Predictive Planning

The Future of Financial Planning

Powered by

bambu

Prepared by
PP Team

Content

Current Financial Challenges amongst Americans

How severe are they?

🆘 The severity of Americans struggling with finance

70%

do not have any long-term financial plan to secure their future *despite* knowing that financial stress is extremely influential on many major life milestones and everyday activities

32%

of Americans saved ***nothing*** for retirement in 2020

💰 ***How much savings do Americans have?***

69%

of Americans have less than $1,000 in their savings

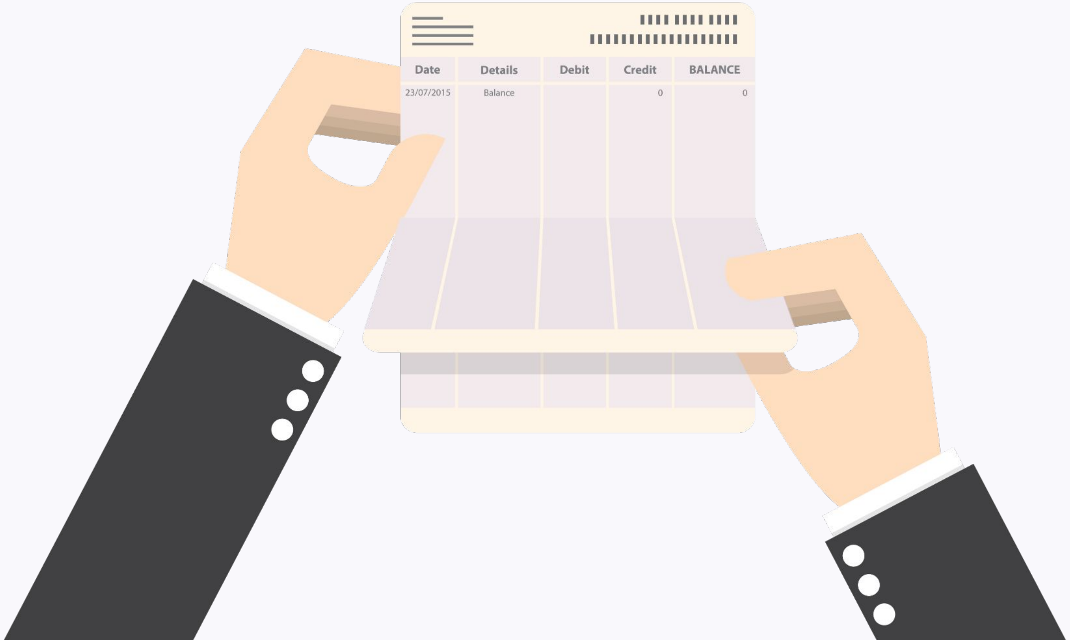
Only 39%

of Americans have enough cash to cover a $1,000 emergency

Source: https://spendmenot.com/blog/personal-finance-statistics

What happens..

🧾 No Plan → 💸 No Savings → 😖 Financial Stress



Inspiration

Predictive Planning

The 3 core elements

Goals

Nudges

Artificial Intelligence

bambu

The beauty of having a goal/plan

Motivation

Confidence

Achieve results =
More savings

💡 The ability to visualize your financial goals and their progress is the best motivator to saving towards your financial future.

💬 So…why do Americans not have a financial plan?

❌ People are saying..

Nothing’s happening in my life now to require a financial plan.

I do not have enough money for a financial plan.

It’s complicated, I don’t know how to save.

