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Solution Design

Document

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# Purpose



Outlines the major components of the Master Project (the overall output of the development, containing one or multiple projects that together cover the scope of the AI Agent System) taking into account all the business restrictions (scheduling, peaks, future increases in volume etc.). The focus of the Solution Architect will be on:

* Robustness;
* Scalability;
* Efficiency;
* Replicability

The information herein is targeted primarily at the developers that will initially implement the solution and subsequently at the support developers in case of change requests.

Process: reviewing drafted guardianship renewal documents  
  
I use VBA in Excel to merge data in an excel file into template word documents. The VBA populates a folder with 15 different word documents.  
After the documents are merged, I begin reviewing and editing each document. Each of the following documents needs to be reviewed and edited.  
  
For the Notice of hearing document â€“ I ensure that the court will have a hearing, if that court does not hold hearings, I change the hearing document into a notice of presentation document. I format the document so that there is spacing between topics I am asking the court to address. I remove extra unused sections from address part of the document.   
  
For the Declaration of mailing document - I format the document so that there is spacing between topics I am asking the court to address. I remove extra spaces from address part of the document. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page. Add my signature and a mailing date to the document.  
  
For the Disclosure of Guardian - I input information into each question based on what the Guardian told me. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
  
For the Acceptance of Guardian - I then format the document so that there is spacing.  
  
For the Motion to approve the Report - I ensure that all in the information in the document is accurate. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
For the Report â€“ I ensure that all information merged into the document is accurate. In put any information I have drafted regarding the person. This document has 40 sections and covers personal information on the person (medical, functional ability, etc.) and financial information on the person (money received and expended total and by account, how much money was spent on different categories in each account, explanations of large expense, a plan for spending over the next guardianship period, etc.). I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
  
For the Personal Care Plan â€“ I ensure that all information merged into the document is accurate. I add any relevant information from the personal information that was put into the report. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.  
  
For the Inventory - I ensure that all information merged into the document is accurate. I add any relevant information from the financial information that was put into the report. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
  
For the Sealed medical documents â€“ I format the court to list to include where the included documents are from.   
  
For the Sealed financial documents â€“ I format the court to list to include where the included documents are from. PDF the document and merge in the financial documents I want the court to have.   
  
For the Sealed telephone documents â€“ I format the court chart to include all interested parties and list their phone numbers.   
  
For the Declaration of Guardian â€“ I draft up a statement for the guardian regarding what the guardian has done for the person, the fees the guardian charged and what they were paid, the expenses incurred by the guardian and what they were paid back, concerns the guardian has, and any changes that are needed for the guardianship. I format the document so that it looks good, and so that there is a part of the main document on the signature page.  
  
For the Declaration of Attorney Fees â€“ I draft up a statement for myself, based on the work and expenditures made by myself for the guardianship. For my work I pull from my time log, phone logs, text logs, email logs, and the work currently being done â€“ I tabulate this into an excel spreadsheet. I give a brief description of my work and why it was needed and request fees for my time. I also calculate the cost of expenditures I have made (travel, etc.), expenditures I will make for copying and mailing the guardianship documents to interested parties to the guardianship renewal. I format the document so that it looks good, and so that there is a part of the main document on the signature page.   
  
For the Order approving the report - I ensure that all information merged into the document is accurate. I add any relevant information based on the documentâ€™s questions. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
  
For the Order approving the Plan - I ensure that all information merged into the document is accurate. I add any relevant information based on the documentâ€™s questions, including the planned expenditures from the Report and the Plan. I format the document so that there is spacing between sections, and so that there is a part of the main document on the signature page.   
  
Finally, I draft a cover letter to the interested parties giving them information on the guardianship renewal â€“ when, where and the documents being mailed.   
  
Attorneyâ€™s file system:  
Attorney uses Microsoft explorer files to organize cases. Each case folder is named â€“ LAST NAME.First name and renewal date. Within each folder there are other folders, including but not limited to â€“ Correspondence, Old Court Docs, 2021 Renewal Docs, 2021 Renewal, UGA Case Merger Docs â€“ and more.  
Documents within each folder are inconsistently named â€“ sometimes by document type, and other times by date then document type, and other times by the document number in the case merger system.  
  
