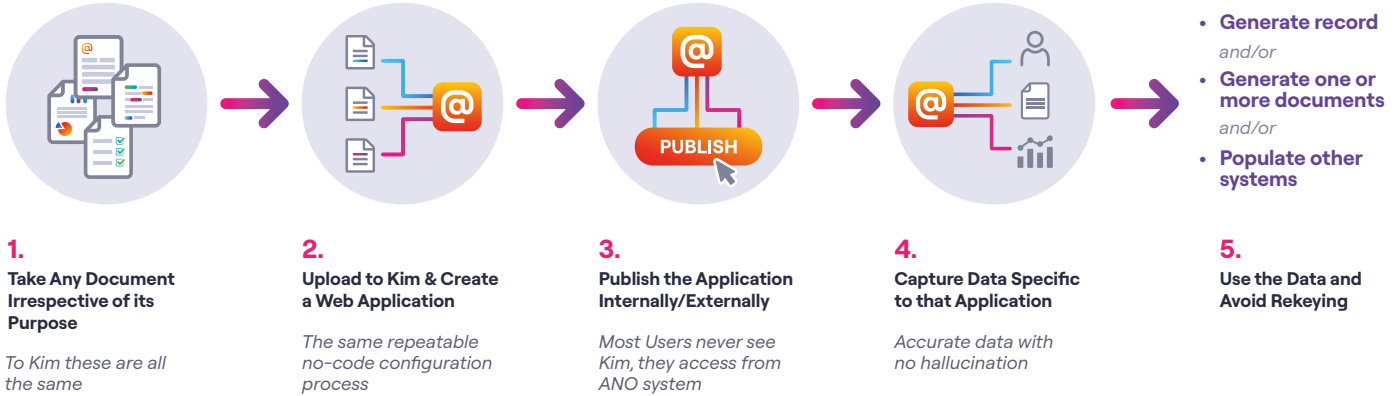output layer(s). Put simply, Kim forms solutions from the directives (i.e. the metadata in your documents) and then automatically operates those solutions, resulting in "no-code" automation-as-a-service.

Kim's neural net is a series of interconnected hidden layers (let us call them black boxes) that form clusters for each Application. These clusters then operate from the directive knowledge (metadata and operational data) and form an Application's context. When selected by clicking a Kim Application link in Kim, MS Teams, another software tool, an email or in another document, the Application materializes automatically. This materialization allows the directives to be change controlled when the solution needs to be enhanced, delivering near real-time change management. Continuing with the onboarding checklist example, imagine if you now want to amend a field, remove a field, or add a field. Simply download the document from Kim, amend as appropriate, re-upload, amend and publish. Any user accessing the Application will now have the latest version.

What sets Kim apart is its ability to automatically generate these clusters within the Kim platform, allowing for unparalleled flexibility and efficiency. Each cluster is a universally controlled formation that acts as an archetype. When forming the automation or materializing the solution, it is governed by the black boxes and can be viewed as a machine-intelligent archetype. There is no awareness, but there is a strong context chain. In simple terms, configure and automatically generate an Application that is then controlled by the machine.

This adaptability is seen by many as a game-changer. It means that every Kim Application created by a customer (e.g. Offer Letter, NDA, Request Form,

On-boarding Checklist, Expenses Approval, etc.), regardless of its industry or purpose, follows the same repeatable configuration process. To the end user, each Application appears as a single, focused, relevant Application, and it conceals the complexity. Imagine an Application as a Blood Transfusion Consent Form, a Client Onboarding Checklist, a real estate contract for the sale/purchase of a property (see Howard Kennedy Case Study), or a Transaction Reporting Attestation for Managing Directors in an Investment Bank. Ostensibly, these Applications are all very different. But to Kim, because of its neural net and assimilation capabilities, these are all the same. This accelerates Time-to-Market, reduces TCO and drives ROI.

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 *and/or*
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As users interact with the Application and create data, records, and documents, these elements contribute to the logical cluster that initially formed the Application, creating a unified model for data management and a collective hive of all data, security controlled, that can be reported across 100's of dimensions.

Kim acts as a self-populating data lake.

