Verbotics$^{\alpha}$

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Overview

- Verbotics is a website designed to help medical coders come up with the billing codes for each medical report they receive.
- The website will read the medical report and produce the bill codes
- The medical coder still has to check if the output is still correct

Original UI (Loaded Page)

verbotics $^\alpha$
Clinical Data Intelligence

@ | Filename

Load file... ▾ | Analyse! | Encode! | < Prev | Next >

Analysis

Evidence | Remaining

Floating ON OFF

Original UI (Analyze)

verbotics^α

Clinical Data Intelligence

Compute Time: 65ms

@ | Filename

Load file... ▾ | **Analyse!** | **Encode!** | < Prev | Next >

sample_0.txt

Analysis

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART
FAILURE.
2. HYPERTENSION.
3. ASTHMA.
4. URINARY TRACT INFECTION.
5. LOW BACK PAIN.
HISTORY OF PRESENT ILLNESS: This is a 62-year-old
black female
with a past history of hypertension
and congestive heart failure who presented to the
emergency room
with increasing shortness of breath. In April 1991 , the
patient
states that she had a bout of a cold with coughing and chills
and
some substernal chest pressure. In October 1992 , the
patient had
one 10-minute episode of substernal chest pain associated
with
nausea , sweating and shortness of breath. Since then , she
relates

Evidence | Remaining

DISCHARGE DIAGNOSIS: 1. **CONGESTIVE HEART
FAILURE.**
2. **HYPERTENSION.**
3. **ASTHMA.**
4. **URINARY TRACT INFECTION.**
5. **LOW BACK PAIN.**

HISTORY OF PRESENT ILLNESS: This is a 62-year-old
black female
with a past history of **hypertension**
and **congestive heart failure** who presented to the
emergency room
with **increasing shortness of breath**. In April 1991 , the
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states that she had a bout of a **cold** with **coughing** and
chills and
some substernal **chest pressure**. In October 1992 , the
patient had
one 10-minute episode of **substernal chest pain**
associated with

Floating ON OFF

Original UI (Encode)

verbotics$^{\alpha}$
Clinical Data Intelligence

Compute Time: 170ms

Filename

Load file... ▾   Analyse!   Encode!   < Prev   Next >

sample_0.txt

Analysis

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART
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some substernal chest pressure. In October 1992, the
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one 10-minute episode of substernal chest pain
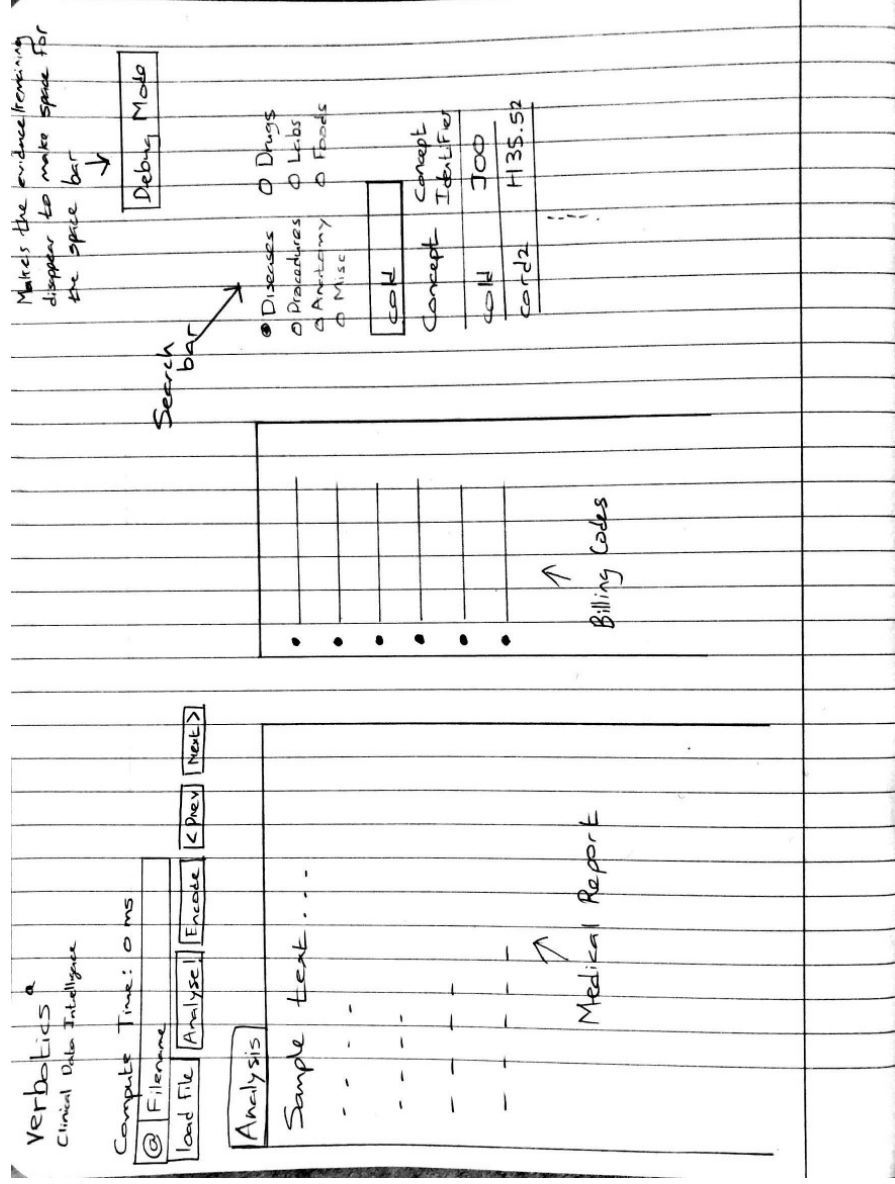associated with

