

Low-fi Prototype & Evaluation

Larry the Porcupine

Healthcare and Insurance Education

Sean Chang, Melinda Wang, Grace Zhao,
Vrinda Vasavada & Ari Qayumi





Team Larry!



Sean C.



Melinda W.



Vrinda V.



Grace Z.



Ari Q.



Problem Domain

Young adults need

higher quality and

better access to healthcare and

health insurance education.



Mission Statement

To teach young adults (YAs)
how to navigate their lifelong
healthcare journeys and foster a
culture of preventative care



Outline

1.  Sketches
2.  Design Selection
3.  Task Storyboards
4.  Low-fi Prototype
5.  Experiment
6.  Key Learnings
7. Appendix

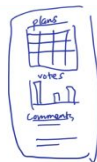
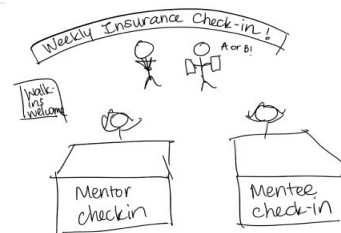
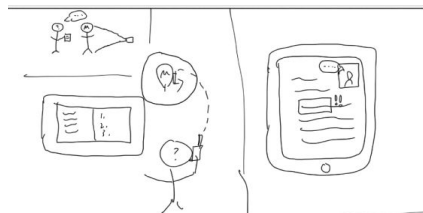


Outline

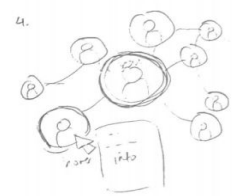
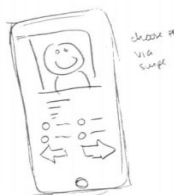
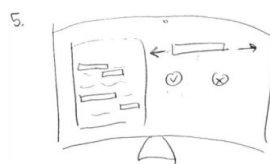
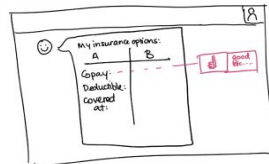
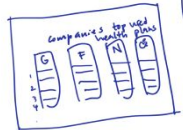
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Sketch Board



Ranking	1) Rank 1 M
Insurance	2) Rank 2 M
Chatbot	3) Rank 3 M
	4) Rank 4 M

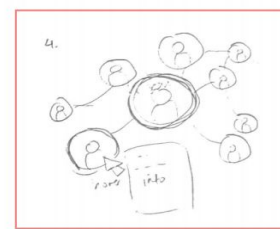
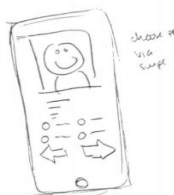
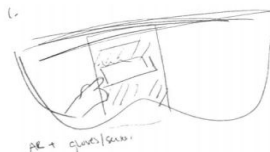
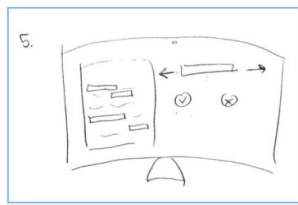
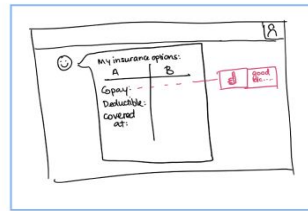
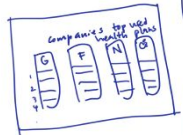
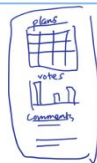
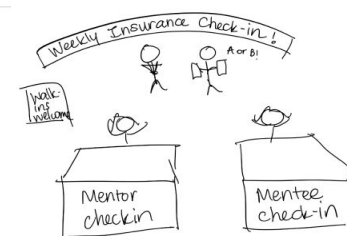
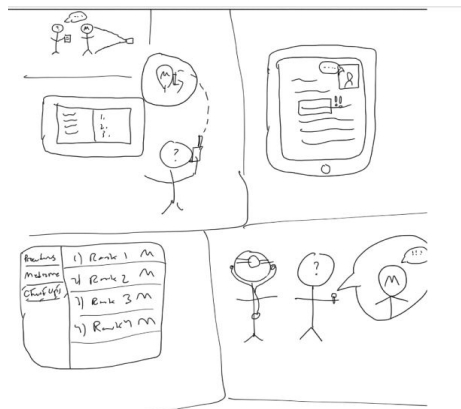
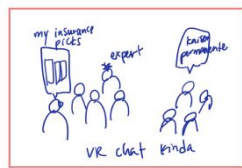




Sketch Board

Design1

Design2





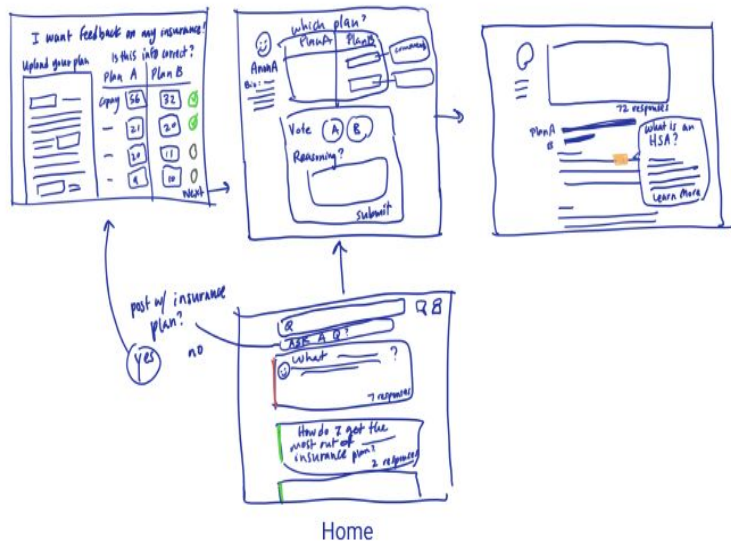
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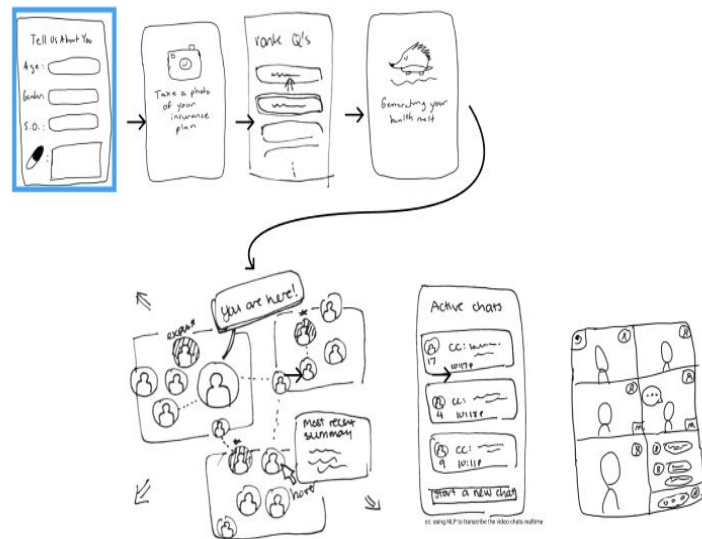