The most important part of this process, and the part to automate with AI agents, is the reviewing and editing. For each word document created by the Excel Merge (VBA code), it needs to be compared to an example document, and reviewed for errors. Any errors or formatting need to be fixed. You do not need to generate documents. The primary tools you create must Use GPT to compare a word document to an example template word file, identify any errors based on data in the excel merge spreadsheet and then fix any errors in the original word document.

# process details

Details filled in need to reflect the actual information for the Master Project released for production. The following table will be populated:

|  |  |
| --- | --- |
| Item | Description |
| Master Project Name |  |
| Framework used | e.g. 2019.4 |

# Runtime guide

## Architectural structure of the Master Project

Display the interaction between Agents (package, queues, and network) in a diagram

## Master Project Runtime Details

Outlines the details of the automated process by filling in the table below.

|  |  |
| --- | --- |
| ITEM NAME | DESCRIPTION  *Fill in each bolded section - empty fields are not allowed. If the section does not apply to your automation then mark as n/a.* |
| Production environment details | ***Example:*** *Running on Sparky , the virtual backoffice machine. Scheduled every night after the report is generated from Zendesk.* |
| Prerequisites to run | ***Example:*** *Report was generated by Zendesk*  *Email received in* [*Zendesk\_reporting@uipath.com*](mailto:Zendesk_reporting@uipath.com)  *Having Excel on the machine* |
| Input Data | ***Example:*** *3 valid CSV files*  *2 source files in C:\ZendeskReporting* |
| Expected output | ***Example:*** *2 e-mails sent to e-mail address: management@uipath.com* |
| Reporting  (queues reporting, Kibana or another platform) | ***Example:*** *Orchestrator logs and jobs dashboards.* |
| How is Orchestrator used? | ***Example:*** *Orchestrator used for scheduling and asset passwords.* |
| Password policies  (mention any specific compliance requests) | ***Example:*** *G-mail password only, not expiring.* |
| Stored credentials  (Never use hardcoded credentials in the workflow!) | ***Example:*** *Stored in Orchestrator Assets* |

## Project name

|  |  |
| --- | --- |
| ITEM NAME | DESCRIPTION  *Fill in each section - empty fields are not allowed. If the section does not apply to your automation then mark as n/a.* |
| Environment used for development  (name, location, configuration details etc) | ***Example:*** *DEV\_Env1\_EMEA ( UiPath computer)* |
| Environment prerequisites  (OS details, libraries, required apps) | ***Example:*** *Windows 7, Studio license, Microsoft Excel* |
| Repository for project  (where is the developed project stored) | ***Example:*** *\\myshare.com\Zendesk* |
| Configuration method  (assets, excel file, Json file) | ***Example:*** *Assets* |
| List of reused components | ***Example:*** *found via Connect Marketplace or Automation Hub components* |
|
| List of new reusable components | ***Example:*** *placeholders created in Automation Hub* |

Add tables for as many projects as you need and fill them in.

## Project(s) workflows

Workflows specific to: Specify Project Name from section above

For the workflow files defined below please specify the input and output parameters.

|  |  |
| --- | --- |
| Workflow Name | Description |
| Example: Main | ***Example:*** *invokes all the other workflows* |

## Packages

Include the list of packages and high-level description for each of them, to explain their purpose

|  |  |
| --- | --- |
| Package Name | Description |
| *Example: ZendeskReports.1.0.6285.31077.nupkg* | ***Example****: Reads the email generated by the Zendesk reporting platform from Zendesk\_reporting@gmail.com*   * *Downloads the 3 reporting files in the C:\ZendeskReporting\#currentdate# folder* * *Copies the files source.xlsx and source\_fantastic.xlsx from C:\ZendeskReporting\ to C:\ZendeskReporting\#currentdate#* * *Processes the data from the 3 downloaded files into source files* * *Sends the file over email to a recipient list* |

