# Healthcare Visit Assistant Application

Objective

Build a symptom-to-code predictive assistant where users enter their symptoms or condition descriptions, and the system

* Interprets the input using an LLM
* Maps symptoms to relevant diagnosis codes (ICD-10), procedure codes (CPT/HCPCS), Diagnosis-Related Group (DRG)
* Provide scenario-wise payment estimation based on insurance type, region, and provider pricing

Functional Workflow

1. User Input

* E.g. I have been experiencing chest pain and shortness of breath for the past two days.
* The system captures and processes the text.

1. LLM Interpretation Layer

* Extracts key clinical terms (e.g., chest pain, shortness of breath)
* Suggest possible diagnosis and procedures
* Provide confidence levels for each suggestion

1. Code Mapping Layer

* Maps extracted symptoms to ICD-10 codes (e.g., I20 Angina, R06.02 Shortness of breath)
* Suggests related procedures codes (CPT/HCPCS) such as cardiac imaging
* Assign potential DRG CODES for expected hospital stays

1. Cost Estimation Layer

* Use historical claims data or synthetic datasets to estimate payments
* Shows payment ranges based on insurance coverage and location
* Allows users to simulate best, average, and worst-case scenarios.

1. Output Dashboard: Presents diagnosis codes, procedure codes, DRG, estimated payments, and next steps.

Sample Input and Output

**User Input:**

* e.g., "I feel fatigue, dizziness, and have a persistent headache

**System Output**

* **Possible Diagnoses:**
* R51 – Headache (Confidence 95%)
* G44.1 – Vascular headache (confidence 75%)
* R42 – Dizziness and giddiness (Confidence 88%)
* **Procedure Recommendations:**
* 99214 – Office Visit, moderate complexity
* 70450 – CT scan of head without contrast
* 85025 – Complete blood count (CBC)
* **DRG Codes**
* 870 - Nervous system disorder with major complications
* **Payment Estimation**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Insurance Type** | **Estimated Cost** |
| Best Case | Medicare | $450 - $800 |
| Typical Case | Commercial | $1200 - $2500 |
| Worst Case | Uninsured | $4,000 - $7,500 |