



## **Supplemental Information**

### Digital Streaming Platforms

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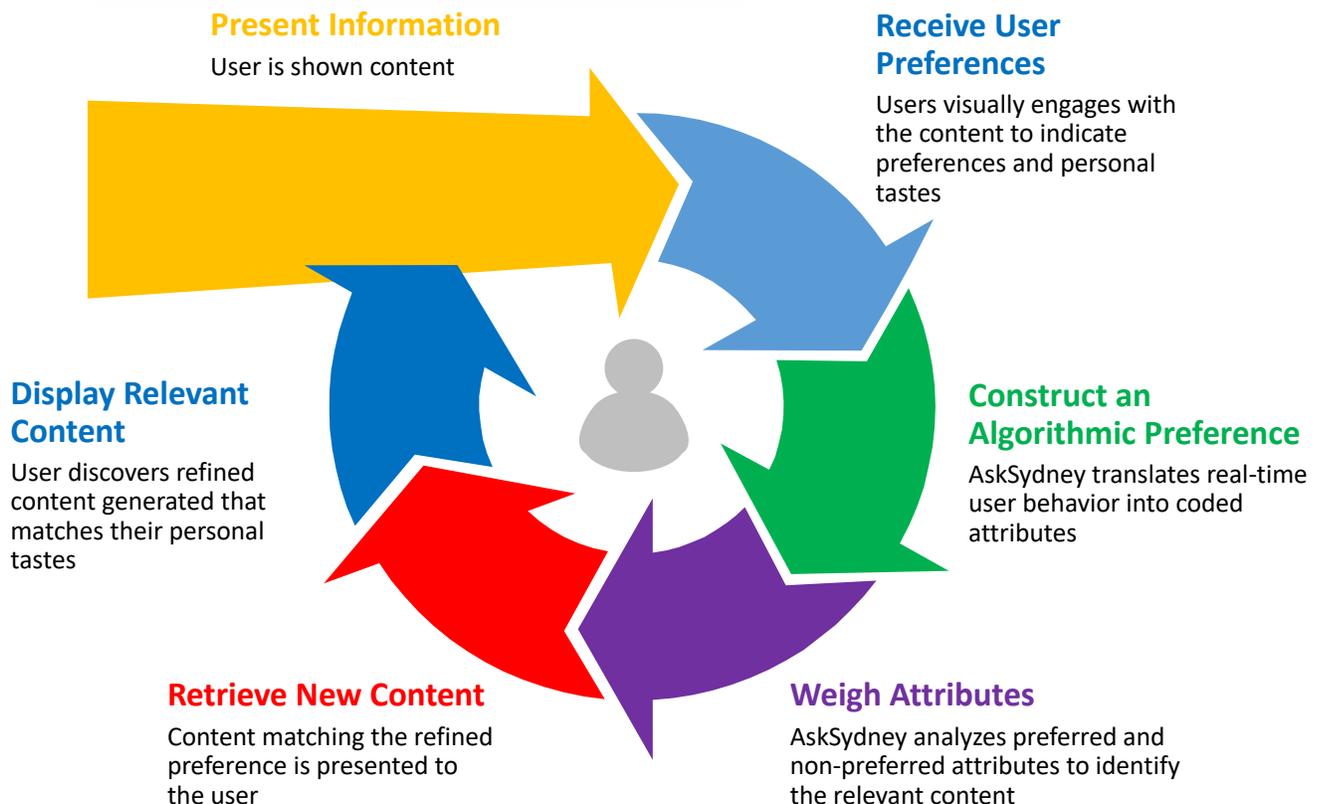
## The Overview

*Ask Sydney™ is an interactive approach to image driven browsing. A visual navigation system that translates and collects real-time user preferences to provide a hyper-personalized experience and discovery results.*

What	Why
<ul style="list-style-type: none"> <li>• <b>Iterative Visual Discovery Technology</b></li> <li>• <b>Translate Real-Time Preferences into Results</b></li> <li>• <b>Intuitive and Fun Gamified Experience</b></li> <li>• Discover <b>Without Words or Knowing</b> What to Watch</li> <li>• <b>Collect Explicit Data on User Preferences</b></li> </ul>	<ul style="list-style-type: none"> <li>• Improve <b>Customer-to-Content Match</b></li> <li>• Improve Customer <b>Experience</b></li> <li>• Reduce Information <b>Overload</b></li> <li>• Reduce Algorithm <b>Bias</b></li> <li>• Generate <b>New</b> and Expand Existing <b>Revenue Streams</b></li> <li>• <b>Differentiate</b> Platform</li> <li>• Deeply <b>Understand</b> Users</li> </ul>



## Ask Sydney™ In Action



## The Opportunity for Streaming Platforms

Streaming platforms epitomize the continued evolution of technology, leaving live television and DVD's far in its wake. As technology advances, so do customer expectations, to the point of wanting instant gratification. Streaming of content will be no exception, and those platforms must avoid becoming laggards in the increasingly critical customer experience arena. Famously, platforms continue the race in expanding content options, leaving many subscribers to flounder while browsing, rather than watching. With no way to find a needle-in-the-haystack based on real-time and individual preferences, viewers suffer from information overload and often switch to a competitor platform, or exit altogether.