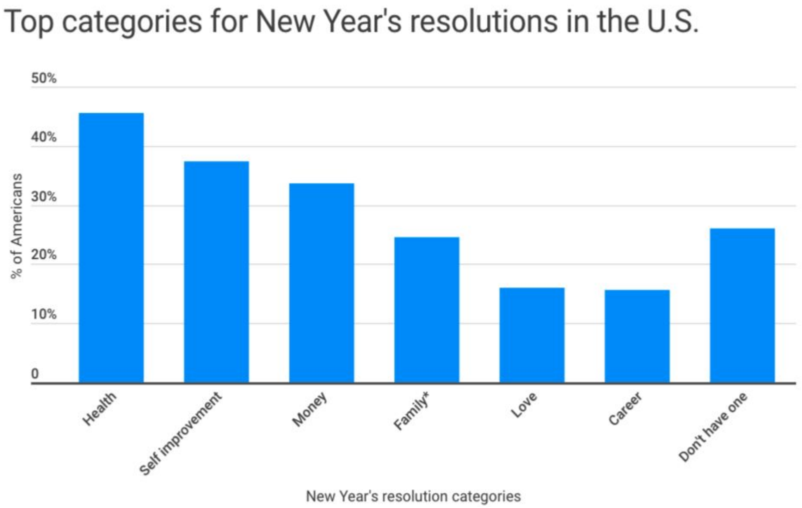
Remember this. Americans do set a plan

Almost 70% (188.9mil)

make a New Year's resolution to set a personal goal in an effort to better themselves

33.69%

make New Year's resolutions on money and financial goals



💡 What we need is just to encourage and nudge them to start financial planning

bambu

💬 Let’s start nudging the people

❌ People are saying..	✔️ Let’s help them realise…
Nothing’s happening in my life now to require a financial plan.	Life is unexpected – it would be too late when something happens.
I do not have enough money for a financial plan.	I can start small, and start saving more over time.
It’s complicated, I don’t know how to save.	It’s simple – I know what I need and how to get there. 🎯

Artificial Intelligence and Your Future

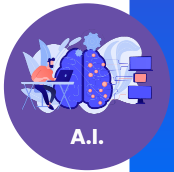
Insight: People's financial vision is very short.

Although we know that we need to prepare our financial future, like saving for house or wedding we tend to focus on 1 or 2 financial goals at a moment. There are so many unexpected things that might adversely fall on us in the future and we need to prepare for them too.

Our takeaway

Rather than being reactive, asking ourselves bunches of financial questions or making us think what potential events that might financially impact us,

Why not come up with an **innovative and proactive approach** - using **Artificial Intelligence** - to help us see ourselves in the future?



❓WHAT IF…

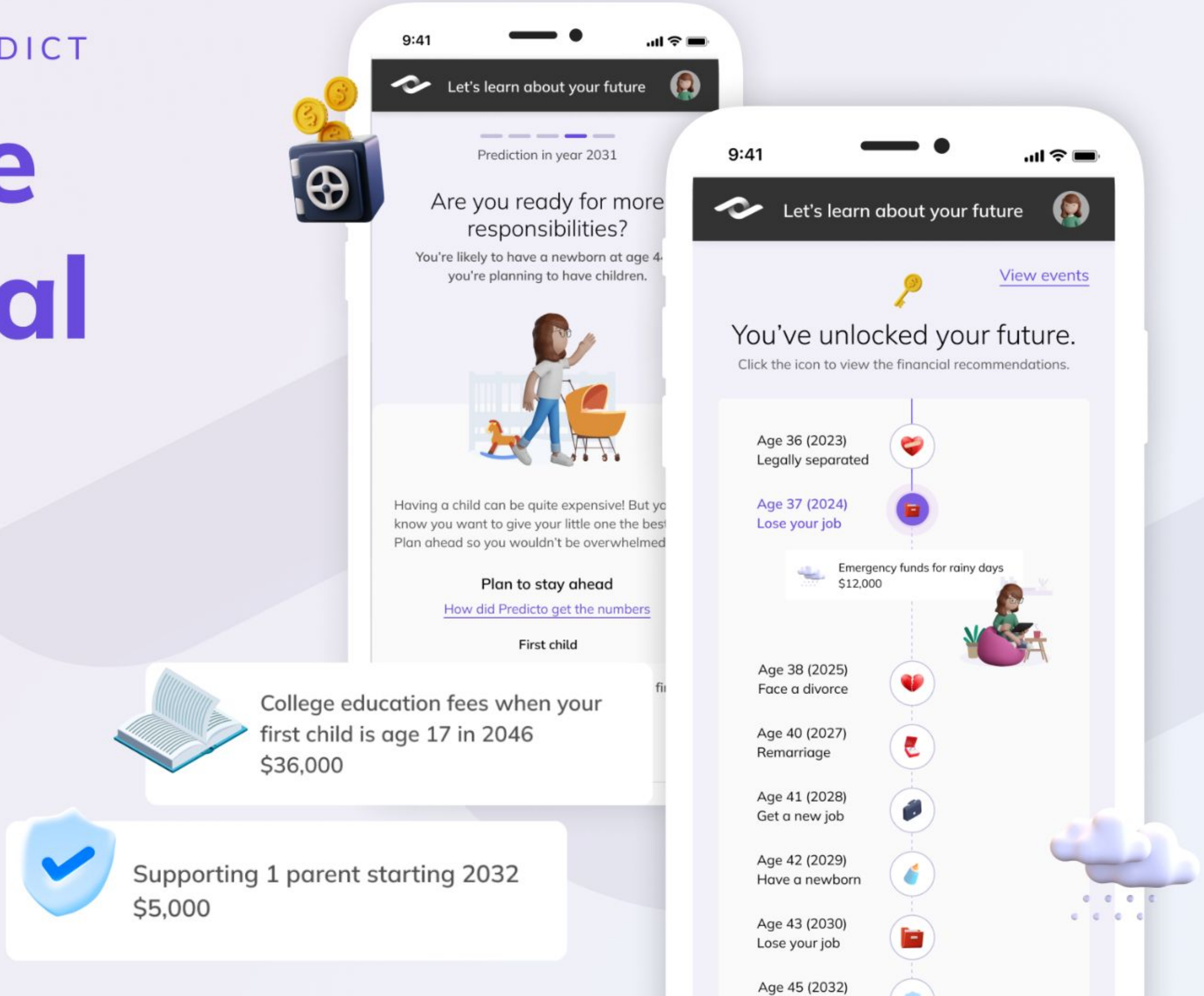
Bambu uses Big Data and A.I. to help users to visualize **their probable future and understand the financial goals they should save towards**?