Design Selection

UI Sketch 1



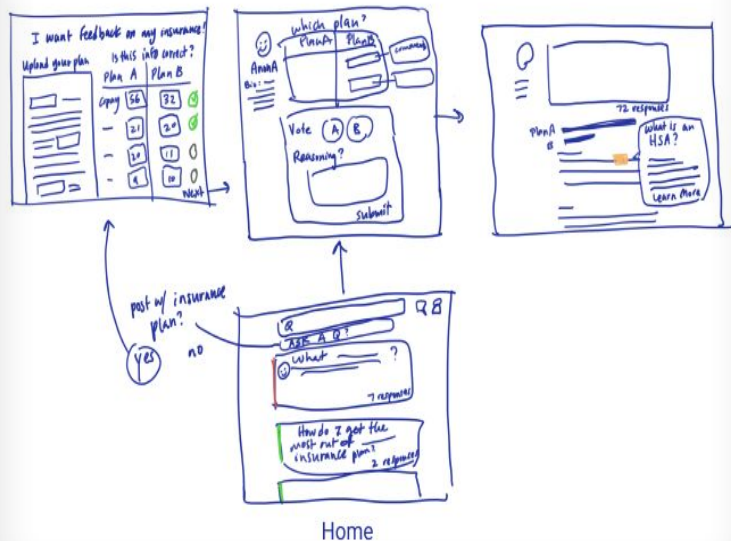
UI Sketch 2



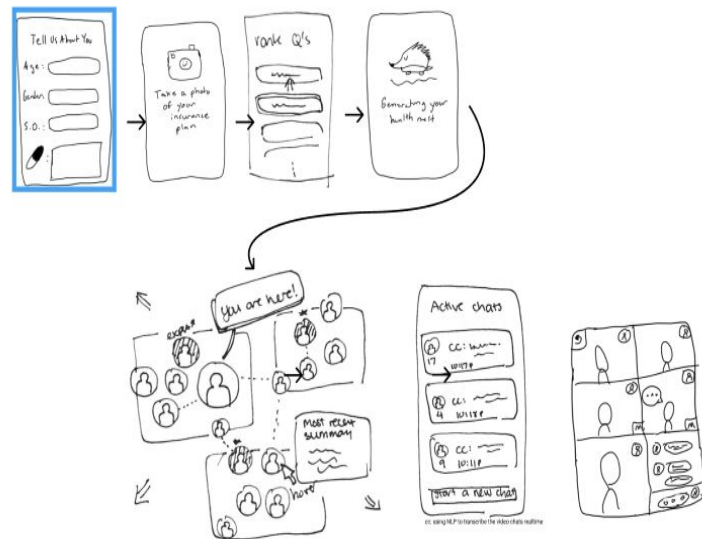


Design Selection

UI Sketch 1

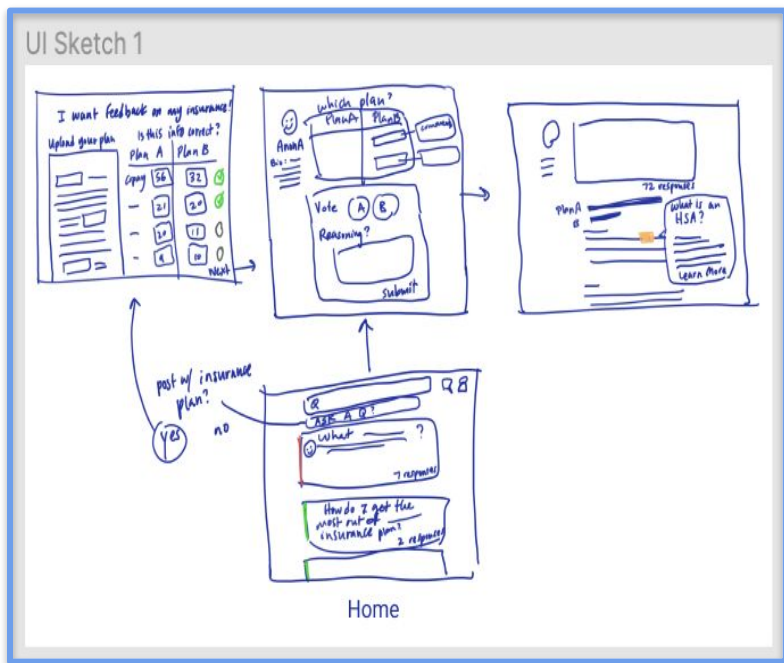


UI Sketch 2





Design 1



- Computers more accessible to low income.

- Post anonymity protects identity.

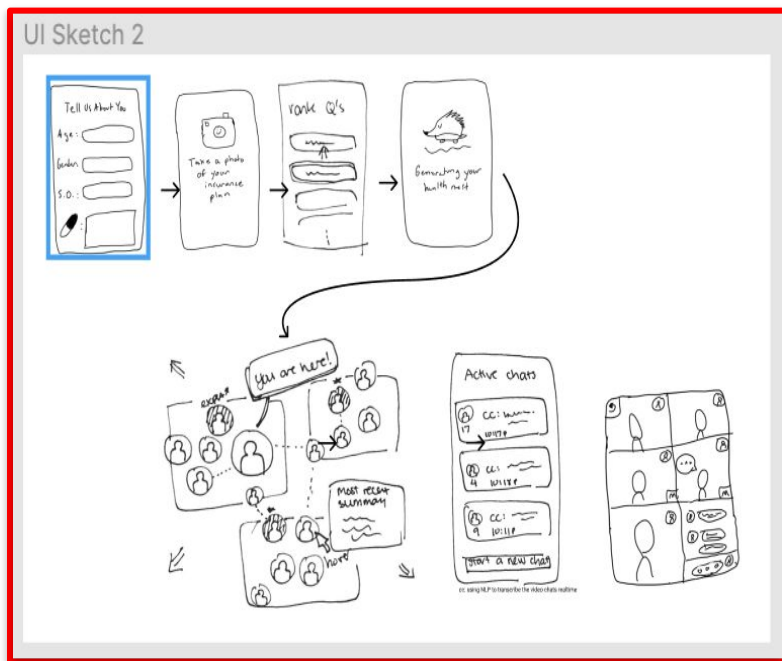
- Easy to process visualizations and type in-depth feedback.

- Too many questions, not enough answers.

- Too many devices needed to upload insurance plan (if paper).



Design 2



- Video chat improved human connection and community feel.

- Network visualization was helpful.

- Easy photo onboarding and mobile access.

- Less intuitive to navigate and information overload.

- No direct path to feedback on your insurance.

- Required mentors to be online whenever mentees were.



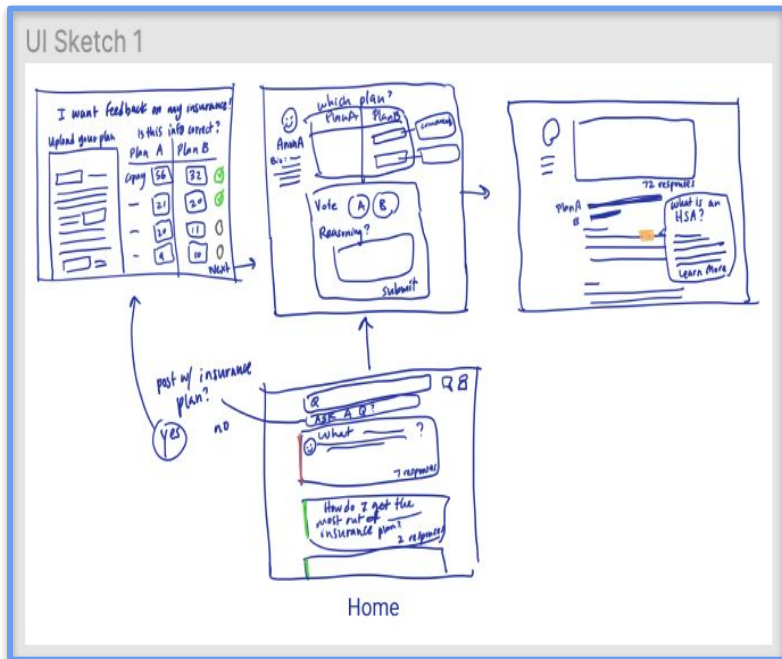
We picked Design 1



Easiest to understand for all tasks our users desired.



Most feasible within time frame and easier to test.





Outline

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Simple Task Storyboard:

Find definition to term you don't understand

My Questions

Back My Questions

Q 21 M. Knitting: Which insurance plan should I pick?

95 responses

Q

101 responses

Question View

Q My Question: Which Insurance ... LA

Which insurance plan should I be getting? H

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Cigna PPO	Cigna PPO
BlueCross	BlueCross

Blue Cross is high but accounts for what's covered!

Definition Modal

Q My Question: Which Insurance ... LA

Deductible: a specified amount of money that the insured must pay before an insurance company will pay a claim.

Q I still don't know...? Click here



Moderate Task Storyboard:

Upload two insurance plans and post a question about them

Home Page

Q Search no Questions

Ask a question

21 M healthy. Which insurance plan should I pick?

75 responses

10 responses

Ask Question

< Back Ask Question Post

Question

description (optional)

+ Upload Insurance Document(s)

Upload Document

Upload an Insurance Document

drag + drop or
Search files

Extract Insurance Info

Add Insurance Plan(s)

Preview

Extracted details

Plan A Plan B

Copy

Back Verify & Save

Edit Insurance Info

< Back Ask Question Post

Question

description (optional)

Insurance Plan edit

	A	B
Copy		

+ Upload another document

Posted Question

Anonymous Larry

Sex: M

Age: 21

Conditions: None

Medications: None

Area: CA

"Which insurance plan should I be picking?"

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic RCP visits, ...	Covers: surgery, Physical therapy, ...

+ Add comment



Complex Task Storyboard:

Navigate to question, comment, & vote on someone's insurance plan

Look at Post


 "Which insurance plan should I be picking?"

Anonymous Larry
Sex: M
Age: 21
Conditions: None
Medications: None
Area: CA





Plan A  	Plan B  
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
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
 Add comment

Add A Comment


 "Which insurance plan should I be picking?"

Anonymous Larry
Sex: M
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Plan A  	Plan B  
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

 This deductible is high but account for unlimited coverage

Comment Voting

 "Which insurance plan should I be picking?"