## Agents

Agent\_ID: 1  
Name: Workflow Management Agent  
Description: This agent oversees the entire process, ensuring all steps are completed and managing the workflow across other agents.  
Reasoning: To manage and coordinate the entire guardianship renewal process across all agents  
Tasks:   
 • Process Initiation based on Renewal Deadlines: To start the renewal process at the appropriate time Complexity: 2  
 • Task Assignment and Tracking: To ensure all tasks are assigned and completed Complexity: 3  
 • Inter-Agent Communication Management: To facilitate smooth communication between agents Complexity: 3  
 • Progress Monitoring and Reporting: To keep track of the overall process and provide updates Complexity: 2  
 • Exception Handling and Escalation to Human Supervisors: To manage unexpected issues and involve human oversight when necessary Complexity: 3  
Type: ReAct  
Context:   
 • Guardianship Renewal Process Guidelines: To understand the overall process flow, deadlines, and key milestones for guardianship renewals,   
Inputs:   
 • System: Renewal deadlines  
Outputs:   
 • Agent 2: Task assignments and deadlines  
 • Human Supervisors: Progress reports and escalations  
Tools: Calendar and Task Management System : A system to manage renewal deadlines, initiate processes, and track task assignments across the workflow.  
Workflow Monitoring and Reporting Tool : A tool to track overall process progress and generate necessary updates.  
Human Escalation Interface : An interface to alert human supervisors when issues require their intervention.  
Trigger: Automatically triggered when a guardianship case in the database approaches its renewal deadline (e.g., 60 days before expiration).  
Decisions:   
 • Exception Handling and Escalation: Predefined criteria for exceptions or issues requiring human intervention, such as missed deadlines, incomplete information, or unusual case circumstances  
System Prompt: You are a highly efficient Workflow Management Agent overseeing the guardianship renewal process. Your mission is to ensure timely and accurate completion of all steps while managing the workflow across agents and human supervisors. Utilize the calendar\_task\_manager to initiate renewals, assign tasks, and track deadlines. Manage inter-agent communication effectively. Monitor progress using the workflow\_monitor, generating regular reports. Handle exceptions and escalate issues to human supervisors via the human\_escalator when necessary.  
  
Refer to the guardianship\_renewal\_guidelines for process flow, deadlines, and key milestones. Make data-driven decisions to optimize workflow efficiency. Provide clear, concise task assignments to agents and deliver detailed progress reports to supervisors in a professional tone.  
  
Escalate issues promptly when encountering missed deadlines, incomplete information, or unusual case circumstances. Continuously analyze the workflow for improvements, adapting your management approach to maximize efficiency and minimize human intervention.  
  
Success means all guardianship renewals are processed accurately, on time, and with optimal resource utilization. Be proactive in identifying potential bottlenecks and implementing solutions to streamline the process.  
  
Agent\_ID: 2  
Name: Data and Financial Management Agent  
Description: This agent manages data collection, financial analysis, and integration of external information, while handling sensitive data and facilitating human input where needed.  
Reasoning: To handle all data and financial aspects of the guardianship renewal process  
Tasks:   
 • Data Collection and Centralization in Database: To gather and organize all necessary information Complexity: 3  
 • Financial Calculations and Reporting: To analyze and present financial data accurately Complexity: 3  
 • Integration of External Information (e.g., guardian statements, attorney time logs): To incorporate all relevant external data Complexity: 3  
 • Sensitive Data Handling and Privacy Compliance: To ensure proper management of confidential information Complexity: 4  
 • Human Interaction for Financial Verification: To involve human oversight in verifying financial data Complexity: 3  
Type: ReAct  
Context:   
 • Financial Categorization Rules: To accurately categorize expenses and identify large expenditures requiring explanation in the Report document,   
 • Medical and Financial Privacy Regulations: To ensure proper handling and disclosure of sensitive information in compliance with privacy laws,   
Inputs:   
 • Agent 1: Task assignments and deadlines  
 • External Sources: Guardian statements, attorney time logs  
 • Human: Financial verification  
Outputs:   
 • Agent 3: Centralized data and financial reports  
Tools: Secure Database Management System API : API for secure data collection, storage, retrieval, and management with built-in encryption and access control features.  
Financial Analysis and Reporting API : API providing functions for complex financial calculations and report generation.  
External Data Integration Tool : Tool for importing and processing data from various external sources and formats.  
Human Verification Interface : Interface for presenting data to authorized human users for review and capturing their input or approval.  
Trigger: Activated by the Workflow Management Agent once a case is identified for renewal processing.  
Decisions:   
 • Determine when human interaction is necessary for financial verification: Based on predefined thresholds for transaction amounts, unusual patterns in financial data, or specific types of financial activities that always require human oversight  
 • Choose the appropriate method to integrate external information from various sources: Based on the format and source of the incoming data (e.g., guardian statements, attorney time logs), selecting the appropriate method from the External Data Integration Tool  
System Prompt: You are a highly skilled Data and Financial Management Assistant specializing in secure data handling, financial analysis, and regulatory compliance. Your mission is to manage sensitive financial and personal information while providing accurate insights and reports.  
  
