

SINGAPORE FINTECH FESTIVAL

GLOBAL FINTECH HACKCELERATOR Industry Problem Statements

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Organised by



Monetary Authority
of Singapore

In partnership with



In collaboration with



Global FinTech Hackcelerator
Powered by

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100

Problem statements

The global FinTech community and the financial industry submitted problem statements for the Global FinTech Hackcelerator.

They also identified potential applications of technology to address these challenges.

The problem statements and suggested solutions may have been edited for consistent reading. The edits do not substantially alter the intent of the original statements submitted.

CONTENT

100 Problem Statements



Customer Facing



Financial Inclusion



RegTech



General



CUSTOMER FACING

Solutions used by individuals or businesses to consume and access financial services. These can cut across multiple sectors such as banking, insurance, payments etc.

01

Automated insurance claims

Agile Platform (API), Distributed Ledger,
Workflow Automation

Currently, the insurance claims process is confusing and time consuming. How do we automate this process to reduce filing effort and fraud, and quicken payouts?

CUSTOMER FACING

02

Product disclosure awareness

Micro-Learning

Product Disclosure Statements (“PDS”) are densely worded, legally binding and include formal disclosures required by law. Although these statements are important to the customer’s understanding of their insurance policies, in reality, most customers do not read them and therefore do not fully understand their products. How can we help customers to better understand PDS in an easy and intuitive way?

03

Personal financial management

Micro-Learning, Personal Financial Management

It is important to cultivate consumer education on complex personal finance matters. How do we develop a comprehensive personal finance management tool that enables consumers to understand the fundamentals of personal financial management? The tool should also enable tax planning and planning of major life events.

CUSTOMER FACING

04

Interactive investment ecosystem

Agile Platform (API), Robo-Advisory

How can we create an interactive digital ecosystem, which includes savings and investment vehicles and leverages on robo-advisory technology, to allow insurers to offer advice when appropriate?

05

Digital customer service

Agile Platform (API), Machine Learning

Customer service departments in the financial industry need to keep up with the evolving digital world and the "always on" consumer. How can customer service officers better serve our customers digitally in an interactive, seamless, customer centric way?

CUSTOMER FACING

06

Home buying ecosystem

Agile Platform (API), Big Data

Buying a home requires much research, evaluation and uncertainty. How can we help prospective home buyers better analyse and understand financial information related to home purchases, as well as compare and match properties based on affordability in order to help them make an informed purchase decision?

07

Aggregated rewards platforms

Agile Platform (API), Distributed Ledger

Consumers need to manage multiple reward programmes. How do we build a platform that would merge loyalty rewards from multiple merchants and enable cross redemption of rewards points from different merchants in order to streamline reward program management for customers?

CUSTOMER FACING

08

Aggregated financial statements manager

Agile Platform (API), Databases

Currently, financial institutions communicate with customers via mailed paper statements and advices which lack security, have long delivery times and are manual. How can we digitise this process and allow consolidation of financial transactions across financial institutions, customised reports, storage of statements and personal data, and real-time notifications?

09

Aggregated personal finance management tool

Agile Platform (API), Databases, Payments

There is currently no application that allows a person to manage and consolidate accounts across different financial institutions. How can we help our customers seamlessly manage and consolidate their finances across financial institutions through a single platform and interface?

CUSTOMER FACING

10

Rewards program savings management

Agile Platform (API), Databases

Consumers generally do not track savings made through the use of discount coupons, loyalty programs, or price comparison engines. How do we enable them to better monitor these savings so that it can be discounted against future spending and/or donated to charity?

11

Instant tax refunds

Agile Platform (API), Distributed Ledger, Payments

Today, travellers need to go to tax refund kiosks at the point of departure to claim their GST/VAT refunds. How can we directly verify and credit GST and VAT refunds to tourists at the point of sale to create a seamless customer experience?

CUSTOMER FACING

12

Lean online banking

Agile Platform (API)

Businesses are increasingly being conducted online. How can banks build a lean online banking presence offering value-added banking services (excluding payments) which caters to customers who frequent "new economy marketplaces"?

13

Cheque digitisation

Agile Platform (API), Payments

Singapore has high cheque usage rates which are costly and slow to process. How can we digitise the cheque issuance, deposit and clearance process to enable real-time and cost-efficient processing for financial institutions?

