

# Technical Spec

## Invoicer AI

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Related Specs	GIBOTS.pdf

### Scope & Solution Summary

#### Problem Summary

*What is the problem, deficiency, or gap which will be addressed by this spec?*

#### Background

Invoice Processing:

- Current invoice processing is not automated and there is a lot of resource utilization for manual work.
- Manual collection of invoices, processing invoices with data entry is on an excel.
- Manual process is error prone in each step of processing.
- Review & approval process are over emails.
- Each step of processing has accumulated delays via email or logistics.
- No visibility into the status of invoice processing.
- Logistics delay over postal results in high load or less and it's not optimal.
- Reconciliation of invoices happens over emails, it's again a tedious process.

#### 1-sentence Goal

End-to-End automation of invoice processing with less/few manual intervention.

#### Solution Summary

*In a nutshell, how are we solving the problem?*

Invoicer AI:

- This platform will be the cloud first, AI powered solution.
- Will use technology to solve problems like manual data entry from invoices.
- Will avoid logistics delays by image upload from a mobile device or over a web dashboard.
- The Review and Approval process happens over the SaaS platform with different personas as users.
- Complete transparency on E2E process with prompt notification over email or SMS.
- History of each invoice and its related transactions & communication at a single platform.
- Optimal use of different teams: Account, Invoice and Management
- Predictable SLA on each invoice transaction.
- Performance tracking of invoice team and account team.

## Scope Details

### Input Constraints

*What important constraints were placed in the Product or by the customer, rather than being decided by the spec author?*

- E2E automation of invoices.
- Invoice is in english as language and currency in dollars to start with.
- Current assumptions include 70-80% vendors can operate mobile apps or browsers to upload invoices.
- Rest of the vendors invoices will be processed by Customer Support team manually uploading invoices as images for vendors.

### Important Scope Items

*What important items are in scope for the spec?*

- Different User Registration, Authentication.
- User Authorization based on the persona(RBAC)
- File uploads supported for predefined file types.(JPG,PDF..etc)
- Notifications over email or SMS.
- Invoice transaction pipeline.
- Processor allocation with optimal time over an SLA.
- AI/ML processing of invoice files to extract invoice details.

### Important Scope Exclusions

*What important items are out of scope for the spec?*

- Third Party integration other than SAP
- Account Softwares(Tally or others) integration in initial phase

### Future Scope

*What important items will be added in future?*

- InvoiceAI can be a Software solution open up for SaaS customers.
- InvoicerAI can be extended to multi-language or international invoice formats
- InvoicerAI can be flexible on currency transactions, not just single.
- Account softwares to be integrated to validate invoice numbers raised.
- Invoice data can be built to aggregate and show Vendors with monthly/yearly data.
- Vendors who wants to process invoices with different enterprises can connect and raise invoices
- Not just SAP, it should extend to different ERP solutions in the market.
- Direct integration with payment platforms can be an option like stripe.

## Solution Analysis

### Product-focused Problems

*Sometimes a product needs to solve problems that come from the goals of the company and not its customers. For example, maybe it is important to a company for their SaaS product to scale to 1000 customers, but each customer is not concerned about that.*

#### CHALLENGING PROBLEMS

*Thinking about the company building the product, what if anything was challenging in building it?*

1. Technical team to be formed to build the product.
2. Customer Support team to be formed to educate the vendors
3. AI/ML developers to be part of the technical team.
4. Current Invoice/Account team to be educated about the platform and they are the first customers.
5. Their experience will be the product input on Phase-1

#### IMPORTANT PROBLEMS

*Thinking about the company building the product, what if anything was really Important to solve to meet the company's goals?*

1. Product can only evolve on accuracy over the time period with different dataset of images/files.
2. Manual entry of invoices through the platform by looking at invoice image or file may still be 5-10% of the process.
3. 100% automation is over the years not on Phase-1

### Inputs, Outputs, Controls

#### INPUTS

*What are the important inputs to the system?*

- Invoices in different forms: pdfs, images..etc
- Users who process invoice data (approvals, comments, history, notifications, reviews etc)

#### OUTPUTS

*What are the important outputs from the system?*

- Invoice transaction status and payment processing on ERP

#### CONTROLS

*What are the important things the user controls to affect how the inputs are turned into outputs?*





- Valid Invoices
- Reconciliation of invoices
- Approvals

### Core Functions (Functional Requirements)

Name	Description
Authentication	User types, access based on Role
Extraction of invoice	Processing invoice files in multiple steps
Processing invoice	Validate, check of actual invoice format and essential details
SLA Auditor	Tracking of invoice processing
ERP Integration	Any data to be passed onto other CRM systems.
External invoice support(later)	Other systems can integrate with InvoicerAI to automate their invoice processing
Notifications	User notifications on processing status.

Non-Functional requirements	
Topic Name	Brief Description
User Scale	500 + 25% increase in each + Account/Invoice/Customer/Admin teams
Invoice Processing scale	(500 * 1000 +200) + 25% in each month
System Uptime	95% SLA
Data Encryption (GDPR, PII)	All data will be encrypted at REST(Cloud native dbs) APIs will be HTTPS File transfers will be SFTP

## Important Diagrams

Topic Name	Link
C1 -Level(System context)	 InvoicerAI-C1.png
C2- Level(Containers)	 InvoicerAI-C2.png
High Level Technical (C3-level)	 InvoicerAI-C3.png
UML	 UML.png

Follow-up Summary
<p>[What should we do next on this spec?</p> <ul style="list-style-type: none"> <li>- Low level technical diagrams.</li> <li>- Implementation details to be added.</li> </ul>

Document Versions		
Version Number	Date [DD-MM-YYYY]	Description [What changed?]
0.1	10-May-2023	Initial Cut