3. Topics and Access Control – Flexible AI

Kim's Applications also incorporate metadata that forms topics, with access control based on ownership. These topics represent the use of the Application within clusters that are formed from directives, essentially forming real-time capabilities that are tightly controlled within the Kim ecosystem. Critically, there is no language correlation, thereby avoiding hallucination (i.e. avoiding false positives).

Topics serve as dimensions that can be used to form Application portals used for data-driven websites, bringing unprecedented accessibility and versatility. For example, www.clickformgo.com feels very different from Kim, but it is actually a branded skin over the Kim technology engine.
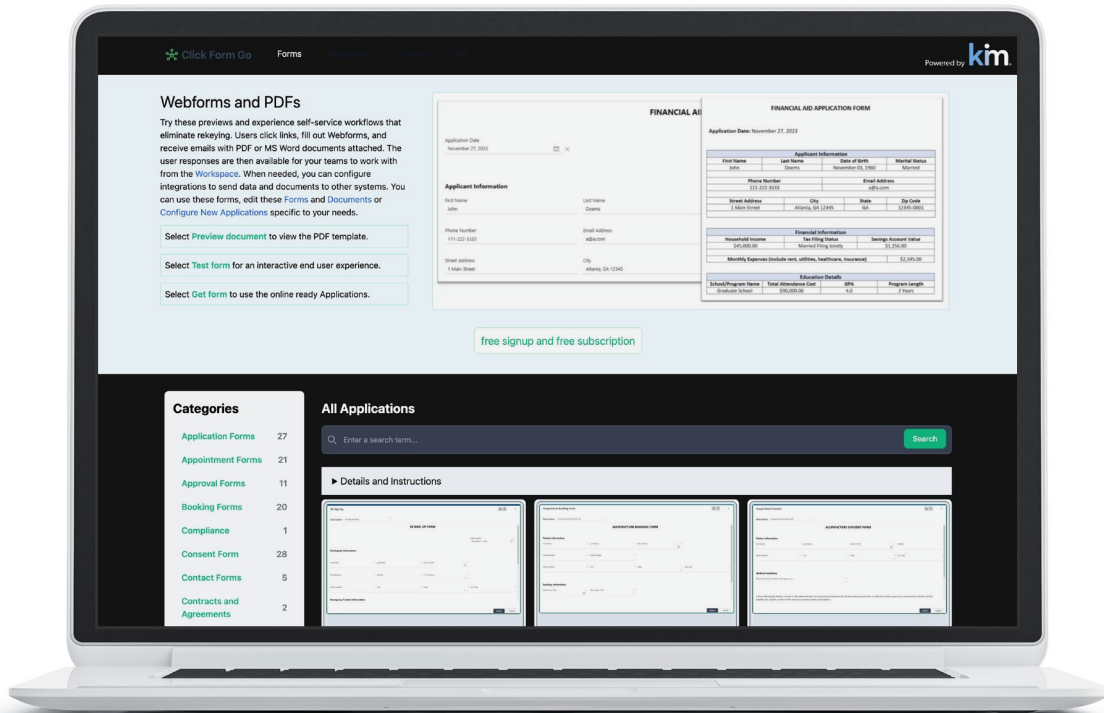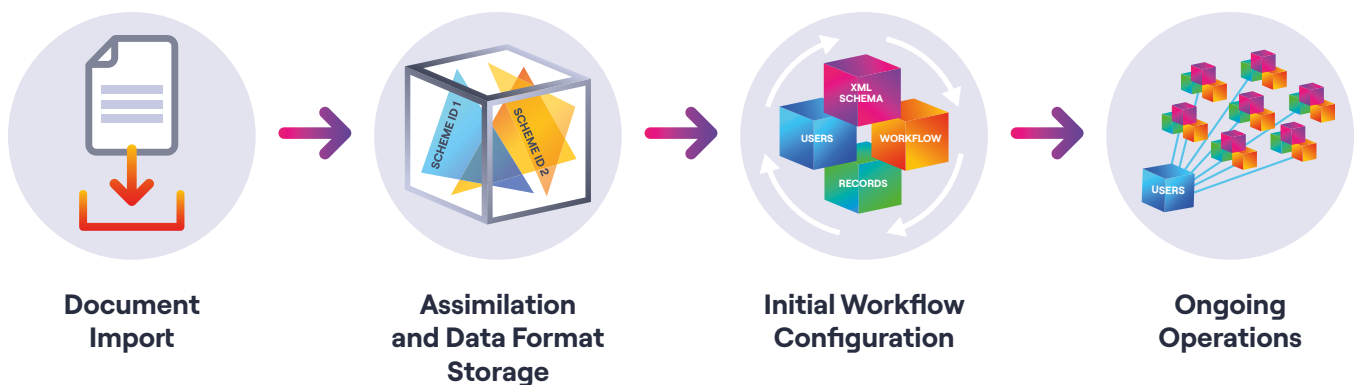
4. Contextual Addressing and Reporting – Data Lake