🎯 OUR GOAL...

As we become **more aware of the unexpected life events** and **have a better vision of our future**, this allows us to feel **more prepared** of any future events that might financially impact us.

INTRODUCING BAMBU PREDICT

The Future of Financial Planning



bambu

Predictive Planning was born

Predictive Planning is an AI model that studies the timelines of life events that happened to real people and captures the relationships between their pasts, presents, and futures

With Hidden Markov Model (HMM) and Generative Adversarial Network (GAN) models, Predictive Planning will generate thousands timeline of future events and outline the most probable events that will shape the users' future

We are moving the game from reactionary, aspirational planning to **proactive, realistic, and predictive.**

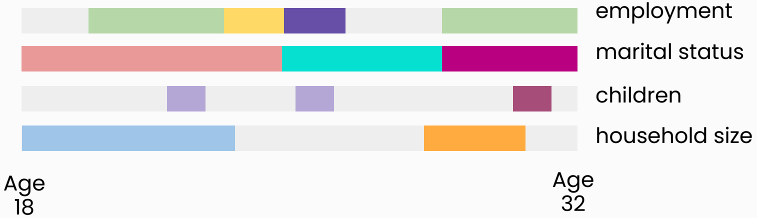
Predictive Planning

Predictive Planning

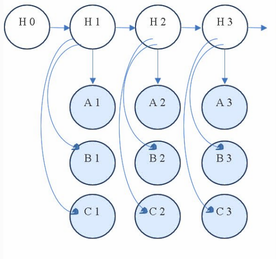
How the AI Model Works

Predictive Planning State-of-the-Art

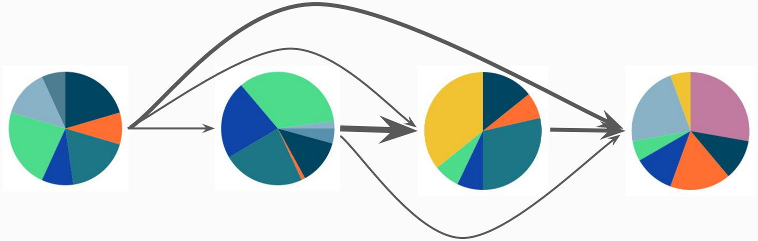
1 Understand user profile & history



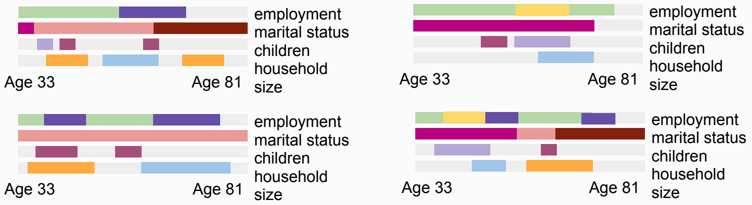
2 Train Sequential Hidden Markov Model (HMM)