CUSTOMER FACING

14

Digital enablement of charity donation

Agile Platform (API), Payments

Consumers often have to deal with physical coins in small change during their everyday transactions, and many find it a hassle to keep and carry these small amounts around. How can we design a digital and engaging way for consumers to donate their spare change to charity during these transactions, so that charity organisations do not need to deploy large amount of resources to handle physical cash?

15

Seamless season parking fee payments

Agile Platform (API), Payments

Currently, there are multiple channels for season parking payments in Singapore which results in a fragmented and frustrating customer experience. How can we streamline season parking payments to enable timely, cash-free online payments by car owners and enhance backend accounting & service activation for management companies?

CUSTOMER FACING

16

Reimagining mobile wallets

Agile Platform (API), Payments

Current mobile wallet solutions are similar and undifferentiated. How can we design a differentiated mobile wallets solution which adds value to customers beyond payments and promotes a mobile centric lifestyle?

17

Integrated cross-platform payments

Agile Platform (API), Payments

Payments today rely on bank proprietary platforms. How can banks enable customers to easily send/transfer money to another party and make charitable donations via existing non-banking platforms (e.g. messaging apps) and hence streamline the customer experience across platforms?

CUSTOMER FACING

18

Automated institutional fund investments

Agile Platform (API)

A lot of manual processing is involved in the order management process for distributors, financial advisors, fund registrars and investors. How can we design a platform to digitise and automate the end-to-end ordering process across channels for the fund management and insurance industry?

19

Real-time profiling

Machine Learning, Big Data

Currently, financial advisors assess their customers' investment profile based on static questionnaires. How can we design an interactive customer evaluation tool to enable financial advisors to accurately assess a customer's investment profile on an on-going basis based on behavioural finance and risk profiling?

CUSTOMER FACING

20

Investment advice recommendation engine

Machine Learning, Big Data

Robo-advisory is an up and coming way to explore customer needs and deliver financial advice. How can we leverage on that to create an automated real-time investment advice engine that includes a robust goal-based investing and planning framework, real-time relevant product recommendations, with timely alerts and recommendations? The overall asset-allocation and portfolio rebalancing tool should also be algorithm driven, customised, tax efficient and require minimal human intervention.

21

Data-driven investment solutions

Machine Learning, Big Data

Pre-packaged solutions offered by financial institutions may not be easily customisable to customer lifestyles, and often lacking in transparency. How can financial institutions better understand the needs and lifestyle of consumers using non-traditional external data sources (e.g. Facebook and Twitter) so as to offer more personalised financial solutions?

CUSTOMER FACING

22

Structured product ecosystem

Agile Platform (API), Big Data, Distributed Ledger

Providing structured products to retail investors in Asia is a challenge. There is a lack of standards in technology and corporate actions, lifecycle event communication, custody and settlement, as well as secondary trading venues for structured products. This undermines efficient handling, thus keeping processing prices high for investors, which in turn increases minimum creation sizes. How can we foster a supportive, issuer-neutral ecosystem for certain structured products, which provides investors with better access to information, infrastructure and tools to make decisions and execute trades?

23

Social media enabled engagement

Agile Platform (API), IoT, Social Media Analytics

How can insurers better engage existing and new customers and identify potential leads by leveraging social media and public information?

CUSTOMER FACING

24

Holistic financial planning

Agile Platform (APIs), Distributed Ledger, Machine Learning

Currently in Singapore, there is no one single source for customers to grasp a holistic view of their assets and liabilities which inhibits informed financial planning. Can we develop a platform which integrates information across public and private data sources (e.g. from CPF, HDB, IRAS and financial institutions) and provides an aggregated view with key life milestones across the topics of cash management, tax, loans, insurance, investment and retirement planning?



FINANCIAL INCLUSION

Solutions that aim to provide individuals and businesses access to useful and affordable financial services.

25

Engaging investor education

Micro-Learning

Retail investors may not purchase financial products because of a lack of understanding. How can financial institutions provide engaging and user-friendly financial product education to investors?

FINANCIAL INCLUSION

26

Youth financial literacy

Micro-Learning

A person's early life has many strategic points for financial literacy education. How can we provide financial literacy for children and young adults in a creative, engaging way at strategic points?

27

Migrant worker identity authentication

Agile Platform (API), Distributed Ledger

Digital KYC for mobile wallet transactions is difficult to implement for migrant workers in rented dormitories as they may not be able to provide proof of residence through a phone or power bill. How can we enable digital identity validation of migrant workers by leveraging on existing government authentication solutions?