Evidence   Remaining

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chills and
some substernal chest pressure. In October 1992, the
patient had
one 10-minute episode of substernal chest pain
associated with

Floating ON OFF

- I50.1: Left ventricular failure, unspecified 5.00
- M54.5: Low back pain 3.00
- N39.0: Urinary tract infection, site not specified 3.00
- H34.829: Venous engorgement, unspecified eye 2.59
- *R06.00: Dyspnea, unspecified 2.00*
- *R06.02: Shortness of breath 2.00*
- I51.7: Cardiomegaly 1.12
- E66.09: Other obesity due to excess calories 1.00
- I10: Essential (primary) hypertension 1.00
- J45.909: Unspecified asthma, uncomplicated 1.00
- R05: Cough 1.00
- R06.01: Orthopnea 1.00
- R11.0: Nausea 1.00
- R60.9: Edema, unspecified 1.00
- T78.40XD: Allergy, unspecified 1.00
- Z73.3: Stress, not elsewhere classified 1.00
- G03.0: Nonpyogenic meningitis 0.80
- Z90.710: Acquired absence of both cervix and uterus 0.22

Planned UI

Verbotics
Clinical Data Intelligence

Compute Time: 0 ms

@ Filename
Load File | Analyse | Encode | < Prev | Next >

Analysis

Sample text...

↑
Medical Report

Search bar →

Debug Mode

⦿ Diseases   ○ Drugs
○ Procedures   ○ Labs
○ Anatomy   ○ Foods
○ Misc

Makes the evidence/reasoning
disappear to make space for
the space bar
↓

Code	Concept	Concept Identifier
code1		J00
code2		H35.52

↑
Billing Codes

Debug Mode

verbotics α
Clinical Data Intelligence

Debug mode

Compute Time: 160ms

@ Filename
Load file... ▾   Analyse!   Encode!   < Prev   Next >

Analysis

Evidence | Remaining

DISCHARGE DIAGNOSIS: 1. CONGESTIVE HEART FAILURE.
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HISTORY OF PRESENT ILLNESS: This is a 62-year-old black female
with a past history of hypertension and congestive heart failure who presented to the emergency room
with increasing shortness of breath. In April 1991 , the patient
states that she had a bout of a cold with coughing and chills and
some substantial chest pressure. In October 1992 , the patient had
one 10-minute episode of substernal chest pain associated with
nausea , sweating and shortness of breath. Since then ,