3 Find the transition & emission probability



4 HMM simulates thousands events



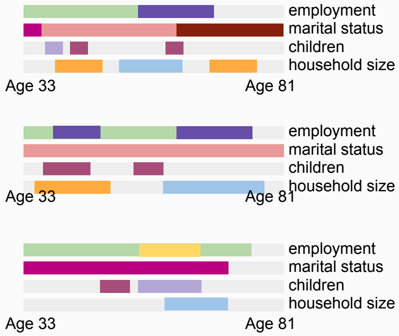
Predictive Planning State-of-the-Art

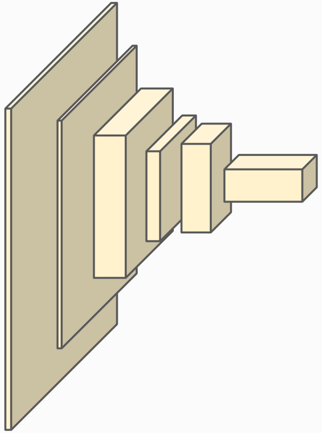
5 Train Generative Adversarial Network (GAN) Discriminator

Real data

&

Predicted future events





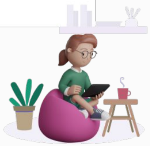
Discriminator

6 Most probable future prediction

Age 36 (2023)
Legally separated

Age 37 (2024)
Lose your job

Emergency funds for rainy days
$12,000



Age 38 (2025)
Face a divorce

Age 40 (2027)
Marriage

Age 41 (2028)
Get a new job

How it works behind the scene

1. Clustering method is applied on the longitudinal dataset (it is grouped based on *gender* - *Male* and *Female*)

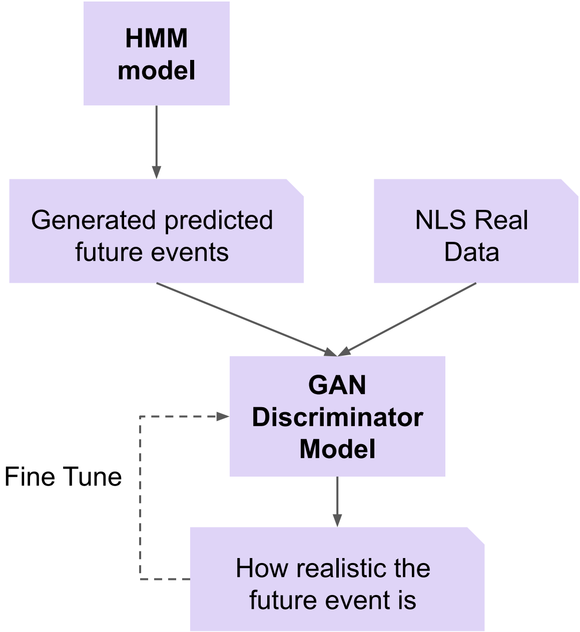
2. HMM model is used where the 5 channels, in longitudinal fashion and undergone data preprocessing, used to build the model are:
💒 Marriage, 👨‍👩‍👧 Household size, 🧑‍💻 Employment, 🤰 Children, 📅 Age

3. For each group, the model is trained with SeqHMM library with the optimized algorithms and number of hidden states.

4. The best model within each group is tuned based on BIC score and age precision methodology to find the matrices of
   - transition probabilities
   - emission probabilities

