

# CreationScope

Market Research & Use Case  
Generation

## Approach Report

**Submitted By:**

Suzal Kachhadiya

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## **Project Description:**

CreationScope is a multi-agent system designed to support comprehensive industry research and strategic development within organizations. The system comprises three specialized agents: Research the Industry or the Company, Market Standards & Use Case Generation, and Resource Asset Collection.

‘The Research agent’ uses a web-browsing tool to analyze the industry or company segment, identify key offerings, and gather insights into strategic focus areas, providing a foundation for understanding market positioning.

‘The Market Standards & Use Case agent’ then analyzes trends within the industry, particularly those related to AI, ML, and automation, and proposes relevant use cases to improve the company’s processes and operational efficiency through technologies like GenAI and large language models (LLMs).

Finally, the ‘Resource Asset Collection agent’ gathers datasets and resources from platforms like Kaggle and Hugging Face, compiles them into organized files, and can optionally propose GenAI-powered tools like document search or automated reporting for enhanced company operations. Together, these agents provide an integrated framework for research, standards alignment, and resource compilation, supporting informed decision-making and innovation.

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# Project Workflow

The project implements a multi-agent architecture using Crew AI to perform comprehensive company analysis and use case generation. The workflow begins when a company name is input through the Streamlit web application. Three specialized agents work in sequence to complete the analysis.

First, the Research Agent utilizes SerperDevTool to conduct broad internet searches, gathering fundamental information about the company's industry positioning, key offerings, and strategic focus areas. This information is consolidated into a Company Analysis Report.