Ask Sydney™ technology offers consumers a hyper-tailored, personalized approach to streaming with the ability to steer the discovery for content by making fun and simple choices. Additionally, this capability provides streaming platforms a constant, transparent connection with their viewership base through explicit preference/behavioral data, generated by each and every search.

## The Use Case

A sample use case for leveraging Ask Sydney™ technology in the streaming space – choosing a “feel-good” movie to watch after a bad day:

James, a drama mega-fan has a profile that knows he consistently loves to watch certain types of shows and movies. After a bad day, James wants to watch a feel-good movie but does not know where to start given his heavily skewed profile. Using a fun and intuitive capability powered by Ask Sydney™ technology, James iteratively searches through visuals in a simple and digestible way by liking or rejecting sequential images as he narrows his discovery for the perfect movie or show. James has effectively translated his preferences *at that moment* into a real-time recommendation based on his mood, rather than a representative profile. He has also had a pleasant and personalized experience interacting with the scores of options available.

Consumers no longer wish to be “categorized”; they prefer to control the decision-making process in real-time. While James’ needs have been met through a positive customer experience, the streaming platform supports revenue generation and customer retention as well as other business goals including (additional detail shown in Figure 1):

- Capturing high volumes of explicit data on viewer behavior and preferences (for internal use and external sale)
- Building an unprecedented profile of the viewership base
- Informing investment decisions in the feature of 3<sup>rd</sup> party and original content
- An interface keeping viewers engaged until a selection is made (self-motivating model)
- Capturing data that may be sold to external partners and parties (media, research, production)

- Creating an opportunity to sell featured placement of media
- Tracking response rates to digital assets

## Key Solutions for Streaming Platforms

**Streaming Problem Statement 1:** Too much content is creating information overload which is increasing browsing time, reducing viewership, encouraging platform exit / competitor platform use, and negatively impacting the value of original content.

**Ask Sydney™ Solution 1:** Can there be “too much of a good thing”? The ever-increasing volume of content offered viewers leads to information overload, often preventing would-be viewers from succeeding in the selection process. To remedy the average “90 second search-before-exit” problem, Ask Sydney Technology offers a discovery capability that can reduce browsing time, thereby increasing viewing time.

With Ask Sydney™, customers can interact within the database of content in a unique and gamified experience to discover content based on their own tastes and preferences in a defined moment. Rather than searching within a database, they can *interact* with the data. With Ask Sydney™, a platform can turn thousands of options into an opportunity for viewers to discover **what** they want *in real time, even when they are unsure of what they want.*

**Streaming Problem Statement 2:** No single streaming platform has a highly differentiated feature – they all offer the same basic experience.

**Ask Sydney™ Solution 2:** Given the highly competitive streaming landscape, platforms have plateaued their differentiating capabilities, and are now battling over content. While content is king, finding it is gold. Ultimately, streaming platforms must differentiate their strategy to remain relevant and become an industry leader.

Additionally, Streaming platforms rely on implicit and explicit data (viewing patterns, user ratings, respectively) to construct viewer profiles upon which content recommendations are made. While these recommendations have known limitations, the way viewers search through them falls back to scrolling and sorting. There is still no way for customers to interact with the data, only re-orient it. Ask Sydney™ enables users to interact with the data rather than just scroll or sort through it.

With tangible progress after each image interaction, viewers become increasingly engaged as the search platform creates instant incentive to continue searching until needs are met. The iterative process begins with external triggers (images) that elicit internal triggers (craved content), enabling a viewing experience that is truly an experience. The journey becomes as meaningful as the destination and will keep viewers coming back for more.

Patent pending enhancements allow for expanded capabilities such as group search, collaborative filtering, preliminary down-selection, and higher-level analytics regarding

consumer behavior during image-driven searches. The core functionality of the Ask Sydney™ technology package holds clear business value. Paired with the associated enhancements, business and technology partners have the ability to implement the technology in countless ways to meet evolving business and consumer needs.

**Streaming Problem Statement 3:** How may one streaming platform create instant competitive advantage over its competitors?