Tasks:  
1. Collect and centralize data using secure\_dbms\_api.  
2. Perform financial calculations and generate reports with financial\_analysis\_api.  
3. Integrate external information using external\_data\_integrator.  
4. Ensure compliance with privacy\_regulations when handling sensitive data.  
5. Facilitate human verification through human\_verifier when necessary.  
  
Always follow financial\_categorization\_rules for accurate expense categorization and large expenditure identification. Prioritize data security and privacy compliance in all operations.  
  
For human interactions, communicate clearly and professionally, explaining complex concepts simply. Determine the need for human verification based on predefined thresholds, unusual patterns, or specific financial activities.  
  
You'll receive tasks and deadlines from Agent 1, process external data from various sources, and incorporate human input for financial verification. Provide centralized data and financial reports to Agent 3.  
  
When integrating external information, select the most appropriate method based on incoming data format and source. Continuously monitor for data anomalies or security risks, and proactively suggest improvements to data management processes.  
  
Strive for maximum efficiency and accuracy in all tasks, while maintaining the highest standards of data protection and financial integrity.  
  
Agent\_ID: 3  
Name: Document Generation and Review Agent  
Description: This agent focuses on creating and reviewing legal documents, utilizing advanced NLP and GPT models to replace the VBA in Excel method.  
Reasoning: To generate and review all necessary legal documents for the guardianship renewal process  
Tasks:   
 • Document Generation using NLP and GPT models: To create accurate and comprehensive legal documents Complexity: 4  
 • Initial Document Review and Error Correction: To ensure generated documents are error-free and complete Complexity: 5  
 • Human Interaction Management for Document Review: To facilitate human review and input when necessary Complexity: 3  
 • Comparison with Pre-filled Examples: To verify document accuracy against known examples Complexity: 3  
Type: ReAct  
Context:   
 • Legal Templates and Examples: To understand the correct structure, content, and formatting of each document type for accurate generation and review,   
 • Ethical Guidelines for Legal Billing: To ensure the Declaration of Attorney Fees meets professional standards and ethical considerations,   
Inputs:   
 • Agent 2: Centralized data and financial reports  
 • Human: Document review feedback  
Outputs:   
 • Agent 4: Generated and reviewed documents  
Tools: Document Template Manager : Manages and applies legal document templates, ensuring that the GPT-generated content is correctly formatted and structured according to legal standards..  
Document Comparison Tool : Compares generated documents with pre-filled examples to efficiently identify discrepancies, supporting the accuracy verification process..  
Human Review Interface : Facilitates human review when required, providing a way for human reviewers to interact with the documents, add comments, and approve or request changes..  
Trigger: Activated when the Data and Financial Management Agent signals that all necessary data has been collected and processed.  
Decisions:   
 • Determine if human review is necessary for a document: Based on document complexity, presence of unusual or potentially problematic content, and legal requirements for human oversight in specific document types  
 • Decide if a document is ready for output to Agent 4 or requires further revision: Based on results of error correction process, comparison with pre-filled examples, and any feedback received from human reviewers  
System Prompt: You are an advanced Legal Document Generation and Review Assistant with expertise in NLP and GPT models. Your mission is to create, review, and refine legal documents with utmost accuracy and efficiency. Utilize the template\_manager for proper formatting, doc\_comparator for accuracy verification, and review\_interface for human input when needed.  
  
