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ChatGPT and your Property Management System (PMS) migration

What does a PMS upgrade have (or should have!) in common with ChatGPT?

WHITEPAPER:

ChatGPT & your PMS migration

BY DR. MICHAEL TOEDT

Launched in November 2022, ChatGPT is currently the hottest topic in Generative Artificial Intelligence (AI). Generative AI is the field of AI that uses algorithms and databases within ChatGPT and its key rivals, Bing AI and Google Bard, to create new content.

This content can include audio, code, images, text, simulations, videos, translations into other languages, and answers to specific questions known as 'prompts'. Essentially, ChatGPT is a chatbot, but it is smarter and more human-like than 'traditional' chatbots. However, as always with new technologies, managers are advised to know exactly what GenAI can be used for, and where the risks and limitations lie.

In today's increasingly digitized world, companies from all sectors are implementing ChatGPT and other advanced IT tools into their businesses, and the hotel industry is no exception. Hotels all around the globe are using AI to automate processes, improve customer service, analyze guest data to predict future trends, personalize their marketing communications – and much more.

But to return to the title of this White Paper, what exactly does ChatGPT have in common with the perfect PMS cloud migration? We will take a look shortly, but first let us understand what exactly ChatGPT is and how hotels are using it (and other AI tools) right now to streamline their services and enhance the guest experience.

What is ChatGPT?

ChatGPT (GPT stands for 'Generative Pre-Trained Transformer') was developed by OpenAI Inc., which was founded in December 2015 as a non-profit research organization. It became a for-profit company in 2019 when Microsoft announced a strategic partnership with OpenAI to develop advanced AI technologies and create new AI-based products, services, and tools.

The co-founders of OpenAI Inc. were Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever, Wojciech Zaremba, and John Schulman. Sam Altman, OpenAI's CEO, is often quoted in the media on AI and related topics. These include the overall AI debate and the sensitive topic of ethics in AI, for example, the ethical implications of AI causing job losses, people using ChatGPT to take shortcuts at work or write academic essays, or the potential for the tool to reproduce copyrighted, biased, or even offensive content.

After going live in November 2022, the ChatGPT algorithms and database have been continually improved and expanded. Today, the latest version of ChatGPT, ChatGPT-4, is rumored to have 1.76 trillion parameters (over 10 times larger than ChatGPT-3), allowing it to create individual

answers from a huge 'treasure trove' of data[1].

Dr. Michael Toedt, CEO of dailypoint™, explains further: "ChatGPT's 'Mixture of Experts' architecture combines multiple models for decision making and can be particularly useful with large data sets, i.e., Big Data. It can calculate at lightning speed which words fit best when strung together, enabling it to provide coherent answers to even the most complex prompts.

"ChatGPT's extensive database is integral to its success – and Big Data is the buzzword! Not to mention the ever-improving hardware (memory, networks, computing speed and so on) without which ChatGPT would not work at all. If you have not tried ChatGPT yet, you should. The results are usually impressive.

"For example, try giving the ChatGPT free demo the prompt: 'Answer a letter of complaint from a hotel guest.' Its response picks three of the most common complaints (noise, cleanliness, and room service) which you can delete or edit as appropriate. It also includes apologies and reiterations of commitment to great service, and a paragraph on compensation or goodwill gestures that can be customized or deleted as you see fit.

"Fields for you to complete with personalized information, such as the guest's name and address, and contact details for the hotel and signatory, are all provided, too. Amazing! But, be cautious. For privacy reasons, never transfer PII (Personal Identifiable Information) such as guest names to ChatGPT; always use anonymized data."

Another word of warning

ChatGPT might be amazing, but the technology is still fairly new and far from perfect. There are the ethical considerations discussed above to consider, but also the fact that the tool is not immune to error. The software works by simply calculating the best possible answer without necessarily checking if the underlying data sources are correct or up to date. So, the content provided may not be accurate and the onus is on the user to carry out the necessary checking of facts, website sources and copyright.

How problematic these issues are will depend on the task in hand. With the letter of complaint, for example, things are quite straightforward and it is just a case of editing and customizing the text to match the circumstances of the complaint and any planned remedial action from the hotel. However, for knowledge-based queries, such as background research for a blog article, any meaningful output should be subject to careful checking by the user.