**Ask Sydney™ Solution 3:** With the ability to deliver so much value in an easy-to-use and marketable technology, Ask Sydney™ provides an opportunity to become a leader in developing a best-in-class viewer experience for streaming consumers. Customer experience has become a core element of any modern business and with Ask Sydney™, organizations will have the ability to lead the industry rather than keep up with it. Gartner reports that ultimately the next set of industry leaders will “come down to which company understands human behavior better”. By providing viewers with a way to visually search through content and interact with data, Ask Sydney™ effectively translates human behavior into content recommendations.

**Streaming Problem Statement 4:** Viewer Profiles do not represent real-time preference and are subject to algorithm bias.

**Ask Sydney™ Solution 4:** The data captured by this powerful consumer-facing tool is unprecedented. With each and every click, a streaming platform can measure directly from the viewer what they want and what they do not want. Never have streaming services been able to capture the preferences of consumers in such a pure, unbiased, direct way. Rather than investing time, money, and technology in predicting what the market wants, Ask Sydney™ provides a way for the market to tell streaming platforms what *it* wants.

**Streaming Problem Statement 5:** The market has shown that original content is a core value proposition of a streaming platform, however the data used to inform production decision is limited to patterns and interpretations of user viewing behavior.

**Ask Sydney™ Solution 5:** Access to the constant flow of explicit data on viewer preferences and the content they critique enables internal data-driven decision making in areas such as content procurement – what media to buy more of and less of. In the modern age, this also extends to production - what to produce more of, and what to avoid. Furthermore, this data can be sold externally to partners needing to make consumer-driven-data decisions about their own content. Platforms may further justify a premium charged to content providers to feature (high demand) content based on explicit data (see Figure 1 on pg.7).

**Streaming Problem Statement 6:** Customers have grown accustomed to sorting through choices using visuals- but pairing each “feature” with the best representative “visual” can be challenging.

**Ask Sydney™ Solution 6:** For streaming platforms, there is another core opportunity enabled by Ask Sydney™. Digital assets such as images used to represent corresponding content are placed in an ecosystem to be explicitly rated by viewers in bulk allowing platforms to optimize the visuals used. Ask Sydney™ enables unprecedented testing and access to viewer preferences to ensure the digital assets represent their content most effectively for different viewer segments.

**Streaming Problem Statement 7:** Streaming platforms are not conducive to text-search as they are consumed through multiple channels (e.g., mobile, streaming boxes, web)

**Ask Sydney™ Solution 7:** The interface of the technology seamlessly compliments the current landscape of viewer behaviors across multiple channels. Ask Sydney™ may be implemented in a manner consistent with that which modern consumers are already accustomed to- viewing large sets of images on social media and/or swiping to filter data. Ask Sydney™ will leverage these proven user interfaces in an innovative application of visually discovering content on a large streaming platform. Users will quickly understand what to do, how to do it, and what to expect while feeling that they are in control.

## The Dollars

As an investment, Ask Sydney™ is self-funding as its functionality and data can be monetized almost endlessly. Key monetization strategies include but are not limited to:

**Figure 1: Key Monetization Strategies, Sample Use Cases, and External Example**

Key Monetization Strategies	Description	Sample Use Case	External Example
Internal Data – Procurement	Enable a customer-data-driven procurement model to measure the demand of content through a gamified and disguised survey.	A production team learns from the data that a particular type of comedy show is showing strong demand while another is lagging. With access to high volume of consumer data on preferences, the team uses this information to create a new and original comedy series that is specifically tailored to customer’s tastes to grow sales and the viewer base.	Netflix uses its viewership data to decide which shows to buy, renew, cancel, and to produce next.

Key Monetization Strategies	Description	Sample Use Case	External Example
External Data – Insights	Generates a new revenue stream by selling data to content providers wanting to learn the performance and demand for their content.	A content provider would like to know how their content is performing on a streaming platform given the massive insights gathered directly from millions of viewers. The streaming platform charges to access the valuable information on viewer preferences.	Facebook sells data to advertisers in order to produce more relevant content to users to increase sales.
Advertising / Featuring	Generates a new revenue stream from content providers paying to feature their products against competitors.	A content provider wants to improve viewership on a streaming platform and pays to ensure that their products are shown first, and most often in the discovery.	Google charges advertisers to appear first in a search.
Customer Experience	Lower cost of customer acquisition and improved customer retention by providing a unique, personalized, and interactive experience to drive sales.	A viewer is not sure what content to watch and thus goes to a platform with Ask Sydney™ technology to explore in real-time rather than a competitor platform.	McDonald's self-order kiosks have attracted new and re-inspired existing customers, resulting in a larger increase in same-store sales than competitors, strong publicity, and a connection with the next generation of customers.