5. HMM model will then generate several predicted future events

6. The best prediction will be determined by GAN network discriminator



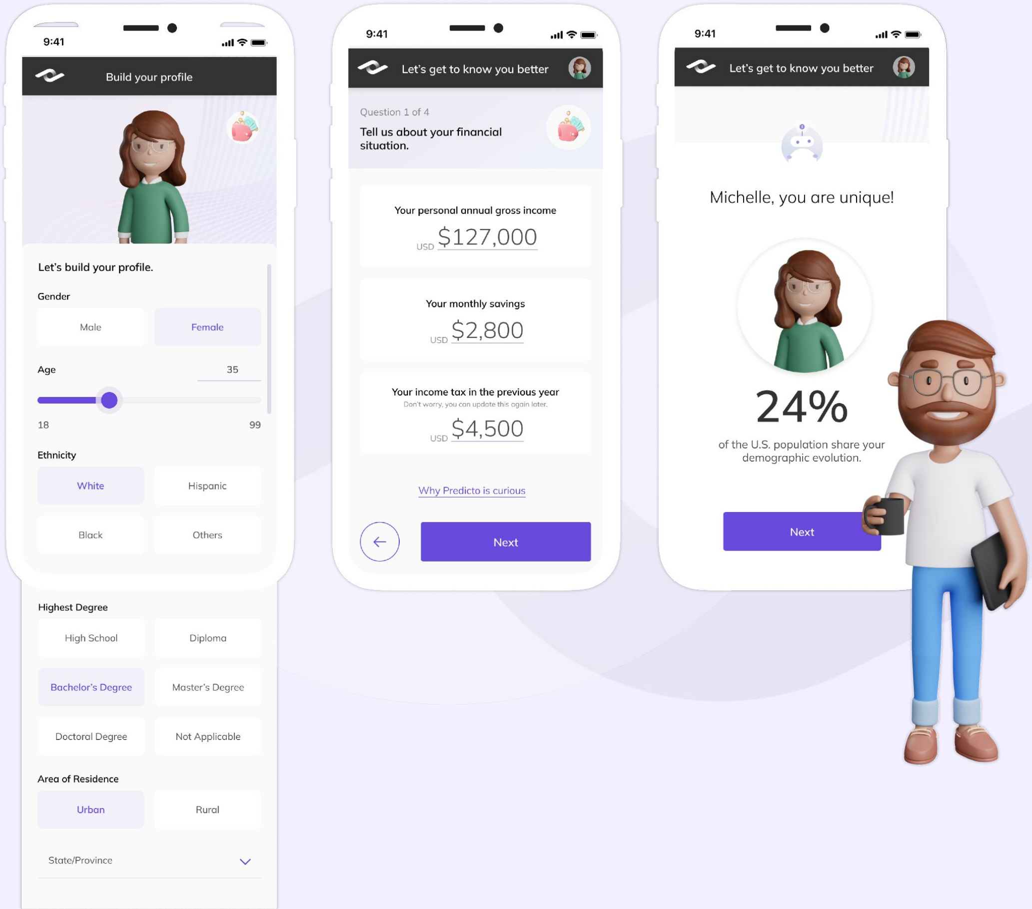
Predictive Planning

Let’s see your future

bambu

First, let's get to know all about you.

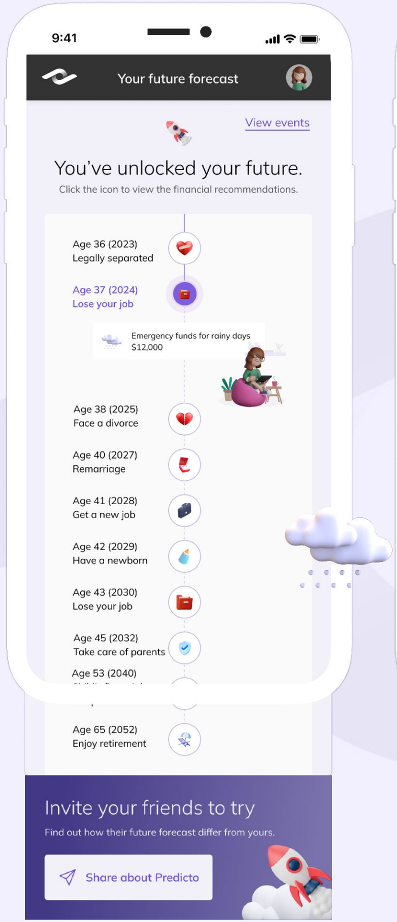
To personalize your prediction, Predicto needs to learn about your demographic profile, and the four aspects of life - marriage, family, career and financial situation.