FINANCIAL INCLUSION

28

Banking for the unbanked

Big Data, Databases, Payments

Financial inclusion and credit offering is challenging, especially in markets where there is poor or limited information about a customer's credit worthiness. How can we enable institutions to offer banking solutions, based on alternative credit scoring, to people that do not currently have access to basic financial services?

29

Alternative emergency aid

Agile Platform (API), Distributed Ledger, Payments, Biometrics

Digital mobile payments are a widespread mechanism for delivering aid, but their successful launch would require partnerships between banks and mobile network operators. How can we develop digital solutions which enable people who require emergency aid to make payments and withdraw cash safely and securely?

FINANCIAL INCLUSION

30

Identity authentication of refugees

Agile Platform (API), Distributed Ledger, Payments

The UN High Commission estimates that 60 million people have been displaced by war. These undocumented refugees have limited access to basic financial services and tend to be denied basic rights. Identification is fundamental to allow orderly and legal movement channels, and for the safe remittance of funds. How can we develop alternative identification and KYC methods that allow them to be identified and thus given access to financial services, and enable NGOs and refugees to track financial data and refugee movement?

31

Mobile banking for the visually impaired

Agile Platform (API), Payments

Many applications today do not cater for the visually impaired. How can we develop a mobile banking solution which provides access to financial services (e.g. balance queries, money transfer) tailored to the visually impaired?

FINANCIAL INCLUSION

32

Cashless schools

Payments

Parents in Singapore still have to give children cash allowances as transactions in schools remain cash-based. How can we enable a cashless school system which better allows parents to monitor their expenditures and even dietary habits?

33

Payments for micro-transactions

Agile Platform (API), Payments

Businesses such as those run out of hawker centres are cash based. As such, many owners encounter cash management issues, delayed settlements and loss of customers. It also makes it challenging for regulators to track their earnings and calculate taxes. How do we create a solution to solve these issues without the need for costly infrastructure?

FINANCIAL INCLUSION

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Encouraging green investment

Agile Platform (API), Big Data, Blockchain

In developing countries, there are significant difficulties in getting financing for green infrastructure both domestically and internationally, due to political risk, under-developed local currency capital markets, weak tax bases and expensive long-term exchange hedging. How can we develop solutions to reduce or bypass these cost-raising challenges and encourage investment in green infrastructure?

35

Smart tax visibility

Agile Platform (API), Databases

Donors in Singapore enjoy income tax deductions for donations made to qualifying charities, which are calculated based on their declarations during electronic tax filing. How can we leverage tax filing to increase and optimise individuals' giving at various income levels, as well offer straight-through-processing of tax declarations?

FINANCIAL INCLUSION

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Investments in small scale entrepreneurs

Agile Platform (API), Payments

Small and medium sized businesses in developing and emerging economies can provide many of the solutions needed for delivery on the sustainable development goals such as renewable energy, but many do not qualify as investible products for institutional investors such as pension funds. How can we build a risk assessment system that effectively demonstrates creditworthiness of investible products on capital markets to steer capital towards small and medium sized entrepreneurs?

37

Digitised fundraising

Agile Platform (API), Payments

At present, the number of charities that are utilizing mobile payments for fund-raising is low, potentially due to high barriers to entry of technology and lack of capacity and capabilities to run programmes. How can we digitise and enable charities to better manage, track and govern fundraising for their campaigns and programmes, whilst also adhering to regulatory guidelines?

FINANCIAL INCLUSION

38

Personalised donations

Agile Platform (API), Databases

Currently, there is increased interest in contributing back to society but many donors do not have the expertise to identify needs or capacity to manage donations. How can we develop a portfolio management tool to guide and allow donors to find and track the impact of giving opportunities tailored to their needs, as well as contribute donations via the tool?

39

Reimagining credit underwriting and scoring

Big Data, Machine Learning, Databases

Existing credit underwriting models do not leverage new sources of qualitative and quantitative information. In addition, SMEs face challenges in credit evaluation as they do not have necessary audited financial statements. How can we improve and refine existing underwriting models and credit scoring for individuals and SMEs that leverage non-traditional qualitative and quantitative data sources?

FINANCIAL INCLUSION

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Investment starter kit

Micro-Learning

Mobile games provide an opportunity to engage and educate customers on personal finance. How can financial institutions leverage gamification to provide engaging financial education and help customers manage their personal finance and investments?