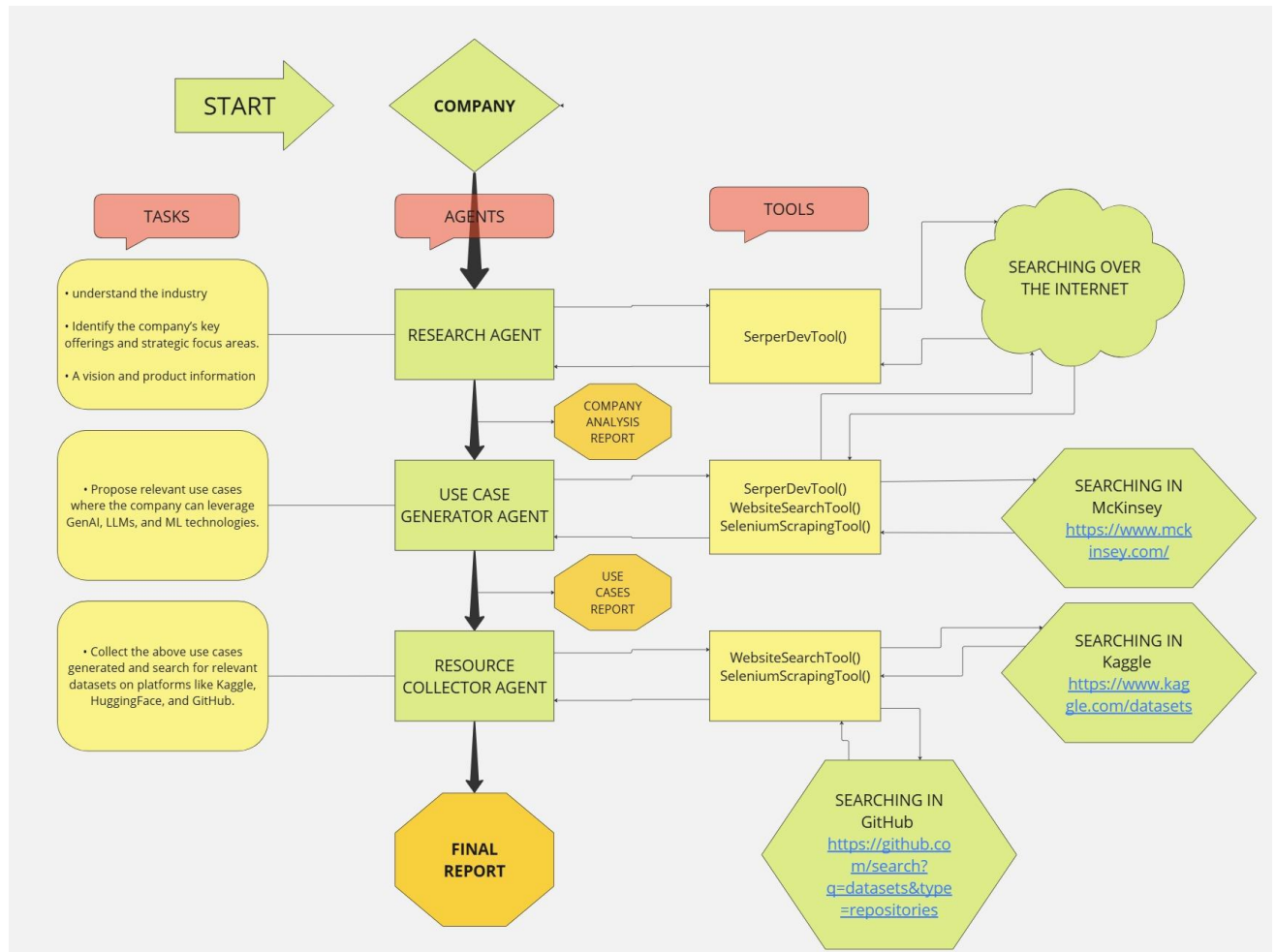


Figure 1.1 Work flow architecture of the project

Next, the Use Case Generator Agent leverages multiple tools including SerperDevTool, WebsiteSearchTool, and SeleniumScrapingTool to search specialized platforms like McKinsey for industry insights. This agent proposes relevant use cases where the company could implement GenAI, LLMs, and ML technologies, documenting these in a Use Cases Report.

Finally, the Resource Collector Agent searches platforms like Kaggle, HuggingFace, and GitHub using WebsiteSearchTool and SeleniumScrapingTool to identify and collect relevant datasets and resources that align with the proposed use cases. The entire process culminates in a Final Report that provides a comprehensive overview of the company's potential AI implementation opportunities backed by concrete resources and datasets.

# 1. System Architecture

## 1.1 Platform Components

- Streamlit web application for user interface
- Crew AI framework for multi-agent orchestration
- Integration with various search and scraping tools

## 1.2 Agent Structure

- Research Agent: Primary information gathering
- Use Case Generator Agent: AI implementation scenarios
- Resource Collector Agent: Dataset and resource identification

## **2. Workflow Process**

### **2.1 Initialization**

- User inputs company name through Streamlit interface
- System activates the agent sequence
- Tools and APIs are initialized

### **2.2 Research Phase**

- Research Agent deployment
- Utilization of SerperDevTool for internet searches
- Focus areas:
  - Industry understanding
  - Company's key offerings
  - Strategic focus areas
- Generation of Company Analysis Report

### **2.3 Use Case Generation**

- Use Case Generator Agent activation
- Multiple tool utilization:
  - SerperDevTool
  - WebsiteSearchTool
  - SeleniumScrapingTool
- Specialized platform search (McKinsey)
- Focus on GenAI, LLMs, and ML technology applications
- Creation of Use Cases Report

### **2.4 Resource Collection**

- Resource Collector Agent deployment
- Platform exploration:
  - Kaggle datasets
  - HuggingFace resources
  - GitHub repositories
- Tool utilization:
  - WebsiteSearchTool
  - SeleniumScrapingTool
- Dataset and resource alignment with proposed use cases

## **3. Output Generation**

### **3.1 Final Report Integration**

- Compilation of all agent findings
- Synthesis of collected information
- Datasets links

### **3.2 Deliverables**

- Company Analysis Report
- Use Cases Report
- Resources Report

# Tools & Technologies

## 1. Programming Languages

### 1.1 Python

- Primary development language
- Version: 3.10

## 2. Web Frameworks & Interface

### 2.1 Streamlit

- Frontend development framework
- Interactive web application interface
- Features utilized:
  - User input collection
  - Dynamic result display
  - Interactive components
  - Report visualization