(optional) Explain your vote to Anonymous Larry

i.e. Plan A has better coverage

PCP visits, ...

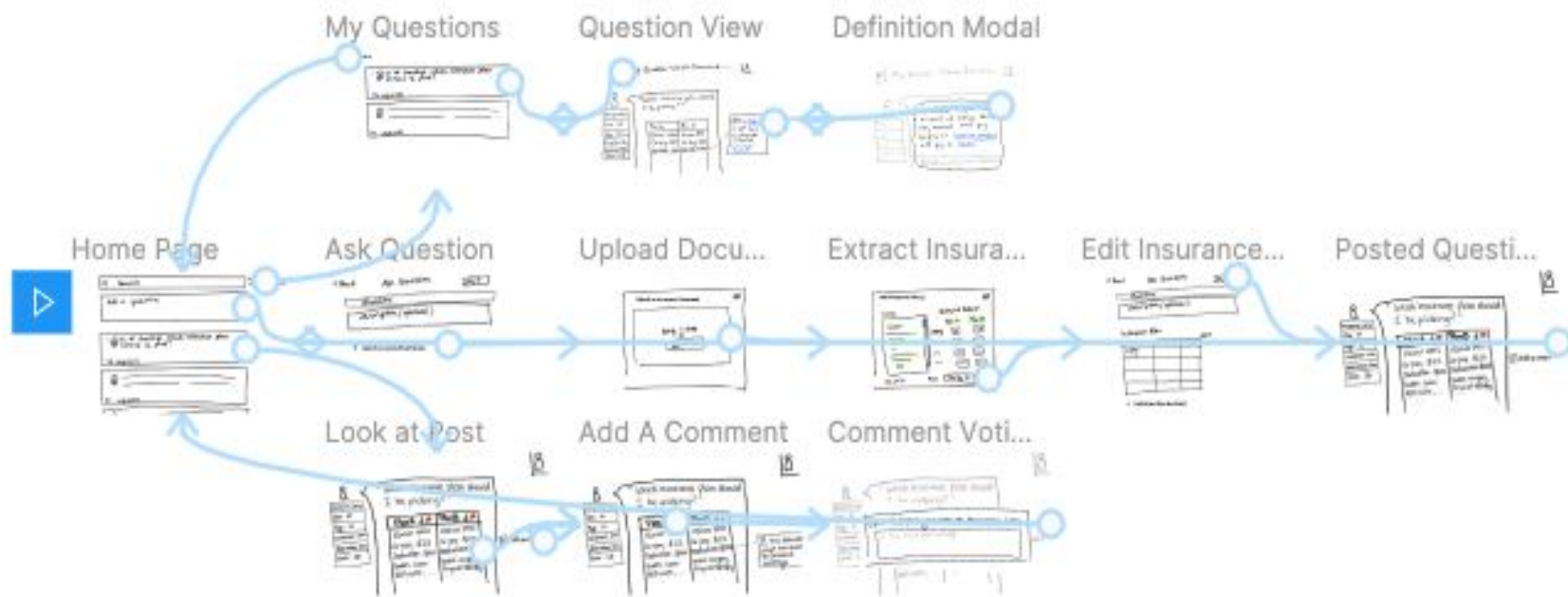


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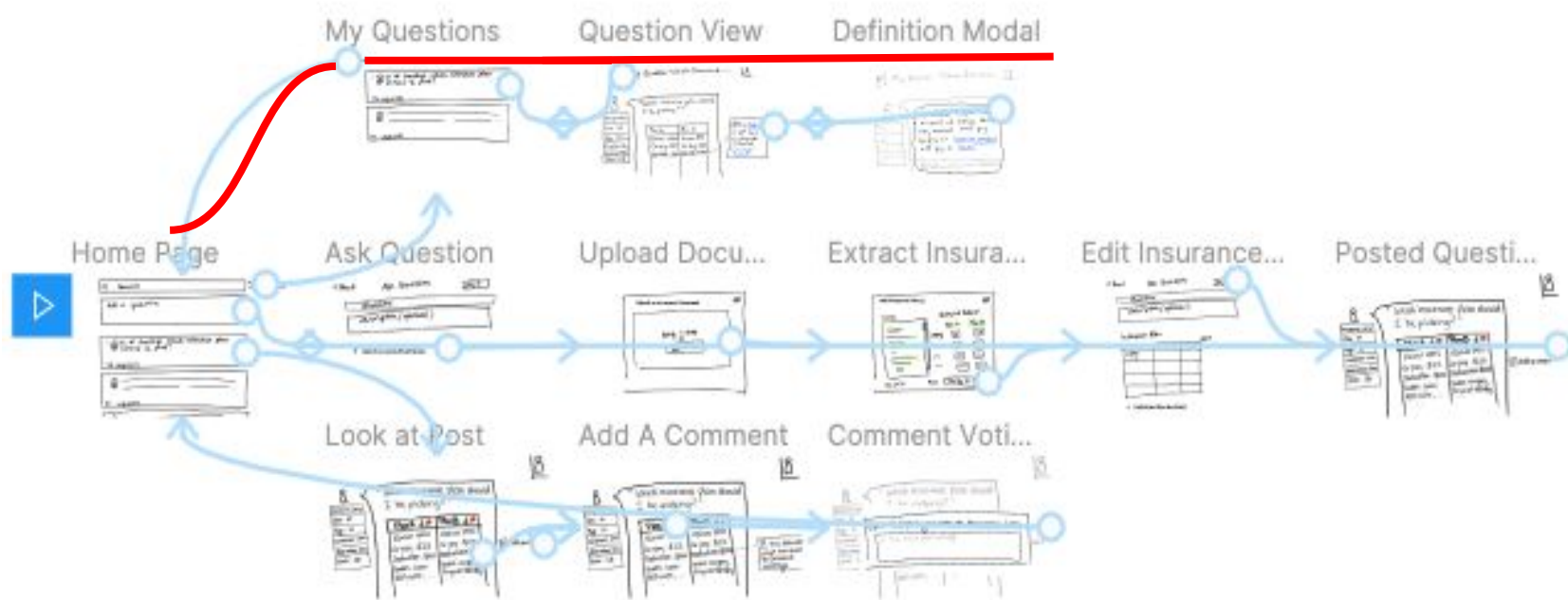
Prototype





Simple Task Prototype:

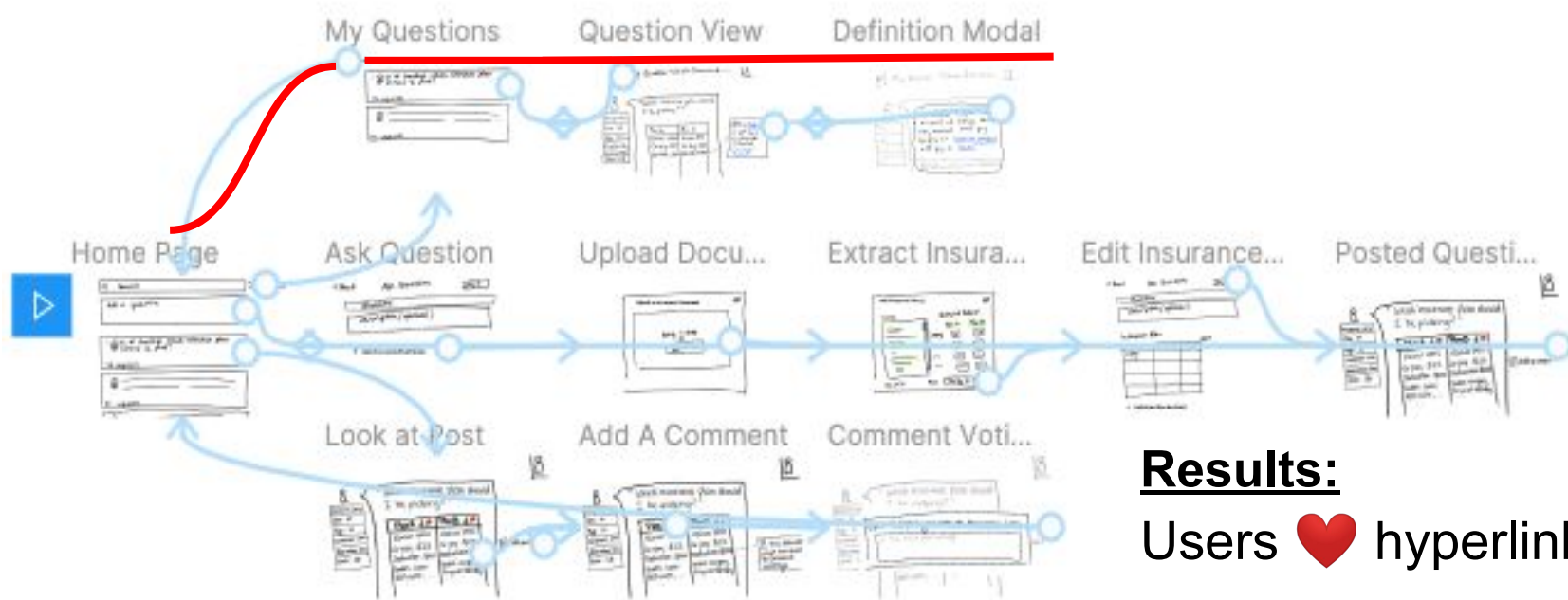
Find definition to term you don't understand