41

Enabling tailored training

Micro-Learning, Big Data

Jobs that entail menial and repetitive tasks are at risk of being made redundant by robotics and the creation of high value-generating roles. How can we support the upskilling of these workers?

FINANCIAL INCLUSION

42

Training in the digital age

Micro-Learning, Machine Learning

The world of learning and development is changing in the digital age. Instead of classroom training, learning should be real-time and contextual. How can we conveniently deliver continuously improving curriculums tailored to the needs of today's learners?

43

Enabling insurance for the under-insured

Micro-Learning, Big Data

A majority of working adults in Singapore lack adequate insurance or awareness of their insurance coverage. How can insurers identify and target under-insured customers using non-traditional data sources and provide engaging and user-friendly financial product education?

FINANCIAL INCLUSION



REGTECH

Solutions that help financial institutions manage their risks better, and fulfil their compliance and regulatory requirements more efficiently.

44

Scalable digital documentation

Agile Platform (API), Biometrics, eSignature

How can we adopt a digital method of facilitating document exchange, signatures and authentication in a manner that is efficient and scalable?

REGTECH

45

Secure digital authentication

Agile Platform (API), Distributed Ledger, Biometrics

Standard passwords and tokens aside, how are we able to authenticate customer identities without additional investment in infrastructure whilst improving security and reducing reliance on physical assets?

46

Streamlined AML process and shared database

Agile Platform (API), Distributed Ledger, AI (Fuzzy Logic Matching)

How can we develop a common international platform and shared database to help FIs identify counterparties, company structures, along with other publicly available information to streamline and facilitate the AML process across the industry?

REGTECH

47

Consolidated KYC information

Agile Platform (API), Distributed Ledger, Identity Wallet, Biometrics

Customers need to repeat the same process when creating new accounts with every financial institution. How can we develop a shared, secure and encrypted industry-wide platform to consolidate and validate KYC information (e.g. basic individual, corporate and public data) to improve KYC/AML related processes and reduce time and resources spent?

48

Automated risk analysis

Big Data, Distributed Ledger, Machine Learning

Currently, there is no way to effectively enable institutions to track and monitor counterparty risk and market exposure in real time. How do we develop a smart system that automates this analysis taking into account sanctions, AML and KYC data and regulatory rules, to mitigate risks and exposure?

REGTECH

49

Fraudulent behaviour detection and prediction

Big Data, Machine Learning

Financial institutions need to optimise transactional monitoring and identify deliberate misconduct. How can we utilise customer behaviour and other tell-tale signs to detect and forecast potentially fraudulent behaviour during onboarding and servicing?

50

Common industry APIs

Big Data, Distributed Ledger, Agile Platform (API)

There is an increasing business and regulatory need for financial institutions to spend time and resources creating open APIs which enable industry standardisation and creation of innovative customer centric solutions. How can we create an digital financial services exchange that would reduce both time to market and investment needed by banks to create open APIs?

REGTECH

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Customer data management and compliance

Agile Platform (API), Big Data

Increased cyber-security risks have necessitated stricter regulatory and compliance requirements, such as maintenance of personal securities registers and changes in personal particulars. How can we streamline these processes and data to enable better compliance by licensed representatives and management by regulators?

52

Automated fraudulent trade detection

Big Data, Machine Learning

Compliance departments have to verify a large number of transactions to potentially identify insider trading. How can we better recognise patterns of fraudulent behaviour to automatically flag potential insider trades?

REGTECH

53

Regulatory accountability

Agile Platform (API), Big Data, AI (Natural Language Processing)

Regulatory reporting for financial institutions is not globally standardised and can be interpreted in different ways. Given this, how can we automate the identification of regulations that each transaction or account needs to comply with and the body it needs to be reported to?

54

Blockchain-enabled regulatory reporting

Distributed Ledger

We are moving towards an automated trading clearance system on blockchain. How do we leverage this technology to also include regulatory reporting processes that are transparent, user-centric and automated?

REGTECH

55

Modelling international regulations

Agile Platform (API), Distributed Ledger

International banks need to adhere to regulations from many countries. However, regulations are published in different formats and structures. How do we codify differing sets of international regulations into rules/data models to streamline adherence by banks?

56

Automated reporting of shares

Agile Platform (API), Databases

Shareholder on-boarding, maintenance and reporting requirement processes in the asset management industry is costly and prone to delays and errors. How can we develop a flexible, easy to access solution that can automate the recording, transfer and reporting of shares?