In this context, one of the standout features of Kim is its data layer, which allows for contextual addressing of various elements, including Application context, record context, user context, and data point context. As Applications are used and records are generated, this data is unified into a global reporting model.

This model is separate from the Online Transaction Processing (OLTP) layer and effectively forms a dynamic data lake. It automatically creates logical dimensions that enable HOLAP, ROLAP, and MOLAP cube functionalities, all reportable through common SQL queries.

Kim's data model has assimilation as its key component. A due diligence report by a global professional services firm concluded that *"The way that Kim stores and manipulates data is both innovative and unique. By virtue of the design, the software is inherently scalable and highly adaptable."*

Document Import → **Assimilation and Data Format Storage** → **Initial Workflow Configuration** → **Ongoing Operations**

5. Rapid, No-Code, Application Development - Citizen Development

A key feature that sets Kim apart is its ability to generate entire Applications with minimal human intervention or IT development skills. Here is how it works:

- Start with an existing document or create a new one, possibly with the assistance of ChatGPT or your own private LLM.

- Tag variable fields within the document (maybe by prompting ChatGPT or your own private LLM).

- Use KIM's intuitive interface to configure a webform, which, when saved, is immediately available as an Application.

With these three simple steps, Kim springs into action and on submission of the configuration Kim automatically:

- Generates the data model.

- Maps the data model to the variable fields in the incoming document.

- Maintains the document's formatting, including bullets, fonts, images, tables, and page numbering.

- Maps the audit profile and automatically keeps it up to date.

- Maps both inbound and outbound APIs.

The result? Kim generates a complete Application that is ready for use by end-users, becoming an organization's standard operating procedure, enabling the straight-through processing of data.

6. Unlocking Efficiency and Innovation – Document Automation

Kim does not stop at basic Application generation. It excels at conditional document assembly and the automatic creation of multiple documents from a single source.

Consider the scenario of HR creating an Onboarding Checklist within Kim. Once submitted, Kim automatically generates a welcome letter, the company handbook, the code of conduct and more for the new employee. What is more, the data within the checklist can, through Kim's low code API integration layer, seamlessly populate other systems such as Jira, Facilities Management, and Workday, streamlining processes and improving efficiency across the organization.

See this video for an overview of Kim Intelligent Automation

Documents created can be automatically stored in an organization's document management system (e.g. iManage or others).

7. Unlocking Intelligent Document Processing – Kim's Core Patent

Kim's patent forms the foundation of its AI capabilities (see – Kim patent: https://patents.justia.com/patent/10817662). The patent's core concept revolves around the intelligent processing of DOCX templates. When a DOCX template is uploaded into Kim, it gains additional knowledge by learning the structural composition of each template. This understanding allows it to interface with any authenticated and authorized client over HTTPS while intelligently assessing the correctness of the data being supplied.

Key components of the Kim patent include:

- **Automatic Tag Extraction:** The patent enables the automatic extraction of tags from multiple sample documents, streamlining the process of identifying key data points.

- **Structured Data Storage:** Tags extracted from documents are stored in a separate data schema, facilitating organized data management and retrieval.

- **Structural Scheme Generation:** The patent empowers the automatic generation of structural schemes from extracted tags, creating a framework for data understanding and processing.

- **Document Template Creation:** Using the structural schemes, the patent automatically generates document templates from sample documents, eliminating the need for manual template creation.