Floating ON OFF

● Diseases ○ Drugs
○ Procedures ○ Labs
○ Anatomy ○ Food
○ Misc

search for concepts here

- I50.1: Left ventricular failure, unspecified 5.00
- M54.5: Low back pain 3.00
- N39.0: Urinary tract infection, site not specified 3.00
- H34.829: Venous engorgement, unspecified eye 2.59
- *R06.00: Dyspnea, unspecified 2.00*
- *R06.02: Shortness of breath 2.00*
- I51.7: Cardiomegaly 1.12
- E66.09: Other obesity due to excess calories 1.00
- I10: Essential (primary) hypertension 1.00
- J45.909: Unspecified asthma, uncomplicated 1.00
- R05: Cough 1.00
- R06.01: Orthopnea 1.00
- R11.0: Nausea 1.00

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Debug mode

Compute Time: 90ms

@ Filename
Load file... ▾   Analyse!   Encode!   < Prev   Next >

Analysis

DISCHARGE DIAGNOSIS: RULE OUT MYOCARDIAL INFARCTION. HISTORY OF PRESENT ILLNESS: Mr. XXX is a
51 year old man who presented with intermittent chest pain and
shortness of breath of two days duration. Her cardiac
risk factors include a positive family history but no diabetes ,
no cholesterol , no hypertension , and no history of tobacco use.
The patient was in good health until two days prior to admission.
At that time , she noted 2/10 substernal chest pain radiating to
the left arm accompanied by shortness of breath and dizziness.
There was no nausea , vomiting , or diaphoresis. The pain
lasted approximately 45 minutes and did not change with activity
or position. The pain and shortness of breath recurred
approximately two times that day. She had a fourth episode on
the morning of admission while watching television. She went to
the Mall Medical Center where there was no improvement. An
EKG there showed flipped T waves across her precordium. The
patient improved with oxygen there. The pain recurred during an
ambulance ride to the Norton Memorial Hospital where it was
again relieved with oxygen. The patient has no prior history of
chest pain , palpitations , or shortness of breath. She denies
orthopnea , paroxysmal nocturnal dyspnea , edema , or

Floating ON OFF

● Diseases ○ Drugs
○ Procedures ○ Labs
○ Anatomy ○ Food
○ Misc

search for concepts here

Edit Add Delete

- **Z95.1**: Presence of aortocoronary bypass graft 4.00
- **G89.28**: Other chronic postprocedural pain 2.00
- *R06.00: Dyspnea, unspecified 2.00*
- *R06.02: Shortness of breath 2.00*
- *O75.89: Other specified complications of labor and delivery 1.32*
- *Z37.9: Outcome of delivery, unspecified 1.32*
- **E66.09**: Other obesity due to excess calories 1.00
- **R01.1**: Cardiac murmur, unspecified 1.00
- **R42**: Dizziness and giddiness 1.00
- **R53.83**: Other fatigue 1.00

Search Bar

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Clinical Data Intelligence

Compute Time: 66ms

@ | Filename

Load file... ▾ | Analyse! | Encode! | < Prev | Next >

Debug mode

Floating ON OFF

- ● Diseases ○ Drugs
- ○ Procedures ○ Labs
- ○ Anatomy ○ Food
- ○ Misc

cold|

Concept	Concept Identifier
cold	J00
cord2	H35.52
cold hemoglobinuria	D59.1
cold hemoglobinuria	D59.6
cold hypersensitivity	M04.2

Analysis

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Edit & Add & Delete

Item 4 [Edit] [Add]

- Item 1
- Item 2
- Item 3
- Item 4

[Edit] [Add] [Delete]

- Item 1
- Item 3
- Item 4

[Edit] [Add]

- Item 1
- Item 2
- Item 3

Edit Item 2 [Edit] [Add]

- Item 1
- Edit Item 2
- Item 3
- Item 4

Limitations

Knowledge

- Limited scope of knowledge on JS and jQuery

Syncing

- The Add/Edit and Search bar functions work separately but the challenge we are facing now is to make them work in sync.

Design

- Couple of flaws in the design including the Debug button and the use of white space in the website.

Questions