REGTECH

57

Optimised collateral and risk management

Agile Platform (API), Databases

The banking industry is facing pressures on capital cost due to heightened restrictions. In that light, how do we optimise collateral and risk management in order to lower the cost of compliance, improve the speed of decision making and enable capital relief through financial structures?

58

Automated reporting of operational performance

Agile Platform (API), Big Data

Some operational performance reports are compiled manually today. How can we automate the reporting of a financial institution's operational performance while meeting the required regulatory and compliance standards?

REGTECH

59

Cloud computing compliance

Cloud Computing

Financial institutions find it challenging to leverage cloud infrastructure due to uncertainties on regulatory compliance. How can we make compliance testing of cloud service operators seamless for financial institutions and facilitate their adoption of cloud services?

60

Layered data encryption

Distributed Ledger, Cybersecurity

Transactions submitted for processing by another party are typically encrypted for network transport and storage, and are at risk of being decrypted by unintended parties with the right keys. How can we use layered data encryption to enable selective disclosure of sensitive transaction data to identified parties in a secure manner in order to mitigate cybersecurity risks?

REGTECH

61

Automated bookkeeping

Distributed Ledger, Cybersecurity

Assigning a mutually-agreed unique transaction number non-electronic and Over-the-Counter financial transactions is problematic. How can we efficiently and securely generate transaction numbers for non-electronic and Over-the-Counter transactions so as to streamline bookkeeping and eliminate redundancies?

62

Secured data sharing

Big Data, Distributed Ledger

Information sharing is a key factor driving innovation. How do we allow people and institutions to aggregate and exchange data from different data sources in a secure and private manner to aid this drive?

REGTECH



GENERAL

63

Digital trade finance marketplace

Distributed Ledger, Mobile Payments

Banks are seeking to improve reliability and visibility of cross border trades, as well as reduce the time taken for inter-bank settlements. How can we integrate trade finance industry players in a digital marketplace to facilitate verification, tracking and settlement of trade flows?

GENERAL

64

Trade finance authentication

Distributed Ledger, Mobile Payments, IoT

Verifying the authenticity of trade documents and arrangements is a currently manual, multi-party process. How can this process be automated in a secure, trusted manner by leveraging data collected from IoT and sensors?

65

Digital supply chain

Agile Platform (API), Distributed Ledger, Workflow Automation

How can we establish a digital supply chain finance hub focused on trade finance applications for the industry which adopts a risk-based and policy-driven approach to digital document security? This would incorporate leading technologies in cargo documentation, SWIFT's MT798 trade messaging utility, BPO and blockchain.

GENERAL

66

Trade document self-authentication

Distributed Ledger

Trade finance operations today utilise traditional methods such as fax and email and hence tedious and error prone. How do we develop a user-centric solution for agents and institutions which enables trade document self-authentication and fraud reduction?

67

Insurance document ledger

Distributed Ledger, Workflow Automation, OCR

Information recording and transmission in insurance is process-intensive and relies on intermediaries. How can insurance documentation be captured and verified on a shared platform to eliminate manual processing and third party verification?

GENERAL

68

Personalised insurance (Lifestyle)

Advanced Sensors, Big Data, Predictive Analytics

Insurers have traditionally based their underwriting and pricing principles on a limited number of variables. How do we leverage emerging technologies such as wearables to build a "pay-as-you-live" ecosystem that would provide personalised premium ratings based on the data collected to customise life and general insurance coverage?

69

Personalised insurance (Health)

Advanced Sensors, Big Data

How can insurers effectively capture and analyse a customer's historic medical records and real-time health data to design personalised insurance products and new pricing models?

GENERAL

70

Personalised insurance (Motor)

Advanced Sensors, Big Data, Telematics

How do we develop a smart car insurance product that would capture various sources of data to generate driver profiles and risk scoring algorithms? This could enable car insurers to develop alternative car insurance products (pay when you drive, per mile, per journey) and provide incident related services such as claims automation.

71

Dynamic pricing

Advanced Sensors, Big Data

Insurance premiums are generally charged using a fixed premium model which do not reflect the consumer's actual behaviour or consumption of the coverage. How can we leverage connected devices to develop a dynamic pricing model for fairer and more accurate pricing of insurance products?

GENERAL

72

Smart accident management

Advanced Sensors, Big Data, Blockchain

How can Insurers make use of data captured from traffic and road technology to handle a road accident emergency (e.g. contacting emergency services, routing traffic) and as inputs for claims processing?