Simple Task Prototype:

Find definition to term you don't understand



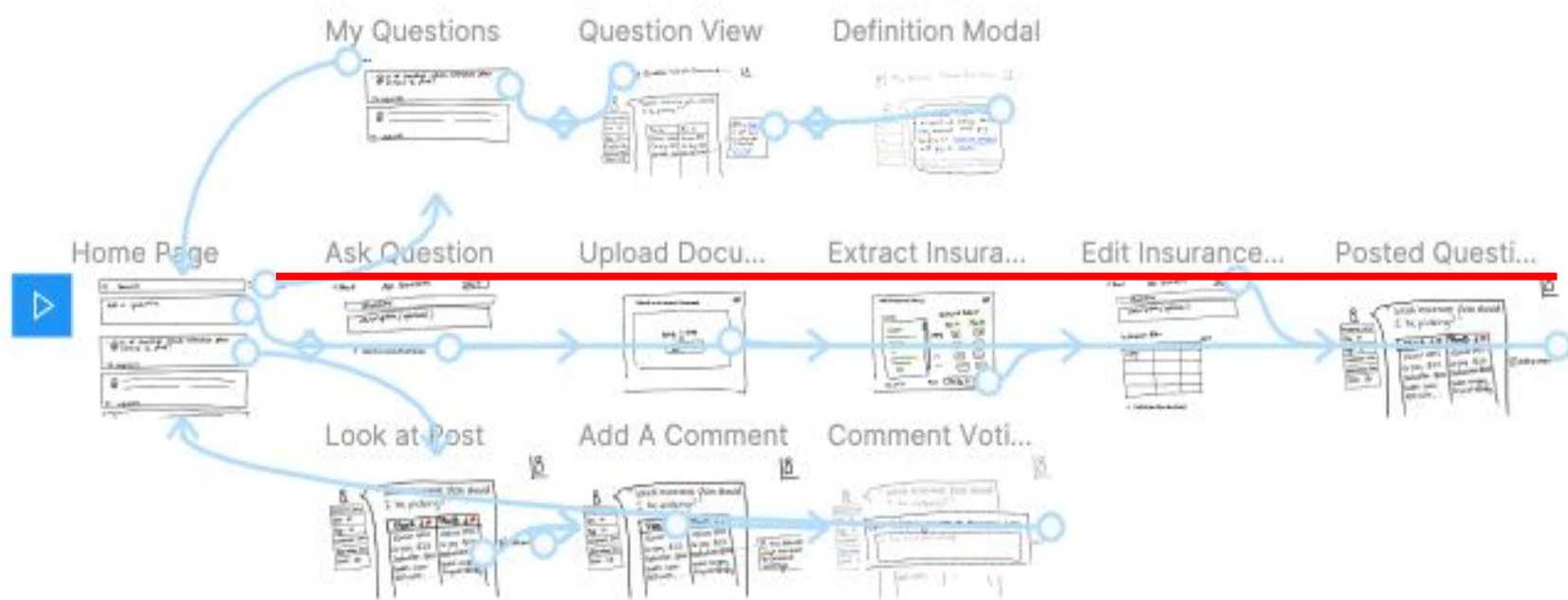
Results:

Users ♥ hyperlinks!



Moderate Task Prototype:

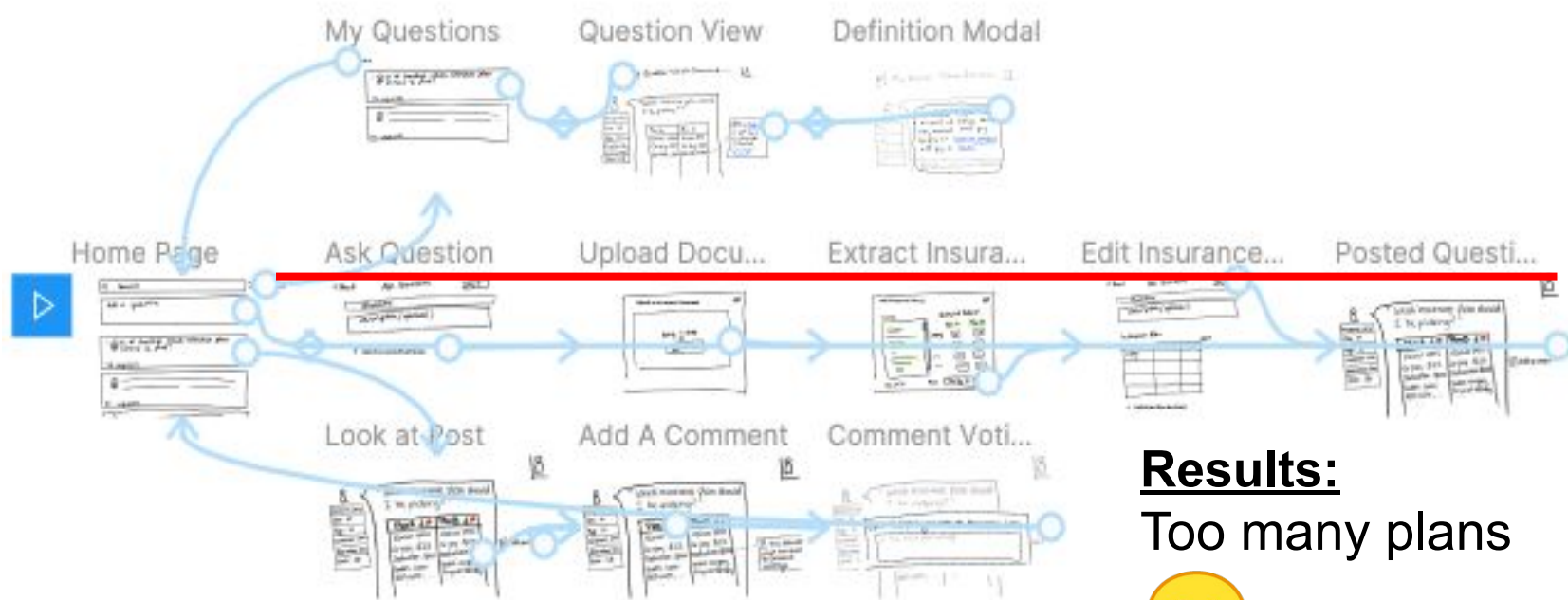
Upload two insurance plans and post a question about them





Moderate Task Prototype:

Upload two insurance plans and post a question about them



Results:

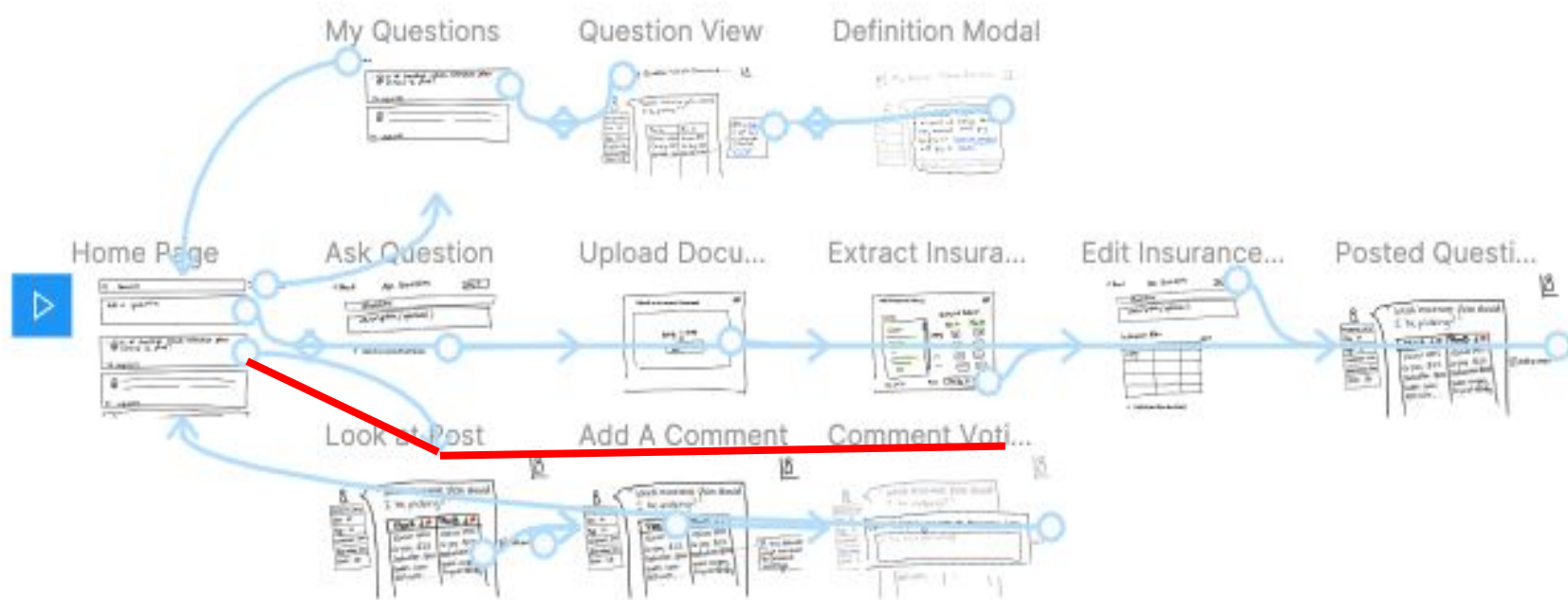
Too many plans





Complex Task Prototype:

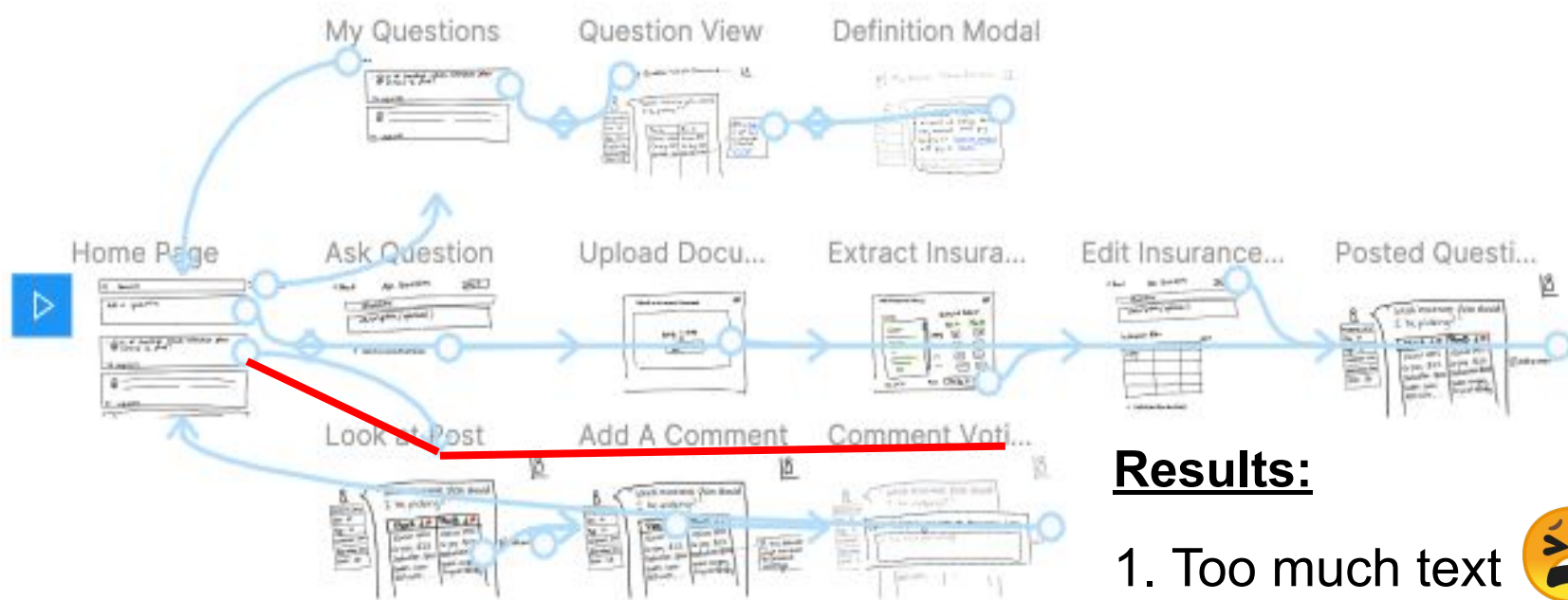
Navigate to question, comment, & vote on someone's insurance plan





Complex Task Prototype:

Navigate to question, comment, & vote on someone's insurance plan



Results:

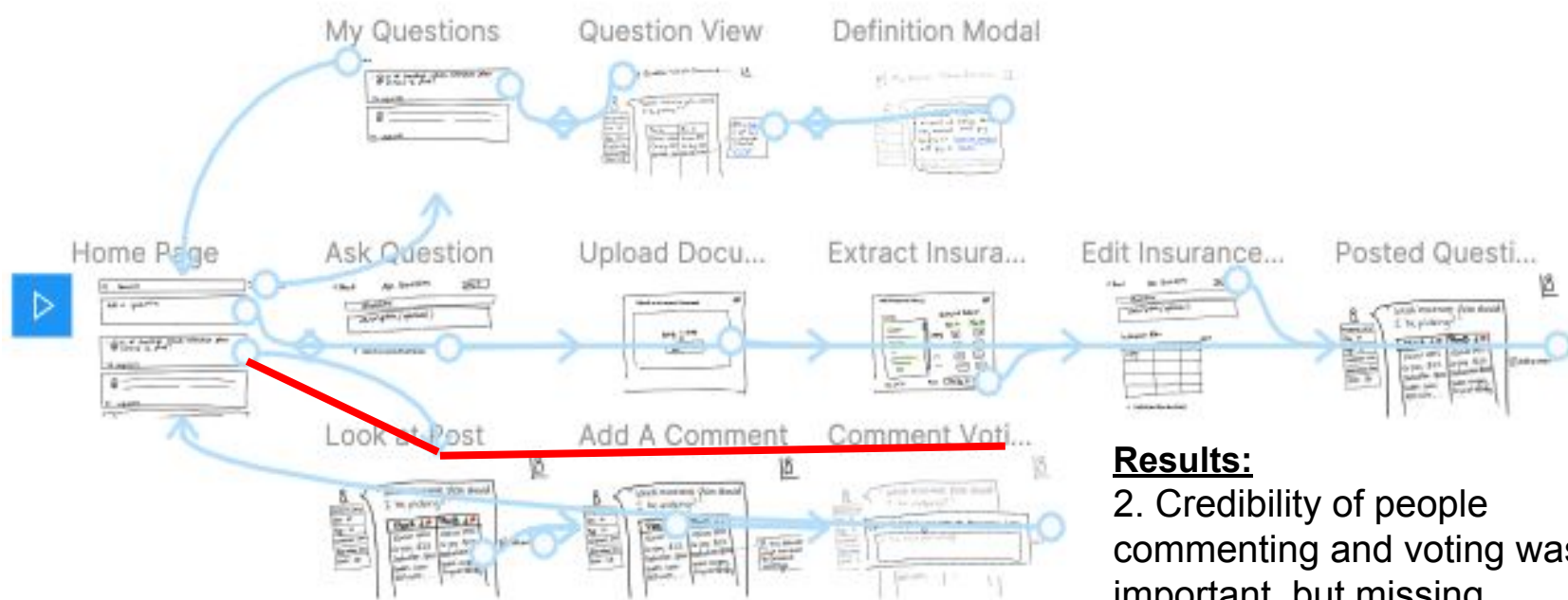
1. Too much text





Complex Task Prototype:

Navigate to question, comment, & vote on someone's insurance plan





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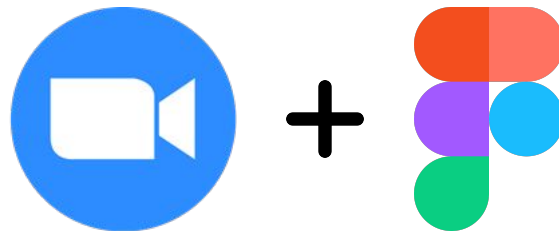


Experiment

- Target: **Young adults** who **want more information** about their health insurance plan
 - A Boston-based medical **student**
 - A **new-grad** engineer in the Bay Area
 - A civil-engineering **college senior** taking classes remotely from home
 - A **new-grad** designer who started working remote
 - Varied levels of interaction with tech and healthcare system
- Method:
 - Participants recruited via friends of friends and via email listservs
 - **Consent** form, **Zoom** meeting, **Figma** click through, **Record** via screensharing