- **Unique Identifier Generation:** Finally, the patent enables the processing of document templates to create unique identifiers, enhancing data tracking and management.

8. API Integration – Playing Nicely with Your Existing Tech Stack

Combine all the above with Kim's low-code inbound and outbound API integration tools and organizations are empowered to connect systems and data sources more efficiently, reduce development costs, improve collaboration, and respond quickly to changing business needs. Kim's published APIs are a valuable tool for achieving digital transformation and enhancing the overall agility and competitiveness of an organization. Kim is often seen as a connector of systems.
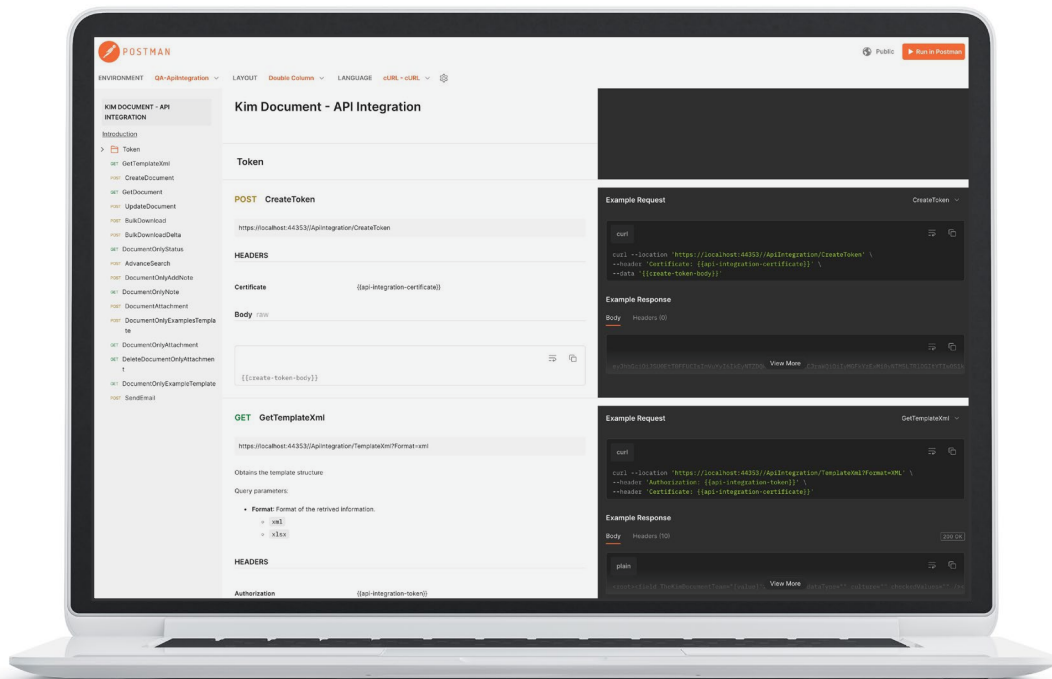
9. Practical Applications and Avoiding Hallucination

By design, Kim is deterministic and provides certainty. It does not hallucinate. Users of Kim who have no IT development or coding expertise use Kim to turn their existing documents (i.e., letters, forms, compliance records, checklists, contracts … etc) into web Applications that capture data and use that data to populate other systems or reports and/or generate documents. Kim, which can also be initiated from other systems, helps organizations capture and use data effectively, join systems together, and automate documents.

Because Kim is applicable to most sectors and functions the use cases, the Applications created by customers, are multiple and wide (see the table below). Other sectors and solutions could have been added to the table because whilst all the Applications below appear very different, to Kim, because of its neural net and assimilation capabilities, they are all the same. This makes Kim highly scalable.

Sectors / Solutions	Applications
Sector	
Financial Services	Client onboarding, Attestations, Client Confirmations …
Healthcare	Physician Hospital Referral, Team Satisfaction …
Legal and Contracting	NDA, Real Estate, Distribution Agreements …
Wealth Management	Fact Find, Letter of Authority, Annual Review …
Solutions	**Applications**
Request Management	Legal, HR, Finance, Compliance …
Template Library	Get the right template every time …
Self-Service	NDA, Sales Contract, Offer Letters …
Kim as OEM (Kim anonymous)	Documents generated from ServiceNow, Salesforce …

Internally, we refer to Kim as an 'assimilation machine'. But why worry about this label or, indeed, any of the above? The bottom line is that whatever you call Kim, however clever it is, Kim quickly solves real-world problems today.