## 3. AI/ML Frameworks

### 3.1 Crew AI

- Multi-agent orchestration framework
- Components used:
  - Agent creation and management
  - Task delegation
  - Inter-agent communication
  - Process synchronization

### 3.2 LangChain

- Language model integration framework
- Features implemented:
  - Chain of thought processing
  - Tool integration
  - Prompt management
  - Memory management

## 4. Development Tools

### 4.1 API Integration

- SerperDev API for web searches
- Selenium for web scraping
- Website search tools

## 5. External Platforms & Resources

### 5.1 Search Platforms

- McKinsey knowledge base
- Kaggle datasets
- HuggingFace repositories
- GitHub repositories



# Prompts

## 1. agents.yaml

### 1.1 researcher

**role:** > Industry Research Specialist

**goal:** > Conduct comprehensive research on {company} and its industry

**backstory:** > You are an expert industry analyst with years of experience in company research and market analysis. Your expertise lies in gathering and synthesizing information from various sources to provide detailed insights.

### 1.2 ai\_usecase\_agent

**role:** > AI Solutions Strategist

**goal:** > Analyze industry standards and generate AI/ML use cases for {company}

**backstory:** > You are an AI/ML solutions expert with deep experience in enterprise digital transformation. Your expertise spans across GenAI, Large Language Models, and ML implementations across various industries. You excel at identifying opportunities where AI can create business value and improve operational efficiency.

### 1.3 resource\_collector:

**role:** > Resource and Dataset Specialist

**goal:** > Collect relevant datasets and resources for AI use cases

**backstory:** > You are an expert in finding and evaluating datasets and technical resources. You have extensive experience with data repositories, open-source projects, and AI resources. You excel at matching business use cases with appropriate datasets and technical solutions.

## 2. tasks.yaml

### 2.1 industry\_company\_research\_task:

**description:** >

1. Research and analyze the industry that {company} operates in
2. Analyze major trends and challenges in the industry
3. Research {company}'s key offerings and products or services
4. Identify strategic focus areas and initiatives
5. Analyze vision, mission, and corporate strategy

**expected\_output:** >

A comprehensive report containing:

- Recent company developments and news
  - Key industry trends and trends affecting the company
  - complete insights of industry's future outlooks
  - List of products and services with description
- key offerings and focus area of a company formatted as markdown

**output\_file:** outputs/market\_research/industry\_company\_research.md

### 2.2 ai\_usecase\_analysis\_task:

**description:** >

1. Generate specific use cases for AI/ML/CV/GenAI implementation
  - Propose GenAI applications for internal processes if applicable
  - Identify LLM opportunities for customer interaction if applicable
  - Suggest ML solutions for operational optimization if applicable
  - Suggest Computer Vision solutions if applicable
2. Prioritize use cases based on:
  - {company}'s vision and operational needs
  - Expected ROI
  - Resource requirements
  - Risk assessment and list out those use cases based on priority

**expected\_output:** >

A detailed AI/ML/GenAI strategy report containing:

- use case title
  - \* Objective/Use Case: description
  - \* AI Application: description
  - \* Cross-Functional Benefits: description

Formatted as markdown with clear sections and subsections

**output\_file:** outputs/use\_cases/ai\_usecase\_analysis.md

### 2.3 resource\_collection\_task:

**description:** >

For AI use case which is in the top one in priority list given in use case report:

1. Identify required data types and characteristics
2. Search for relevant datasets on and give links of those:
  - 'Kaggle' : links
  - 'HuggingFace' : links
  - 'GitHub' : links

3. Evaluate dataset quality and relevance based on:

- Data completeness - Licensing terms

**expected\_output:** >

A report containing:

- datasets' links

- \* Kaggle : - (links)
- \* HuggingFace : - (links)
- \* GitHub : - (links)

Formatted as markdown with clear sections and subsections

**output\_file:** outputs/resources/resource\_collection.md

- Frontend development framework