73

Drone insurance

Agile Platform (API), Big Data

A new market is developing to insure against damage caused by drones. How can we utilize a platform to monitor parameters (such as pilot proficiency, flight environments and equipment) and develop pricing models for drone-related insurance products?

GENERAL

74

Detecting fraudulent behaviour

Big Data, Machine Learning

Fraudulent claims make up a large part of the cost of providing insurance. How can the industry work together to gather, standardise and analyse data and identify fraudulent behaviour throughout different product lines for a more complete analysis?

75

Natural catastrophe prediction

Big Data, Advanced Sensor, Predictive Analytics

The insurance industry is looking for effective ways to leverage sensor data for real-time earthquake predictions to limit damage to infrastructure and human injury. How can we use real-time data to accurately predict earthquakes (or other natural disasters) as early as possible?

GENERAL

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Scalable micro-services

Databases, Big Data

Traditionally, banks built data systems around large multi-purpose relational databases for consistency. Conversely, "micro-service" apps are often built for agility without ability to scale. How can we build a simple micro-service based banking transaction model, that can scale massively across many nodes while demonstrating data consistency?

77

Digital finance and accounting

Workflow Management

Singapore SMEs continue to rely on paper-based methods to reconcile payments and accounts, resulting in large inefficiencies. How can we develop a fully digital product suite for SMEs to manage their purchase orders, invoices and cash flows?

GENERAL

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Tailored SME banking

Business Financial Management, Databases, Payments

Services provided to SMEs are typically general in nature and not customised to their needs. How can we develop personalised banking and business management solutions to SMEs based on their scale, growth stage and service requirements?

79

Smart investment aggregator

Agile Platform (API), Big Data, Machine Learning

Investors receive a large number of reports, recommendations and financial news from many different sources and there is currently no one place that can structure and aggregate this data. How can relevant sources be consolidated and aggregated for investors, based on individual needs and investment strategies?

GENERAL

80

Smart data procurement

Agile Platform (API), Machine Learning, Distributed Ledger

There are many data sources available to financial institutions to research prospects, customers, products, and regulations. However, many of these data sources are irrelevant, incomplete or even incorrect. How can we assist financial institutions to aggregate all relevant data for client onboarding, whilst ensuring the data's quality and accuracy?

81

Behaviour-driven rewards

Agile Platform (API), Distributed Ledger

It is difficult to aggregate and analyse multiple customer data sets in real-time. How can financial institutions effectively aggregate and analyse customer data within a loyalty engine to reward customers for specific behaviours aligned with their interests?

GENERAL

82

Corporate customer data analytics

Machine Learning, Databases

The quality of corporate banking relationships is one of the many factors that could influence a company's decision to select a bank. How can we better analyse customer relationship data to identify tell-tale signs of dissatisfaction so as to reduce customer attrition?

83

Secure IoT integration

Advanced Sensor, Big Data

Sensors and computing capabilities in devices are becoming integrated and increasingly connected. How can financial institutions securely integrate, analyse and leverage data collected from increasingly connected IoT devices to enable better financial decisions, budgeting, purchases & real-time payments, and better understand customer behaviour?

GENERAL

84

API gateway

Agile Platform (API), Payments, Distributed Ledger

There are few standard APIs in Singapore that enable companies directly to debit funds. How can we develop a gateway interface and supporting APIs for companies and banks which enables direct fund debit at low cost and efficient clearing?

85

Efficient and secure settlements

Agile Platform (API), Payments, Distributed Ledger

Settlement systems in Singapore are becoming obsolete. How can we enhance legacy systems to facilitate authentication and reduce settlement periods?

GENERAL

86

Automated payments engine

Agile Platform (API), Payments

Smaller companies do not have the capacity to integrate Enterprise Resource Planning systems with SWIFT or banks, resulting in manual operations to manage cash flows. How can we develop an automated rule-based payments engine which enables better cash flow management by small companies?

87

Predictive FX models

Agile Platform (API), Big Data

Asset managers in Asia face timing issues for portfolios maintained in Asian currencies as the underlying indices are based on US or EMEA markets. This causes delays in index production due to usages of specific FX rates. How can regional exchanges be connected to publish indices in local Asian currencies and build vettable predictive FX models, to alleviate FX related timing issues and delays faced by asset managers in Asia?