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 - Varied levels of interaction with tech and healthcare system
- Note:
 - Varied levels of interaction with **tech** and **healthcare** system



Outline

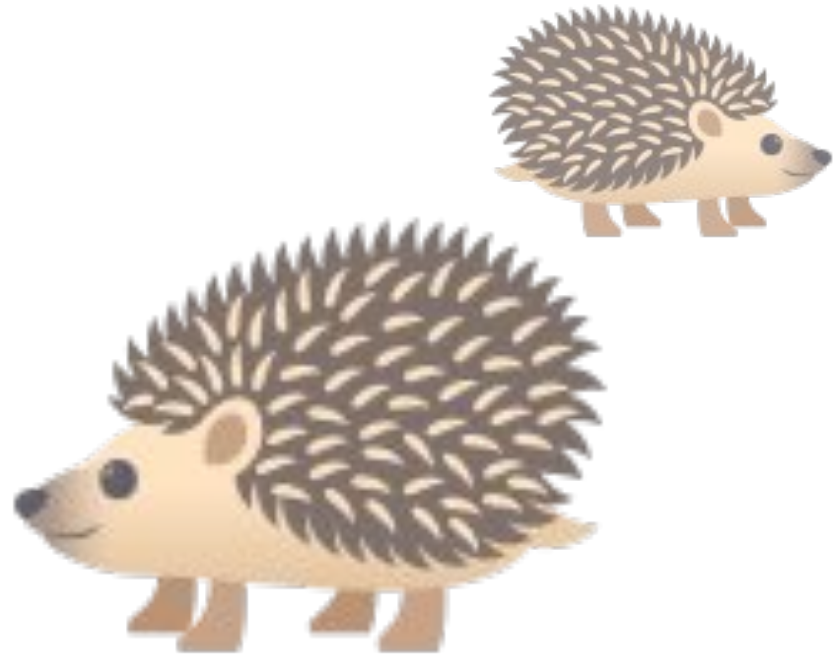
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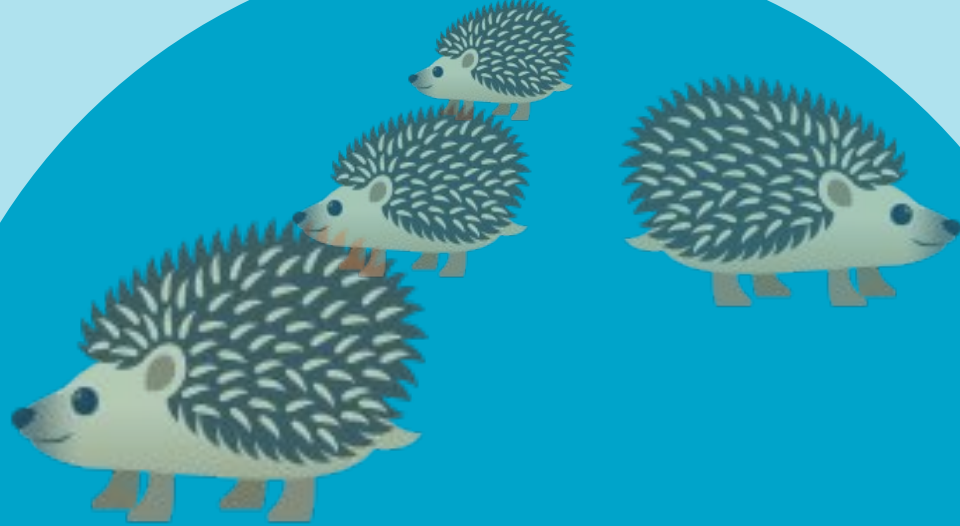


Key Learnings

1. People want help with healthcare definitions
2. People want to participate in discussion, but not be overwhelmed by text and irrelevant comments
3. People want to know the credibility of the commenters and voters as it relates to the user's identity

**Thank you! Any
questions?**





Appendix

Experiment Script and Note template

https://docs.google.com/document/d/1pyegSJMAwFgY_4XJ5TcpDyCvbxWiqj1gk5zr67sEOgc/edit?usp=sharing

https://docs.google.com/document/d/1eSigHOAgOs8Mm9mD9vo23st_EgLaDQearWW-F_FLAg/edit

Experiment Notes

https://docs.google.com/document/d/19b3RFVPrfbhG708tbZHvWg_v5kBvMiuNDwQ9qi3aNds/edit?usp=sharing

https://docs.google.com/document/d/1p7obbfPe5wl_7RE4BKBknbo-jn6VQYBbZ1_yRGplhnc/edit?usp=sharing

<https://docs.google.com/document/d/1Nc-y3G2DnUifFajeOyFSNcm5Oivk07dD8rwQT-VFJdU/edit?usp=sharing>

https://docs.google.com/document/d/1fpld5OP1tw2_BtiW_PbKkHPeLmSbBdn1F3kiEa0fyQE/edit?usp=sharing

<https://docs.google.com/document/d/1oYK3Imuji4lyx7rhzKCrRn5eTFVsd9IfRLlqh119YgA/edit?usp=sharing>

Figma link with all of our work

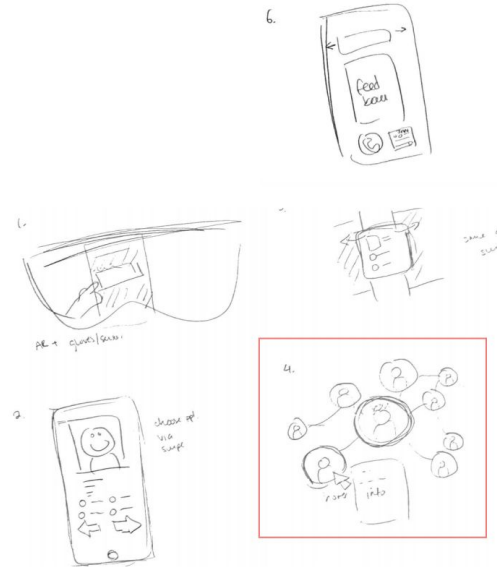
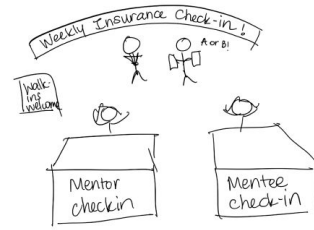
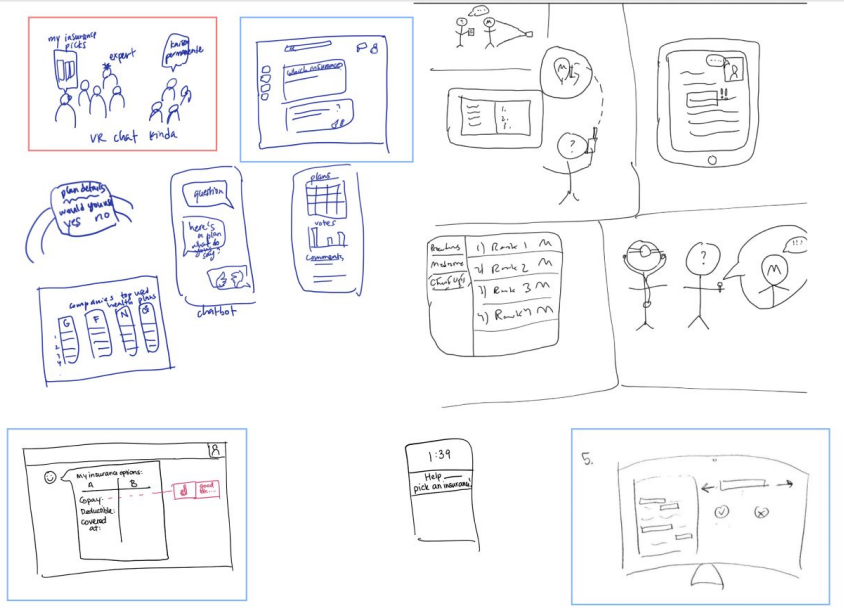
<https://www.figma.com/file/DSgazxvGULbbsE81VnX8qs/377E-Health-Insurance-Education?node-id=3%3A0>

Insights document with summarized problems and suggested solutions

<https://docs.google.com/document/d/1hbwAtNbP62H6nrRfQPhy6NWwt-LoHdF68uDNBUky34/edit?usp=sharing>

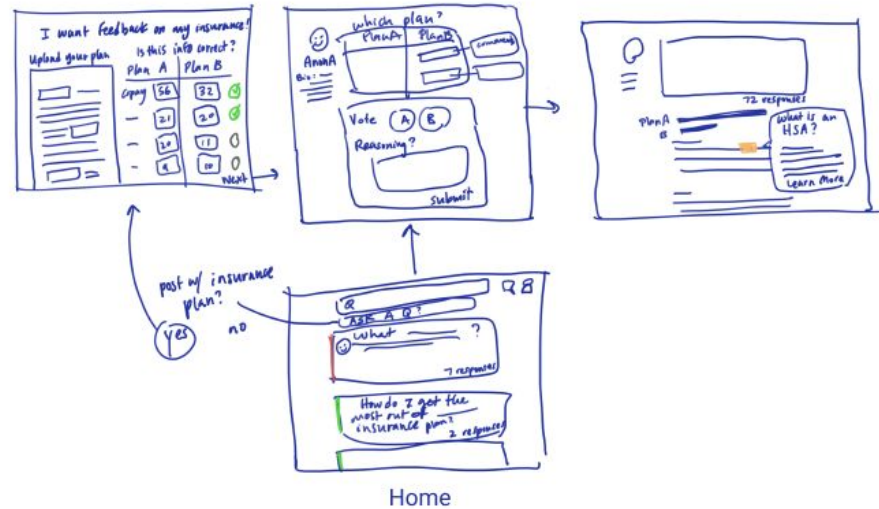
Please note that our team name, Larry the Porcupine, was not chosen in reference to [Porcupine, Cheyenne Chief and Medicine Man](#).

