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A The implementation details of FinPos

To provide a clearer understanding of how FinPos operates in practice, we include the complete prompt designs used by each module. These prompts define how the system processes financial information, reasons about market dynamics, and executes trading decisions in a structured manner.

A.1 Market Signal Processing and Analysis Module

This module provides the detailed prompts used in the Market Signal Processing and Analysis Module. Each category of textual data (financial reports, quarterly reports, company news, and macroeconomic news) is associated with two prompt templates: one for extracting sentiment and insight, and the other for assessing risk and potential market impact.

A.1.1 10-K Filings (Annual Reports)

This section presents the prompts used to process and analyze annual 10-K reports. The first prompt extracts and filters key financial information, while the second evaluates its implications for the company's stock price.

```
System Prompt: You are a professional
financial analyst. Your task is to
evaluate the potential impact of the key
 points extracted from a company's 10-K
report on its stock price, providing
decision support for an intelligent
trading agent.
You have received the following 10-K key
 points about {symbol}:
"{filtered_key_points}"
Target company: {symbol}
Please complete the following tasks:
1. Screen and extract the most critical
financial and operational highlights,
focusing on major changes, performance
deviations, strategic shifts, and newly
emerging risks or opportunities.
2. Filter out repetitive, boilerplate,
or investor-irrelevant information.
3. Rank the retained key points by their
 importance to investors.
response_format_prompt = Please return
the result in the following JSON format,
 without adding any other explanation:
{
 "key_points": "Selected key points,
 sorted by importance."
 "reason": "An explanation of why these
 key points were retained and the
 rationale behind their importance over
 other content."
 }
```

```
System Prompt: You are a professional
financial analyst specializing in
evaluating the short-term and medium-to-
long-term impacts of company 10-K
reports on stock prices. You are
providing decision support for an
intelligent trading agent.
You have received a summary of the
annual 10-K report for {symbol}:
"{agent_scratch}"
Target company: {symbol}
1. Analyze the potential **short-term (
days to one week)** and **medium-to-long
-term (weeks to months)** effects on {
symbol}'s stock price. Consider whether
the developments are likely to surprise
the market **positively or negatively**
based on typical investor expectations
and sentiment.
2. For each impact direction, **
differentiate** between contributing
factors (e.g., profitability, cash flow,
 capital allocation, competitive
positioning, regulatory risk). Analyze
**interactions or trade-offs** between
opposing forces.
3. Explain your reasoning in a
structured, multi-dimensional way. Go
beyond summarization-**synthesize the
data**, explore **counterfactual
scenarios**, and account for **macro and
 industry context**. If relevant,
mention **investor psychology** or
narrative shifts.
4. DO NOT simply restate the report.
Your goal is to **interpret, evaluate,
and draw meaningful implications** for
trading behavior and valuation outlook.
Please maintain professionalism, clarity
, and logical coherence. Highlight key
opportunities and risks with balanced
and nuanced judgment.
Please output only the response in JSON
format without any additional commentary
:
{response_format_prompt}= Please return
the result in the following JSON format,
 without adding any other explanation:
{
  "insight": "This 10-K report is
  positive/negative/neutral for {symbol}
   in the short term, and positive/
  negative/neutral in the medium to long
   term.",
  "reason": "Explain the core reasoning
  behind the judgment, reflecting
  logical analysis of the key points."
}
```

A.1.2 10-Q Filings (Quarterly Reports)

Similarly, the following prompts are designed for 10-Q reports, focusing on quarterly performance updates and market reactions.

```
System Prompt: You are a professional
financial analyst. Your task is to
evaluate the potential impact of the key
 points extracted from a company's 10-Q
report on its stock price, providing
decision support for an intelligent
trading agent.
```

```
You have received the following 10-Q key
 points about {symbol}:
"{filtered_key_points}"
Target company: {symbol}
Please complete the following tasks:
1. Screen and extract the most critical
financial and operational highlights,
focusing on major changes, performance
deviations, strategic shifts, and newly
emerging risks or opportunities.
2. Filter out repetitive, boilerplate,
or investor-irrelevant information.
3. Rank the retained key points by their
 importance to investors.
response_format_prompt = Please return
the result in the following JSON format,
 without adding any other explanation:
{
 "key_points": "Selected key points,
 sorted by importance."
 "reason": "An explanation of why these
 key points were retained and the
 rationale behind their importance over
 other content."
 }
```

```
System Prompt: You are a professional
financial analyst specializing in
evaluating the short-term and medium-to-
long-term impacts of company 10-Q
reports on stock prices. You are
providing decision support for an
intelligent trading agent.
You have received a summary of the
quarterly 10-Q report for {symbol}:
"{agent_scratch}"
Target company: {symbol}
1. Analyze the potential **short-term (
days to one week)** and **medium-to-long
-term (weeks to months)** effects on {
symbol}'s stock price. Consider whether
the developments are likely to surprise
the market **positively or negatively**
based on typical investor expectations
and sentiment.
2. For each impact direction, **
differentiate** between contributing
factors (e.g., profitability, cash flow,
 capital allocation, competitive
positioning, regulatory risk). Analyze
**interactions or trade-offs** between
opposing forces.
3. Explain your reasoning in a
structured, multi-dimensional way. Go
beyond summarization-**synthesize the
data**, explore **counterfactual
scenarios**, and account for **macro and
 industry context**. If relevant,
mention **investor psychology** or
narrative shifts.
4. DO NOT simply restate the report.
Your goal is to **interpret, evaluate,
and draw meaningful implications** for
trading behavior and valuation outlook.
Please maintain professionalism, clarity
, and logical coherence. Highlight key
opportunities and risks with balanced
and nuanced judgment.
Please output only the response in JSON
format without any additional commentary
:
{response_format_prompt}
response_format_prompt = """Please
respond in the following JSON format **
without adding any additional
explanations**:
{
  "key_points": "Concise summary of the
  most critical content, including key
  highlights and risks with brief
  explanation.",
  "insight": "This report has a positive
  /negative/neutral impact on {symbol}
  in the short term, and a positive/
  negative/neutral impact in the medium
  to long term.",
  "reason": "Comprehensive explanation
  of the reasoning behind the judgment,
  showing multi-dimensional logical
  analysis and complex factor
  consideration rather than simple
  summary."
}
"""
```

A.1.3 Macroeconomic News

This section presents the prompts used to process macroeconomic news and policy releases. Two corresponding prompt templates are adopted: the first filters and ranks macroeconomic news items by their relevance and significance to thethe target company, while the second analyzes how these events may influence investor sentiment, capital flows, and asset price movements over short and medium-to-long horizons.

```
System
Prompt: You are an experienced financial
research assistant. Your task is to
determine whether a given news article
is related to a specific company.
Target company: {symbol}
Please analyze the news below and
classify the relationship between the
news and the company as either "direct",
 "indirect", or "none", according to the
 criteria provided:

Classification criteria:
1. If the news **explicitly mentions**
the company name (e.g., Tesla), its
executives (e.g., Elon Musk), its
products, financial reports, mergers,
partnerships, or investments -- classify
 as **direct**
2. If the news does **not explicitly
mention** the company, but includes
topics that **have a substantial impact
on the company's business, valuation, or
 market performance**  -- classify as **
indirect**, such as:
   - Industry level: industry trends,
   changes in market demand,
   technological advancements, industry
   regulatory policies, upstream/
   downstream supply chain, competitor
```