Use Kim to quickly turn your documents into web Applications. Kim will do the rest – capture the data, generate the record, generate one or multiple documents off the record and use the data to populate other systems (and, of course, Kim can be initiated from other systems such as ServiceNow, Salesforce, etc). In the process, Kim creates standard operating procedures, avoids the need to rekey data and ensures certainty of outcome. Critically, Kim does not hallucinate, it is deterministic.

You may not know how your engine works, but you can still drive your car. You may not know how Kim works, but in just a few hours, virtually anyone can create Applications that solve data collection, document generation, and data rekeying challenges. In the process future proofing an organizations tech stack whatever its AI strategy.

A 'no-lose' decision.

*1 Do you think before you learn or do you learn before you think? To put this is context, you can see, hear, taste and operate other sensory perceptions without learning as they are innate capability. if you feed these sensors with incorrect data, what do you get? For this reason, Kim provides the machine with correct knowledge the first time instead of allowing the machine to attempt to learn from making dangerous mistakes. Therefore, any solution in Kim starts with known fitness and then is able to be evolved on demand. What you see now with OpenAI and Machine Learning (ML) in general operates on dangerous mistakes (false positives or what is now being called hallucinations), and the OpenAI model is only using statistical analysis with language correlation to make a guess (there is no intelligence in the model). The Founder of Kim understands the problem with ML and also the need for operational business solutions. Kim is based on the Baldwin effect which creates something more innate and instinctive that is more advanced than ML. For example:

"The Baldwin effect works in two steps. First, phenotypic plasticity allows an individual to adapt to a partially successful mutation, which might otherwise be useless to the individual. If this mutation increases inclusive fitness, it will tend to proliferate in the population. However, phenotypic plasticity is typically costly for an individual. For example, learning requires energy and time, and it sometimes involves dangerous mistakes. Therefore there is a second step: given sufficient time, evolution may find a rigid mechanism that can replace the plastic mechanism. Thus a behavior that was once learned (the first step) may eventually become instinctive (the second step). On the surface, this looks the same as Lamarckian evolution, but there is no direct alteration of the genotype, based on the experience of the phenotype. This effect is similar to Waddington's (1942) "canalization". See https://baldwin.apperceptual.com/

ML is attempting to do what you see in the Baldwin effect but cannot achieve fitness as there is no intelligence and therefore no adaptive capability, a general flaw that has been occurring in ML in this area related to NLP. Kim has the capability to go directly to the second step through a form of assimilation that is described above and in the patent. Effectively Kim combines what could be thought of Baldwin's step 1 and step 2 into a single and quick operation where a solution is formed and evolved simultaneously from directives that can then be further adapted when needed.

Notes on the Authors

Richard Yawn

Richard is the founder and CTO of Kim and a thought leader who has held hands-on leadership positions driving teams and organizations to success. Prior to Kim, Richard architected, designed and developed 100s of solutions across state government, insurance and manufacturing. These solutions include but are not limited to manufacturing execution systems, laboratory management systems, real-time wet processing, 3-phase reactors, insurance billing, claims, call centers, and eFiling. All these solutions were driven both technically and financially to increase ROI, standardize, scale, rebalance teams and drive profits. Richard has two patents and 17 certifications, including solution architecture, web development, database development, internet protocol, infrastructure and other areas combined with his Bachelor's in Organizational Leadership.

Karl Chapman

Karl became CEO of Kim in March 2020, having been a Non-Exec Director since 2015. His journey with Kim began when, as the CEO of Riverview Law, he became Kim's inaugural customer. Riverview Law was acquired by EY in September 2018. He has a long pedigree in starting, growing and managing successful companies. In 1989, he set up CRT Group plc (which became Spring Group plc), and in 2001, he set up AdviserPlus Business Solutions.