Sketches



Design Storyboard 1: Reddit for Health Insurance

UI Sketch 1





Design Storyboard 1: Reddit for Health Insurance



- Computer-based platform can be more accessible to low-income YAs
- Anonymity- can post insurance without attaching their identity
- Ability to type and save in-depth feedback

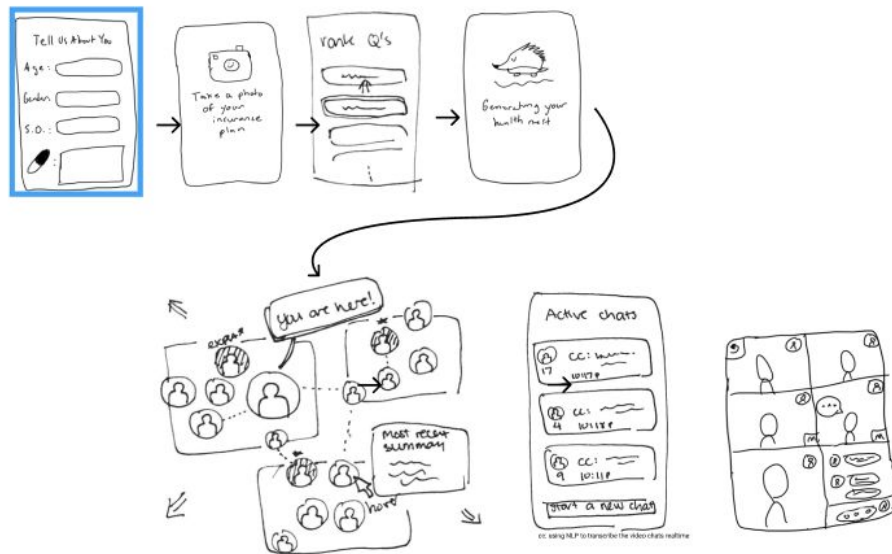


- Potential disproportionate number of questions and fewer answers
- Unclear explicit incentive for answering
- Might require multiple devices to upload paper insurance plan



Design Storyboard 2: Network Map with Group Calls

UI Sketch 2





Design Storyboard 2: Network Map with Group Calls



- Mobile platform is convenient to access
- Interactive, more human connection w/ video chat
- Visualizing your network is helpful/uses AI
- Quick onboarding with photo options
- Community-based concept fosters ongoing conversations

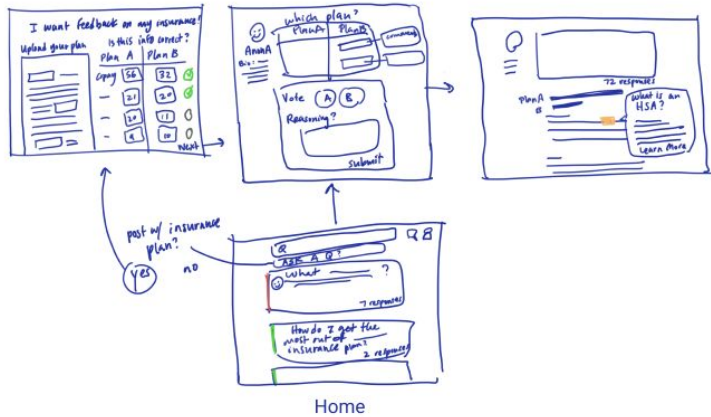


- May be less intuitive to navigate and possible information overload
- Less direct way to get feedback on your insurance
- Requires mentor to be online whenever mentees are



What We Picked!

UI Sketch 1



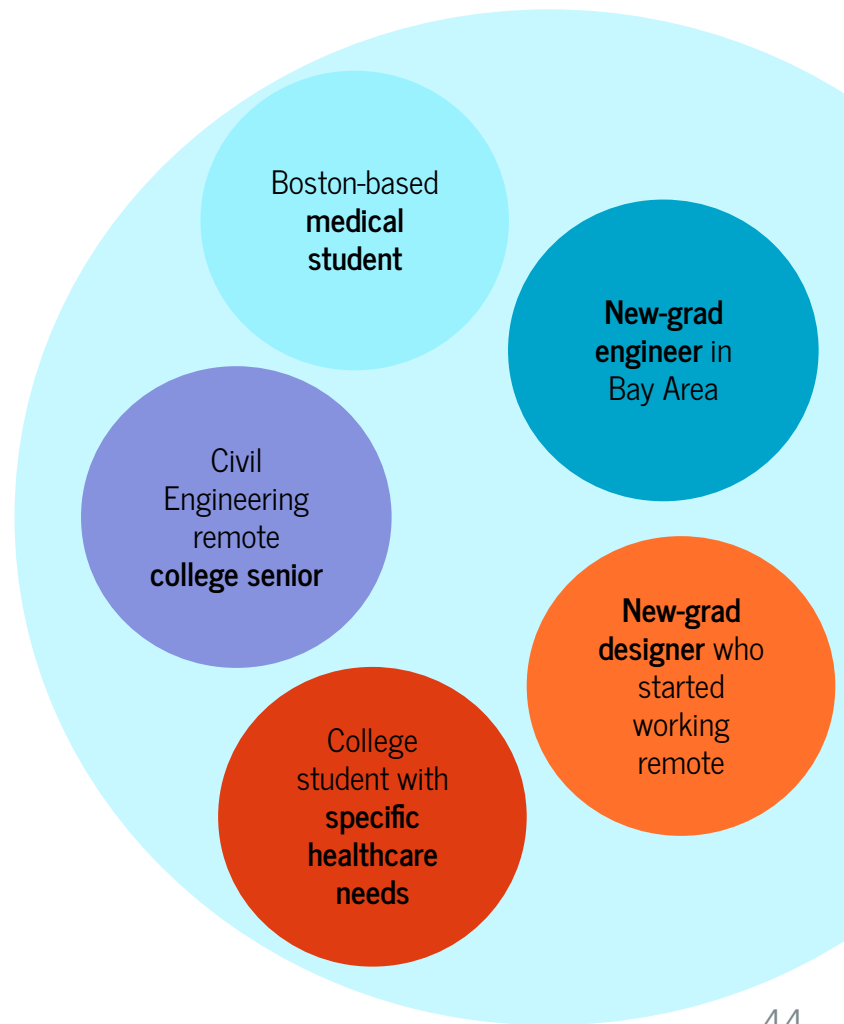
We Picked Design Prototype 1

- Easier to understand information architecture while accomplishing all the tasks/capabilities we need to address
- More feasible within time frame, easier to test
- Likely more accessible for YAs