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[1] *The Decoder. GPT-4 Architecture, Databases, Costs and More Leaked. July 2023.*

How dangerous it can be to use ChatGPT is shown in the following case, published by the New York Times. The lawyer, Steven A. Schwartz, used it to create a legal brief for a case in the Federal District Court that was filled with fake judicial opinions and legal citations – all generated by ChatGPT[2].

How could this have happened? That is easy to answer. It is because of the data that ChatGPT's LLM (Large Language Model) uses. It does not just use qualified or approved text resources; it also uses articles, books, science fiction sources etc. This means the output can be good, but also can be extremely wrong. The problem is: it always sounds great!

Since sources for statistics etc are not usually provided, it can take time and effort to find the original websites ChatGPT used to come up with its content. Because of this, a Google search may still be faster and more accurate for these kinds of enquiries.

In addition, the information provided by ChatGPT may be outdated as well as not being 100% on point. At the moment, most users cannot access information from any later than September 2021 (although this functionality is in the process of being rolled out as of 28 September 2023[3]). Not ideal if you are looking for the latest data on a particular topic.

For example, when we entered the prompt: "How many people in the world use Facebook," ChatGPT brought up data from 2021 with no source information, and included users of all Meta's other platforms – Instagram, WhatsApp, and Messenger – as well as Facebook. Not really what we were looking for! As you can see, it is important to approach ChatGPT with caution when undertaking research.

ChatGPT and the Hotel Industry

Given the hotel sector's reputation as a slow adopter of technology, it is perhaps surprising how many hotel groups have already embraced ChatGPT alongside other forms of AI and machine learning. Indeed, experts have suggested that around 60% of hotels and 70% of travel agencies will be using AI technologies in the near future[4].

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[2] *New York Times. The ChatGPPT Lawyer Explains Himself. June 2023.*

[3] *BBC News. ChatGPT can now access up to date information. September 2023.*

[4] *Retrod – Hotel Tech Talk (on LinkedIn). Revolutionizing the Hospitality Industry: How Chat GPT Empowers Future Hoteliers. May 2023.*

Some of the main ways hotels are using AI and machine learning include:

Customer Service / Enhanced Guest Experience

By integrating a chatbot into their website or mobile app, hotels can use ChatGPT or another AI tool as a virtual concierge service to automate up to 60% of guest requests[5]: answering questions, helping with reservations and check-ins/outs, making restaurant recommendations, booking transport and even processing payments. This all takes place in real time, taking some of the strain off hotel staff – especially as AI is available 24 hours a day.

Personalization

As we have seen in multiple previous White Papers, personalization lies at the heart of a fabulous guest experience. ChatGPT can analyze the details of guests who have stayed in the hotel before and provide personalized recommendations and marketing offers for next time, helping to foster loyalty and promote repeat visits and cross/up-sales. (Naturally, a clean single version of each guest's profile is needed for this to work effectively – more on this later.)

Predictive demand

Many hotels use ChatGPT to assist with revenue management and investment decision making, by leveraging its analytical capabilities to predict booking demand and likely future trends or peaks. It can also evaluate guest feedback on social media and sites such as TripAdvisor, to present findings that enable the hotel to improve and tailor its services to remain competitive.

Website content and SEO

ChatGPT can be used to help hotels write their website content by, for example, creating descriptions of rooms, facilities and even items on the restaurant and bar menus. The tool can also suggest captions for images and videos. On the SEO side, ChatGPT can provide suitable keywords and phrases to be weaved into website, blog, and social media copy, to help improve search engine rankings.

Translation

For hotels with an international client base, this invaluable feature enables the fast translation of marketing collateral, menus and other written materials used by staff and guests. ChatGPT can also be used to support staff when dealing with international guests, by translating common phrases around bookings, room service, housekeeping and so on, lists of

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[5] *Revinate. Revinate Acquires Go Moment. November 2021.*

which can be kept to hand for easy reference.

Dr Michael Toedt adds: "Dr Michael Toedt adds: "Here at dailypoint, we integrate ChatGPT to help automate the process of responding to feedback from our customers. What makes the responses from dailypoint even more individual than usual is that we pass on anonymized information from central guest profiles, which significantly improves the response quality from ChatGPT. This is yet another example of how important a single, centrally held guest profile is in modern hotel technology, and how versatile are the possible applications of AI and machine learning within our industry. As we saw above, the key to success lies in access to Big Data, without which neither AI/machine learning nor the creation of centralized guest profiles would be possible."