This inviting methodology for viewers to willingly share their preferences also provides an evolutionary benefit. As trends and expectations change (e.g., mobile, personalized experiences, instant gratification, etc.) Ask Sydney™ will enable streaming platforms to adapt accordingly - not just once but in an ongoing and dynamic capacity. Leading platforms will continually meet viewer needs and in turn, perpetually stay several steps ahead of competitors (lacking critical data, and the agility to adapt to a changing environment).

## The Architecture

Ask Sydney™ technology architecture provides robust functionality that supports an enterprise-level landscape. The technology not only supports the streaming platform directly, but other enterprise tools such as DAM, CDP, and more (Figure 2, below).

**Figure 2: Key Platforms Impacted by an Ask Sydney™ Implementation**

Key Impacted Platforms	Platform Relevance
<b>Streaming Platform</b>	Ask Sydney™ enables viewers to visually browse through the myriad of content choices offered based on their personal tastes. This functionality provides a competitive edge in the streaming space by allowing organizations to offer its volume of content with the curation of a real-time behavioral search, thus achieving a completely personalized environment for each individual viewer.
<b>Digital Asset Management (DAM)</b>	Ask Sydney™ captures deep customer-driven metadata for digital assets (e.g. images) enabling DAM systems to measure the effectiveness of digital assets and inform usage decisions internally. Externally, this data can be sold to media and content partners.
<b>Customer Data Platforms (CDPs)</b>	Ask Sydney™ provides unprecedented access to data directly provided by viewers enabling CDPs to create a next-generation view of the customer and market segmentation.
<b>Customer Relationship Management (CRM)</b>	Existing CRM capabilities to measure, monitor, and track relations with vendors and partners will be augmented by using the viewer driven data captured by Ask Sydney™ to improve insights into new and existing agreements.
<b>SEO &amp; Social</b>	Ask Sydney™ is a powerful marketing tool that will dominate social channels and SEO and optimize tools for exposure such as Google AdWords.
<b>Omni-channel Responsive Design</b>	Ask Sydney™ will enable customer experience teams to engineer an improved user experience with a responsive design for viewers on all channels.
<b>A/B Testing Tools</b>	Ask Sydney™ gamifies the viewing experience to allow marketers to collect information willingly provided directly by viewers on a given piece of content or set of content thus providing qualified testing results.

## The Facts

Visual searches have already been employed by the some leading platforms. Ask Sydney™ technology is a unique visual search paradigm perfectly suited to streaming content search. The below supports the information above and provide insight into the visual search market.

- 62% of millennials want visual search over any other new technology
- For 74% of consumers, traditional text-based keyword searches are inefficient at helping find the right results.
- Gartner predicts that, by 2021, early adopter that redesign their platforms to support visual search will increase digital commerce revenue by 30%.
- 69% of young consumers show an interest in making decisions based on visual searches
- MarketsandMarkets projects the visual search market to grow to \$25.65 billion by 2019

## Software and Code

Ask Sydney™ Technology, as described by its registered patents and patent applications is currently practiced by **FOODFAVES®**, a consumer- oriented dining assistant first released on the APP Store Sept., 2016. The **FOODFAVES®** App was the first of its kind to feature an iterative search algorithm powering its signature “Crave Quiz”, helping users find the solution to their hunger by swiping sequential images of dishes, each subsequent image queued based on user (positive/negative) response to the previous photo. Embedded descriptive tags (metadata) allow the algorithm to learn what the user ‘wants’ in each quiz session. Ask Sydney™ founders soon realized the diversity of industries potentially transformed by this *Visual Search* engine, seeking early protection of its underlying and unique intellectual property.

The CraveQuiz software is in essence, an algorithm for estimating the value of a user’s response to an object (i.e. image) or objects presented in a search session. The algorithm was designed to help users find a desired object even if the user is unaware of what they are looking for.

The search algorithm was developed using Ruby on Rails, and employs an SQL database. The data used in the search may be collected from the current session, or taken from various connected sources previously collected from the user. The algorithm begins by presenting media to the user (current implementation, images/photos) containing metadata that assign relevant attributes to the respective media. Such metadata (attributes) are referred to as tags. Upon sequential presentation of media, the user is given a binary choice for each option (image): yes or no. Positive (‘yes’) responses add value to the embedded tags; similarly, negative (‘no’) responses reduce value of tags. The algorithm uses (then) current tag values according to user response to select (queue) the next media/image.

The algorithm is easily modified to present different types of media (i.e. video, audio) and to utilize different metadata applicable to such media and as such may be applied to different

applications and data sets. The algorithm's interaction with the end user is accomplished through an application program interface (API) following a JavaScript Object Notation (JSON) standard. Currently operating on AWS, the software may be deployed on any server.

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