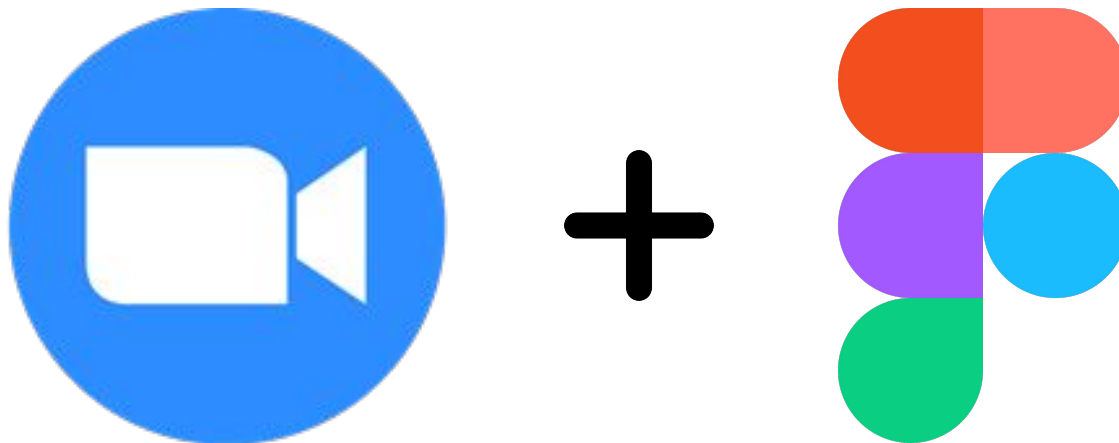


Experiment Participants

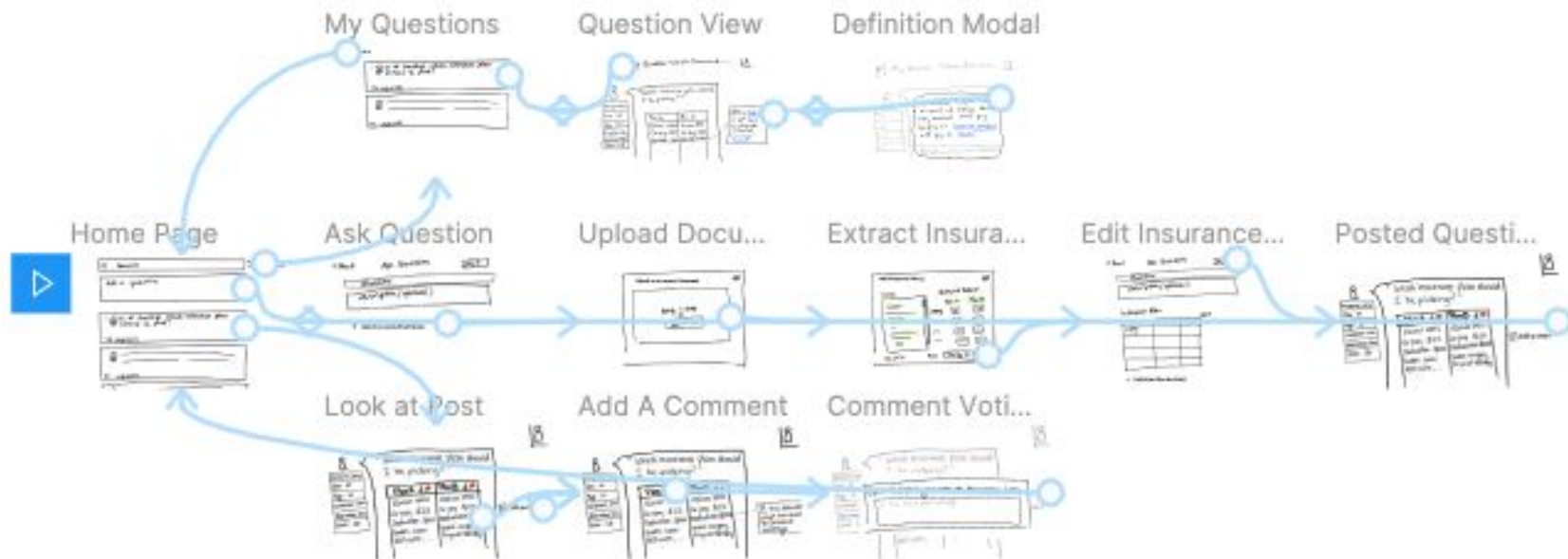
- A variety of **young adults** who **want more information** about their health insurance plan
- Key difference: levels of familiarity with technology and **interaction with healthcare system**



Procedure



Prototype description



Simple task: You see a response to one of your questions that has a term you aren't sure what it means, can you find a definition for it?

My Questions

Back My Questions

Q1: At hospital - which insurance plan should I pick?

TS: [response\(s\)](#)

Q2: _____

TS: [response\(s\)](#)

Question View



Definition Modal

Q1: My Question: Which Insurance ... LA

Deductible: a specified amount of money that the insured must pay before an insurance company will pay a claim.

Q1: [response\(s\)](#) [response\(s\)](#) [response\(s\)](#)

Finding & Results:

- People *loved* the hyperlinks
- Excited to have a place to find out **answers to “dumb questions”**

Medium task: Upload the two insurance plans you're choosing between and post a question about them

Home Page

Ask Question

Upload Document

Extract Insurance Info

Edit Insurance Info


Posted Question

Findings & Results:

- Confusion on **where the two insurance plans came from** (“What if I have a question on my current plan?”)
- Confused by the extraction page
- **“What if I don’t have a PDF of my insurance plan?”**
 - Users need an alternative if they don’t have a pdf of insurance

Complex task: Can you go to another user's post, comment on it and vote on a plan?

Look at Post




Which insurance plan should I be picking?

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

+ Add comment

Anonymous Larry
Sex: M
Age: 21
Conditions: None
Medications: None
Area: CA

Add A Comment




Which insurance plan should I be picking?

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

This deductible is high but accounts for unlimited coverage

Anonymous Larry
Sex: M
Age: 21
Conditions: None
Medications: None
Area: CA

Comment Voting



Which insurance plan should I be picking?

(optional) Explain your vote to Anonymous Larry

i.e. Plan A has better coverage

PCP visits, ...

Anonymous Larry
Sex: M
Age: 21
Conditions: 1
Medications: 1
Area: C

Findings & Results:

- Users **don't want unstructured feedback** on their plan because freeform commentary is hard to parse, especially when it's endless scrolling
- Users are unsure as to who is commenting / voting on their plans and **why they are credible**

Results and Brainstormed Solutions

Results

- Users need to be able to upload any number (0 - 2+) of plans and ask questions
- Users need an alternative if don't have a pdf of insurance ("what if I don't have a PDF of my insurance plan?")
- Users don't want unstructured feedback on their plan because freeform commentary is hard to parse, especially when it's endless scrolling
- Users need to know who is commenting / voting and why they are credible

Solutions

- Make the "write a question" screen flexible to allow for any number of plans
- Link to an insurance provider so only need to input policy number or allow for manual typing in of values
- Group comments by similarity, add ability to filter based on commenter's demographics, health status, health insurance, etc.
- Add moderators to page for fact-checking, allow people to pick who they want to review, recommend people to comment who are similar, summarize demographics of reviewers

Simple Task - find the definition of a term

My Questions

Back My Questions

Q 31 M. Smith: Which insurance plan should I pick?

15 responses

Q

101 responses

Question View

Q My Question: Which Insurance ... LA

Which insurance plan should I be getting?

Plan A	Plan B
Kaiser \$100	Kaiser \$100
Ce-Reg: \$15	Ce-Reg: \$10
Deductible: \$100	Deductible: \$100

Offer deductible is high but accounts for interest coverage

Definition Modal

Q My Question: Which Insurance ... LA

Deductible: a specified amount of money that the insured must pay before an insurance company will pay a claim.

101 responses to this question? Click here

Medium Task - Upload two insurance plans and post a question about them

Home Page

My Questions

Ask a question

21 M healthy. Which insurance plan should I pick?

75 responses

11 responses

Ask Question

< Back

 Ask Question

Post

Question

description (optional)

+ Upload Insurance Document(s)

Upload Document

Upload an Insurance Document

drag + drop
or
Search files

Extract Insurance Info

Add Insurance Plan(s)

Preview

Extracted Details

Plan A

Plan B

capay

25

60

Verify & Save

Edit Insurance Info

< Back

 Ask Question

Post

Question

description (optional)

Insurance Plan

edit

	A	B
capay		

+ Upload another document

Posted Question

Anonymous Larry

SEX: M

Age: 21

Conditions: none

Medications: None

Area: CA

"Which insurance plan should I be picking?"

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

Add comment

Hard Task - Vote and comment on an insurance plan

Look at Post

Anonymous Larry

Sex: M

Age: 21

Conditions: None

Medications: None

Area: CA

Which insurance plan should I be picking?

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

Add comment

Add A Comment

Anonymous Larry

Sex: M

Age: 21

Conditions: None

Medications: None

Area: CA

Which insurance plan should I be picking?

Plan A	Plan B
Kaiser HMO	Kaiser PPO
Co-pay: \$25	Co-pay: \$20
Deductible: \$100	Deductible: \$200
Covers: basic PCP visits, ...	Covers: surgery, Physical therapy, ...

This deductible is high but allows for unlimited coverage

Comment Voting

Anonymous Larry

Sex: M

Age: 21

Conditions: 1

Medications:

Area: C

Which insurance plan should I be picking?

(optional) Explain your vote to Anonymous Larry

i.e. Plan A has better coverage

PCP visits, ...