ChatGPT and successful PMS migrations – what is the common ground?

Given what we have already discussed, you won't be surprised to hear that the common ground here is (you guessed it) Big Data! In a November 2022 White Paper, we explored the multiple issues that can arise when a hotel's Property Management System (PMS) is migrated to the cloud and guest data has not been centralized and cleansed prior to the transfer.

These problems can range from loss of reservation data (historic and/or current)

and irreplaceable deep guest insights, to the transfer and perpetuation of outdated or inaccurate personal information, leading to non-compliance with data protection laws such as GDPR. The worst case scenarios are that only aggregate data such as total numbers of stays or total revenues are migrated, or in extreme cases, there may be total data loss from the legacy PMS. An absolute data disaster!

There is an alternative to this situation, favored by some hotels who are eager to migrate their PMS to the cloud but perhaps lack the time or inclination to make the proper plans and preparations beforehand. This is to run the legacy PMS system in parallel with the new cloud-based platform for a period of time, during which the historic data will be accessed manually and gradually transferred over to the new system.

As you can imagine, this is fraught with risks, from human error and omission to the copying and migration of old and/or non-compliant guest data. It is also unlikely to be a popular choice with the members of staff who have to operate across the two systems and carry out the data entry work on top of their regular tasks and workload.

On the other hand, a well-planned and thought-out PMS upgrade should involve only minimal data loss, prevent the need for large amounts of manual data entry and re-entry, and avoid potential havoc at the front desk post-transfer. But the hotel (aided to an extent by the cloud services provider) must prepare in advance and put

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the right systems and processes in place to make sure this can happen.

Dr Michael Toedt elaborates. "The most important of these processes is to thoroughly cleanse the guest data so it is both accurate and compliant, and facilitate its storage within a Central Data Management (CDM) solution, like dailypoint 360°." The CDM will draw data from all the other systems within the hotel stack, such as the CRM, CRS, RMS, POS, IBE and so on, and de-duplicate it to enable the creation and maintenance of a single guest profile.

"This central guest profile – also known as the 'Golden Record' – builds up and stores a wealth of Big Data that the hotel can draw on to provide an enhanced guest experience, superior services and highly personalized marketing communications that encourage repeat bookings and boost revenues." Establishing the Golden Record before the PMS migration takes place will ensure that only clean, accurate and up to date guest data is transferred over to the cloud.

> "It is the creation of this Golden Record that puts a successful PMS upgrade on the same playing field as ChatGPT's own vast treasure trove of Big Data."

"It is the creation of this Golden Record that puts a successful PMS upgrade on the same playing field as ChatGPT's own vast treasure trove of Big Data." Without the central guest profile, managed by the CDM, a smooth and efficient transfer of high-quality guest data would be difficult or impossible to achieve. As a direct comparison, imagine what would happen if ChatGPT didn't have access to the vast gold mine of Big Data it has today? The results would be very basic and any AI critic would throw up their hands in horror."

The moral of the story? Don't put the PMS at the heart of the tech stack!

The above comparison between a PMS migration and ChatGPT is a clear indication that the PMS should no longer be seen as the leading IT system in today's hotel industry. Whilst it is still an important supporting system, its uses should be confined to those for which it was originally designed, i.e., property management, not guest management.

Even the most sophisticated cloud-based PMS is simply not capable of managing and processing the mountains of data constantly generated by every system within the tech stack, as well as third party apps at each stage of the customer journey, and turning them into a valuable asset for the hotel.

The only system that can do this is a CDM built on open API technology that seamlessly integrates with all other systems to collect and cleanse the data, store it centrally, and use AI and machine

learning to translate the resulting Big Data into usable guest insights.