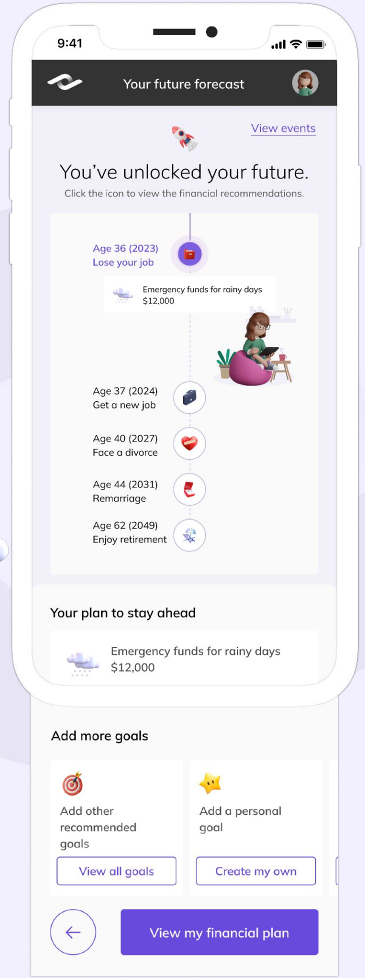
Get a data-driven prediction of your future life events

With the information collected, Predicto runs a thousand simulations of possible futures and shows you your most probable future timeline.

Non-transactional



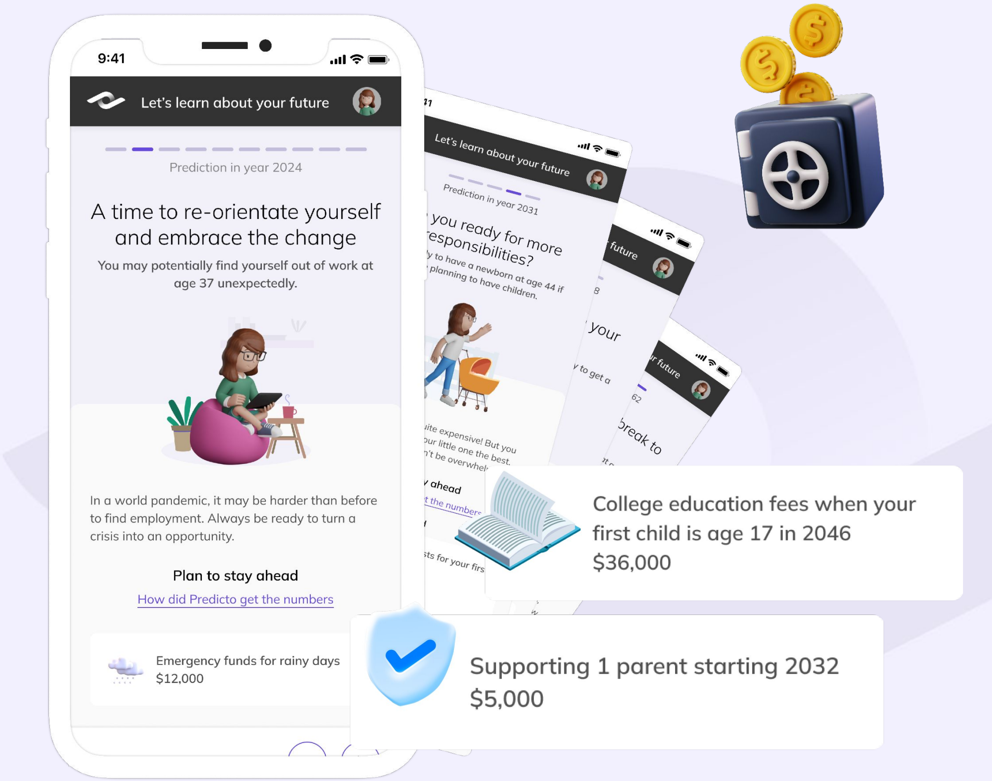
Transactional (WIP)



bambu

Understand how you can plan for the future

Get actionable recommendations with every life event - learn how you can stay ahead and save the amount you need for each financial goal based on our goal helper calculations.



Predictive Planning

How it revolutionized financial planning

How does this benefit the user?