GENERAL

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Valuation error diagnostics

Machine Learning, Big Data

Fund management and insurance companies are required to publish NAV prices for their products. Current valuation processes are unfortunately not foolproof and result in occasional errors, and there are limited tools to flag these errors. How can we detect NAV calculation anomalies real-time across a large number of portfolios to mitigate these issues?

89

Smart portfolio management

Machine Learning, Big Data

Asset managers need to take a number of factors into consideration when building a portfolio for their customers. Typically this is done through heuristics or weighted averages and does not consider the objectives of all stakeholders involved. How can we automate the building and calculation of a customer's optimum portfolio, whilst considering all stakeholders and their decision-making behaviours?

GENERAL

90

Predictive investment management

Agile Platform (API), Machine Learning, Big Data

Financial institutions face challenges calibrating their pricing strategies due to poor access to pricing information. How can we develop a tool which allows them to compare pricing and changes, predict fluctuations, and can be integrated with investment management platforms?

91

Robo-advisor 2.0

Machine Learning, Big Data

Most robo-advisors base their analysis on quantitative data, which can lead to a lag in performance. How can we enhance the capabilities of today's robo-advisors such that both quantitative and qualitative data are used to derive effective trading strategies?

GENERAL

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Straight-through trade processing

Agile Platform (API), Distributed Ledger

Small buy side firms lack the resources to use central matching applications combined with industry databases commonly utilised by large firms. Their manual methods are at risk of human error, subject to mismatched trades, trade failure and high servicing cost. How do we enable straight-through processing for small firms through a central matching application which lowers costs and risks and achieves greater connectivity?

93

Alternative product research aggregation

Agile Platform (API), Machine Learning

Real estate and unlisted equities may account for a large portion of wealth management portfolios. However, data for these assets may be unavailable due to formatting issues or technology limitations. How can we provide a service that can procure, consolidate and aggregate information related to common, unlisted or non-financial assets so that managers can research, learn and offer customers better-informed product recommendations?

GENERAL

94

Streamlined trade settlement

Agile Platform (API)

Processing of trades for non-Austraclear members is challenging as the instrument ISIN codes are required for communication of notifications. How do we enable easy identification of ISIN codes such that non-Austraclear members can create clear and unambiguous settlements and send notification messages to their custodians via SWIFT?

95

Real-time securities settlement

Distributed Ledger

The settlement of financial securities currently takes 2 to 3 days. How can we optimise existing financial securities settlement processes and enable near real-time clearance?

GENERAL

96

Real-time interest rates

Agile Platform (API), Distributed Ledger

Dissemination of interest rates is currently manual, which slows down decision making and trade execution. How do we securely automate the dissemination of real-time interest rates across banks to improve decision making, trade execution processes and enable transaction based on dynamic pricing?

97

Transparent and efficient distribution pricing

Agile Platform (API), Big Data

Distribution charges for unit trusts are not transparent and variable even across similar products. How can we leverage on technology to improve the transparency, variability of unit trust distribution costs and enhance distribution efficiency?

GENERAL

98

Integrated FX marketplace

Agile Platform (API)

FX costs between firms lacks transparency. How can we develop a FX marketplace with integrated central counterparty clearing and improves FX pricing transparency?

99

Smart translation

Machine Learning

The production of customer reports by financial institutions requires a manual, costly and time consuming language translation process. How do we automate the translation of financial reports for customers so that the time spent and cost can be reduced? This tool should also enable efficient review and workflow validation.

GENERAL

100

Smart indexing

Agile Platform (API), Machine Learning

Creation of formatted reports from original files provided by customers involves manual banking operations. How can we digitise and index the materials submitted by customers and automatically document them according to specified formats for easy referencing?

GLOSSARY OF TERMS

AI	Artificial Intelligence
AML	Anti-Money Laundering
API	Application Programming Interface
BPO	Business Process Outsourcing
EMEA	Europe, the Middle East and Africa
FI	Financial Institution
FX	Foreign Exchange
IoT	Internet of Things
ISIN	International Securities Identification Number
KYC	Know Your Customer
NAV	Net Asset Value
OCR	Optical Character Recognition
PDS	Product Disclosure Statements
SME	Small And Medium-Sized Enterprise
SWIFT	Society For Worldwide Interbank Financial Telecommunication

SUBMISSION



Submit your entries at FinTechFestival.sg/Hackcelerator

Entry deadline: 15 July 2017