The diagram below shows how the various systems within the dailypoint™ suite of products work together to create and complete the 'jigsaw puzzle' of effective, compliant guest profile management and personalized communications, driven by the power of Big Data:
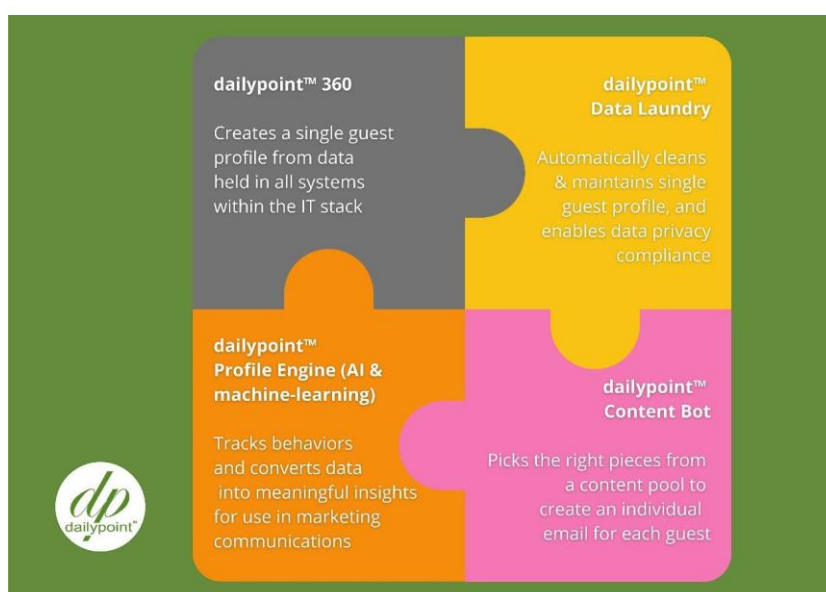
OTA business, make savvy investment decisions based on accurate demand forecasts, and enable individualized and highly targeted sales and marketing activities.

"The OTAs have long been using AI and machine learning to help them achieve all the above and more. Hotels are catching up, but there is still work to be done.

Dr Michael Toedt concludes: "AI systems like ChatGPT are here to stay, whether we like it or not!"

Indeed, the future of a profitable hotel industry lies in making the most of these tools to improve guest services, build loyalty, increase direct booking rates over

Embracing the combined power of AI and Big Data is no longer an option. The sooner hotels stop worshipping at the altar of the PMS and turn their attention to robust Central Data Management and the single guest profile, the sooner they will see the results on their bottom line."

Find out more about dailypoint™ 360°

You can find out more about dailypoint™ 360° and our other products, including dailypoint™ Data Laundry, dailypoint™ Profile Engine and dailypoint™ Content Bot, at our website. Or, to book a free demonstration of our solutions, please contact us on +49 89 189 35 69 0 or by email at sales@dailypoint.net.

About dailypoint™- Software made by Toedt, Dr. Selk & Coll. GmbH

dailypoint™ is the leading Data Management and CRM platform for demanding individual hotels and hotel groups. dailypoint™ collects data from all relevant sources such as PMS, POS, website, newsletter or WiFi and automatically creates a central and consolidated guest profile. In 350 steps, the data is processed and enriched by means of artificial intelligence (AI) to create a guest profile like never before. The cloud-based SaaS solution consists of 16 modules and is complemented by the dailypoint™ Marketplace with over 200 solution partners. dailypoint™ not only offers measurable marketing, but also covers the entire customer journey and thus supports all departments within a hotel. The integrated Privacy Dashboard is also the central element for the technical implementation of the GDPR.

dailypoint™ is headquartered in Munich, Germany and is sold and supported worldwide directly or through its distribution partners D-EDGE and XNProtel.

About the author: Dr. Michael Toedt

Dr. Michael Toedt is CEO and Founder at dailypoint™. He is a renowned expert in the field of Big Data and CRM. Michael started his career in his parents' hotel business and the Michelin Star gastronomy. He started his second career in the field of CRM, and in 2005 founded Toedt, Dr. Selk & Coll. GmbH (TS&C). TS&C, today known as dailypoint™, is recognized as a premiere software company and think tank for data-driven management.

In addition to his work at dailypoint™, Michael Toedt is, among other things, a lecturer at the University of Applied Sciences in Munich, Germany on the topic of "CRM in Tourism" as well as a lecturer at Hotellerie Suisse. He publishes books and professional articles in the field of CRM, Big Data and digitalization regularly. In 2016, Michael wrote his doctorate on the influence of communication on sales figures in the luxury hotel industry. In 2021 Michael was listed "One of the 10 Most Promising CEOs" by Industry Era.

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