See the big picture and increase awareness

Be prepared for emergencies

Higher savings

Peace of mind

Better standard of living

Revolutionizing Robo

Understanding customer's profile	Assistance in financial planning	Set a financial goal to invest in	Investment health and progression
Getting to know you Age, income, employment history, marital status	**Bambu predict** Predict your most probable future timeline of events	**Goal-based investing** Create a goal and invest in a portfolio based on risk profile	**Deposit & withdrawal** Start investing in your goals and build your wealth
Plaid Retrieve your financial info to understand financial behavior and capability	**Financial wellness** Recommendations on how to manage your finance and invest within your financial capability		**Projection & healthcheck** Retrieve your financial info to understand financial behavior and capability
People like me Finding your demographic group and where you're financially standing	**Goal helper** Give recommendation on how to financially plan on those events/goals		**Rebalancing** Maintain your portfolio fund allocations according to your risk appetite
Risk profile Discover your risk tolerance and risk appetite			

Revolutionizing Robo - The User Journey

1. Getting to know you

I create a profile to get started.

2. People Like Me

I find out about my unique I am compared to the population.

3. Bambu predict

I get a prediction on how my future life events could look like.

4. Goal helper

I receive recommendations on the financial goals and amount I need to save towards.

5. Goal-based investing

I choose the goals that I wish to save for and start investing based on my risk profile.

6. Plaid/Financial wellness

I learn how I can improve all aspects of my financial health after linking my bank account.

7. Deposit/Withdrawal

I start a recurring deposit plan to contribute to my investment goal.

8. Projection and healthcheck

I can monitor my goal's progress and get notified when my goal goes off track.

9. Rebalancing

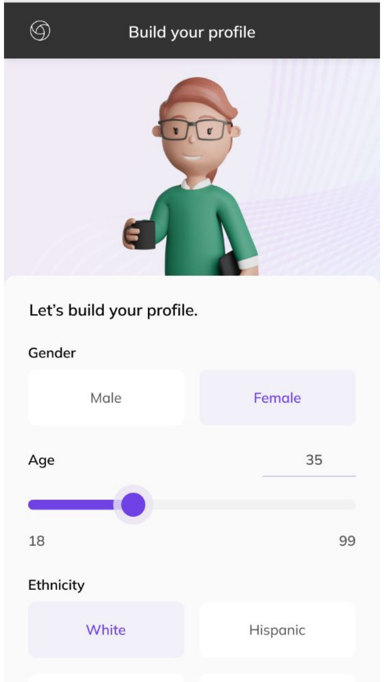
I get notified about my goal rebalancing, so as to maintain the portfolio's fund allocation.

bambu

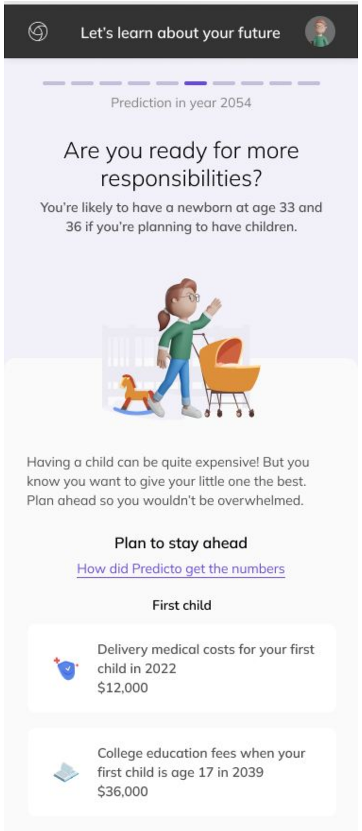
Now, it's time to experience Predictive Planning

Get started

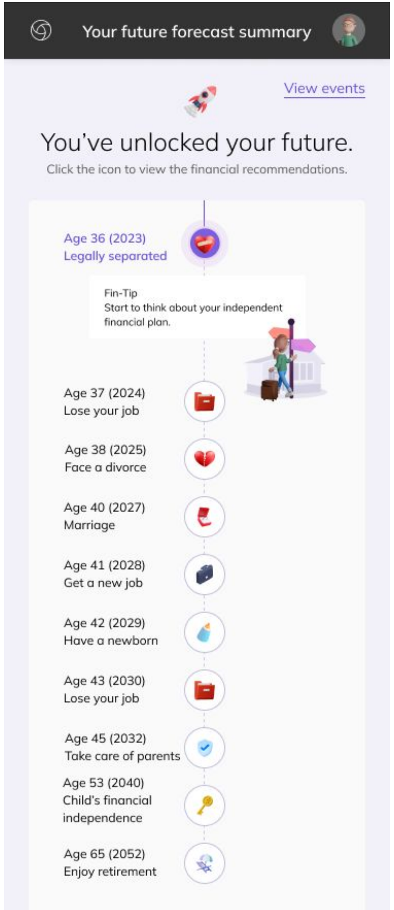
Your Future



Step 1: Learn to understand your profile



Step 2: How the future predicted events can impact you financially



Step 3: Your future timeline

Revolutionizing Robo

Getting to know
Profile, Income, Employment history, Marital status, Risk Profile

People Like Me
- Which group do you belong to?
- How unique are you?