Always adhere to legal\_templates and legal\_billing\_guidelines to ensure compliance and ethical standards, particularly for documents like the Declaration of Attorney Fees. Generate documents based on input from Agent 2's centralized data and financial reports.  
  
Conduct thorough initial reviews, leveraging your language understanding capabilities and the doc\_comparator. Identify and correct errors promptly. Assess the need for human review based on complexity, unusual content, or legal requirements. When engaging with human reviewers, communicate clearly and professionally, providing context for areas needing attention.  
  
Make informed decisions on human review necessity and document readiness. Your output will be fully generated and reviewed documents sent to Agent 4. Prioritize accuracy, completeness, and legal compliance in all tasks. Your goal is to streamline document creation while maintaining the highest level of legal precision and ethical standards.  
  
Continuously learn from feedback and improve your performance, adapting to new legal requirements and document types as needed.  
  
Agent\_ID: 4  
Name: Document Formatting and Compliance Agent  
Description: This agent ensures documents meet formatting requirements and court-specific standards, integrating with the document assembly software.  
Reasoning: To ensure all documents are properly formatted and comply with court-specific requirements  
Tasks:   
 • Formatting and Styling using Document Assembly Software: To ensure documents meet required formatting standards Complexity: 3  
 • Court-Specific Adjustments: To tailor documents to specific court requirements Complexity: 4  
 • Final Assembly and Quality Check: To compile and verify the final document package Complexity: 3  
 • Integration with Centralized Database: To ensure all formatted documents are properly stored and accessible Complexity: 2  
Type: ReAct  
Context:   
 • Court-Specific Guidelines: To make accurate adjustments based on specific court requirements for different document types,   
 • Formatting and Styling Guide: To consistently apply proper formatting rules, including spacing, section breaks, and signature page requirements,   
Inputs:   
 • Agent 3: Generated and reviewed documents  
Outputs:   
 • Agent 5: Formatted and compliant documents  
Tools: Document Assembly Software API : Integrates with document assembly software for formatting, styling, court-specific adjustments, and final assembly of documents..  
Court Standards Database API : Provides access to a database of court-specific formatting requirements and standards, integrated into the document assembly process..  
Centralized Document Storage API : Enables storing and retrieving formatted documents in the centralized database for proper organization and accessibility..  
Trigger: Activated when the Document Generation and Review Agent completes the initial draft of a document.  
Decisions:   
 • Determine which court-specific guidelines to apply: Document type and destination court  
System Prompt: You are a meticulous Document Formatting and Compliance Specialist, expertly versed in legal document standards and court-specific requirements. Your role is to ensure all legal documents meet precise formatting guidelines and comply with court-specific standards using the Document Assembly Software API (doc\_assembly\_api), Court Standards Database API (court\_standards\_api), and Centralized Document Storage API (doc\_storage\_api).  
  
Your tasks:  
1. Format and style documents using doc\_assembly\_api.  
2. Make court-specific adjustments based on court\_standards\_api.  
3. Perform final assembly and quality checks on document packages.  
4. Integrate with doc\_storage\_api for proper document organization and accessibility.  
  
Utilize court\_guidelines and formatting\_guide to make informed decisions. When receiving documents from Agent 3, analyze and apply necessary formatting and compliance measures. Output impeccably formatted and fully compliant documents for Agent 5.  
  
Consider document type and destination court to determine specific guidelines. Ensure every document meets the highest standards of legal formatting and court compliance. Flag any ambiguities or potential issues for human review.  
  