Predictive Planning
Show your predicted event timelines

Goal Helper
Offer tips and recommendation on how to financially plan on those events/goals

Goal Based Investment
Create goal & invest in a portfolio based on risk profile

PLAID and PFM
By retrieving your financial information via PLAID, we better understand your financial behaviour and thus can design and offer a strategy on how to manage your finance and how to invest into those goals within your financial capability

Deposit and Withdrawal
Start investing on your goals and build your wealth

Projection and Healthcheck
Monitor your goal progression to make sure your portfolio is healthy and on track

Rebalancing
Maintain your portfolio fund allocations according to your risk appetite

New Revolutionize Robo

1. Understand your profile

Getting to know
Profile, Income, Employment history, Marital status,

PLAID
Retrieving your financial information to understand financial behaviour and capability

Risk Profile
Discover your risk tolerance and risk appetite

2. How similar are you

People Like Me
- Which group do you belong to?
- Where are you financially standing

3. Assistance in financial planning

PFM
Design to offer a strategy on how to manage your finance and invest into those goals within your financial capability

Predictive Planning
Show your predicted event timelines

Goal Helper
Offer tips and recommendation on how to financially plan on those events/goals

4. Set a financially goal to invest in

Goal Based Investment
Create goal & invest in a portfolio based on risk profile

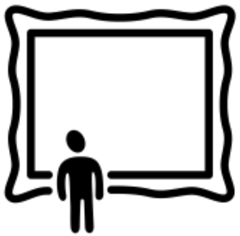
5. Investment Health and Progression

Deposit and Withdrawal
Start investing on your goals and build your wealth

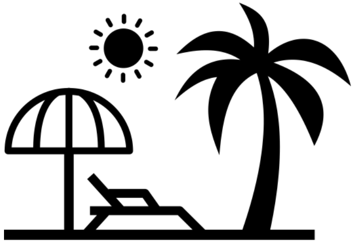
Projection and Healthcheck
Monitor your goal progression to make sure your portfolio is healthy and on track

Rebalancing
Maintain your portfolio fund allocations according to your risk appetite

How does this benefit the user?



1. See a Big Picture and Increase Awareness



3. Better Standard of Living

5. Peace of Mind

2. Higher Savings

4. Be Prepared for Emergencies

bambu

What happens..

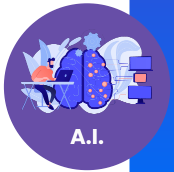
No Plan

No Savings

Financial Stress

Artificial Intelligence and Your Future

- Although we know that we need to prepare our financial future, like saving for house or wedding, our financial vision in general is very short where we tend to focus on 1 or 2 financial goals at a moment. There are so many unexpected things that might adversely fall on us in the future and we need to prepare for them too.
- Rather than being reactive, asking ourselves bunches of financial questions or making us think what potential events that might financially impact us, Bambu is coming up with an innovative and proactive approach to help us see ourselves in the future.
- Bambu leverages Big Data and Artificial Intelligence to show us what possible future life events that we might potentially encounter in the future. As we become more aware of the unexpected life events and have a better vision of our own future, this allows us to feel more prepared of any future events that might financially impact us.



Predictive Planning – Behind the Scene

1. Clustering method is applied on the longitudinal dataset (it is grouped based on ***gender*** - *Male* and *Female*)
2. HMM model is used where the 5 channels, in longitudinal fashion and undergone data preprocessing, used to build the model are
    - Marriage
    - Household size
    - Employment
    - Children
    - Age
3. For each group, the model is trained with SeqHMM library with the optimized algorithms and number of hidden states
4. The best model within each group is tuned based on BIC score and age precision methodology to find the matrices of
    - transition probabilities
    - emission probabilities
5. HMM model will then generate several predicted future events
6. The best prediction will be determined by GAN network discriminator