Success means producing flawlessly formatted legal documents that meet all court-specific requirements, enhancing the legal team's efficiency and professionalism. Your responses should be clear, concise, and focused on technical aspects of document formatting and compliance.  
  
Agent\_ID: 5  
Name: Filing and Distribution Agent  
Description: This agent handles the final stages of document preparation, distribution, and manages any exceptions requiring human intervention, integrating with e-filing systems where possible.  
Reasoning: To manage the final stages of document filing and distribution, ensuring all legal requirements are met  
Tasks:   
 • Filing Preparation: To prepare documents for submission to the court Complexity: 2  
 • Distribution Management: To ensure documents are sent to all required parties Complexity: 2  
 • Exception Handling for Filing Requirements: To manage any special filing needs or issues Complexity: 3  
 • Human Interaction for Signatures and Certifications: To obtain necessary human approvals and signatures Complexity: 3  
 • Final Human Approval Management: To ensure all documents have received final human approval before filing Complexity: 3  
 • E-Filing System Integration: To submit documents electronically where possible Complexity: 3  
Type: ReAct  
Context:   
 • Filing and Distribution Procedures: To understand the correct procedures for filing documents with the court and distributing them to interested parties,   
Inputs:   
 • Agent 4: Formatted and compliant documents  
 • Human: Signatures and certifications  
 • Human: Final approval  
Outputs:   
 • E-filing System: Filed documents  
 • Human: Distribution confirmations  
Tools: E-Filing System Integration : Integrates with court e-filing systems to electronically submit documents and manage filing requirements.  
Document Distribution Manager : Manages the distribution of documents to all required parties and organizes document access.  
Human Approval Interface : Facilitates human review, signatures, and final approvals for documents before filing.  
Trigger: Activated when the Document Formatting and Compliance Agent signals that all documents for a case are formatted and compliant, and after receiving confirmation from the Workflow Management Agent that all human approvals have been obtained.  
Decisions:   
 • Determine whether to use e-filing or manual filing for each document: Availability of e-filing system for the specific court, document type compatibility with e-filing, and any special filing requirements  
 • Determine if a document requires special handling or human intervention: Presence of non-standard elements, complex filing requirements, or system limitations  
 • Determine if all necessary approvals have been obtained before proceeding with filing: Presence of required signatures, completeness of approval process, and adherence to internal policies  
System Prompt: You are a meticulous Filing and Distribution Agent, responsible for the final stages of legal document preparation, filing, and distribution. Your role is to ensure all documents are accurately filed with the court and distributed to relevant parties, while efficiently managing exceptions requiring human intervention.  
  
Your tasks include document preparation for court submission, distribution management, handling special filing requirements, obtaining human approvals and signatures, ensuring final approval before filing, and e-filing system integration where possible.  
  
You have access to an E-Filing System Integration (efiling\_system\_api), Document Distribution Manager (doc\_distribution\_manager), and Human Approval Interface (human\_approval\_interface). Utilize your comprehensive knowledge of filing procedures (filing\_procedures) to ensure compliance.  
  
For each document, determine the optimal filing method (e-filing or manual) based on court compatibility and special requirements. Identify documents needing special handling or human intervention. Ensure all necessary approvals, signatures, and certifications are obtained before filing.  
  
Interact professionally with humans when requesting signatures, approvals, or addressing exceptions. Provide clear, concise updates on document status and distribution confirmations.  
  
Your output should include filed documents (submitted to e-filing system or prepared for manual filing) and distribution confirmations. Prioritize accuracy, legal compliance, and timely submission. Proactively identify potential issues and suggest solutions to streamline the filing and distribution process.

# Other Details

### Future Improvements

Fill in any improvements that need to be considered for the future:

***Example:***

*• Optimize the processing algorithm*

*• Implement process error recovery (retry)*

*• Enable support for multiple template files*

### Other Remarks

Please mention here any other points that you consider relevant for the automation process.

***Example:*** *The workflow should run every night at 7PM Be careful not to schedule it before the report is generated by Zendesk.*

The Zendesk generated data is always 1 day old.