

## **Cash Panda Fintech App to Educate Kids About Money Management Using Fintech Technology**

**Tahir Ali<sup>1</sup>, Raheel Sarwar<sup>2</sup>, Imran Khan Junejo<sup>3</sup>, Zahid Hussain<sup>4</sup>, Khalid Charan<sup>5</sup>**

<sup>1</sup> Department of Management Science, Shah Abdul Latif University, Khairpur, Sindh, Pakistan, Corresponding Author's Email: [tahir.rahujo@gmail.com](mailto:tahir.rahujo@gmail.com)

<sup>2,4</sup> Faculty of Engineering, Sciences and Technology, Iqra University, Main Campus, Karachi, Pakistan

<sup>3</sup> Department of Management Science, SZABIST University Larkana Campus, Sindh, Pakistan

<sup>5</sup> Department of Computing, Faculty of Engineering, Science & Technology, Hamdard University, Karachi, Pakistan

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### **Abstract**

In today's digital age, financial literacy is a vital life skill that must be instilled from a young age to ensure financial independence and responsible money management. Despite its importance, traditional financial education tools fail to engage younger audiences effectively. This study presents Cash Panda, a fintech-based mobile banking application designed specifically for children aged 6 to 12. The application integrates gamification, educational modules, and parental monitoring features to teach fundamental financial concepts such as saving, budgeting, and tracking expenses in an interactive and engaging way. The development of Cash Panda involved a structured research process, including requirements analysis, system design, and user testing. Key features include savings goals, a spending tracker, gamified learning experiences, and a robust parental dashboard. User testing conducted with a sample group of 30 children and their parents revealed high levels of engagement, improved financial awareness, and positive behavioral changes, such as increased interest in saving allowances and tracking expenditures. The findings indicate that Cash Panda successfully addresses the gap in financial literacy tools for children by providing a child-friendly, intuitive interface and leveraging gamification to make learning enjoyable. Parental involvement further enhances the educational impact, fostering collaborative financial learning within families. The study highlights the potential of fintech applications like Cash Panda in shaping early financial habits and preparing children to navigate the complexities of personal finance.

**Keywords:** Financial Literacy, Fintech, Mobile Banking, Gamification, Child-Friendly App, Financial Education, Parental Involvement

### **Introduction**

#### **Background Study**

In today's digital age, financial literacy is an essential skill that individuals must develop from a young age. The ability to effectively manage finances is crucial for ensuring long-term financial stability and avoiding common pitfalls such as excessive debt and poor savings habits. This is especially vital for children and teenagers, who are just beginning to grasp the concept of money and make decisions that could significantly impact their financial future. Early financial education is key to shaping responsible financial behavior. Research suggests that financial habits are formed by the age of seven (1) Introducing children to money management skills early on helps them develop a healthy relationship with money, fostering habits that can lead to a secure financial future. Effective financial literacy helps children learn how to save, budget, and make thoughtful

spending decisions, which are foundational skills for financial well-being. However, many existing financial literacy programs for young people are falling short. Traditional methods often rely on rote learning and fail to engage children in meaningful ways. Today's digital-native generation requires interactive and practical experiences to capture their attention and sustain their interest. For instance, gamification of financial learning—using games and interactive tools to teach financial concepts—has shown promise in making financial education more engaging and accessible (2)

One such innovative approach is the use of fintech applications like Cash Panda, which transform traditional financial education into an engaging, interactive experience. These apps combine finance with technology to revolutionize how financial education is delivered, making complex concepts accessible and fun for children. Through gamified learning experiences, children can play games that teach budgeting, saving, and investing, while also applying these concepts in various real-life scenarios (3). Moreover, these fintech tools often include features that involve parents in the financial education process. With apps like Cash Panda, parents can monitor their children's progress, set savings goals, and encourage responsible money habits. This parental involvement is crucial, as it reinforces the lessons learned through the app and helps establish a supportive environment for learning about finances (4)

By leveraging technology and innovative teaching methods, financial education can be significantly enhanced to meet the needs of today's youth. This approach not only equips children with necessary financial skills but also instills confidence in managing finances, paving the way for a future where they are financially knowledgeable and capable of making informed decisions. Cash Panda emerges not just as another banking app, but as a comprehensive educational platform tailored to foster financial literacy in children. Cash Panda goes beyond traditional banking interfaces by integrating interactive modules, real-life scenarios, and personalized guidance to make learning about money engaging and effective. Through gamified experiences, children learn the value of saving, the importance of budgeting, and the impact of their financial decisions in a safe and supportive environment. Traditional banking applications, designed primarily for adults, often fail to address the unique needs and learning styles of children. Their complex interfaces, lack of educational content, and absence of engaging elements make them unsuitable for young users. Cash Panda addresses these gaps by offering a child-friendly platform that simplifies financial concepts and makes them accessible and enjoyable for kids. The app's interactive features and gamification elements, such as earning rewards for completing tasks and setting financial goals, keep children motivated and involved in their financial education journey. This comprehensive study delves deep into the intricacies of Cash Panda, exploring its innovative features, user experiences, and the tangible outcomes it delivers in shaping the financial habits of young minds. The research aims to assess the app's effectiveness in improving financial literacy among children by measuring their understanding of key concepts before and after using the app. It also investigates the factors that influence engagement and usability, ensuring the app is intuitive and appealing to its young audience. Moreover, the study examines the critical role of parental involvement in enhancing the learning experience. By incorporating robust parental controls and providing tools for parents to guide their children, Cash Panda fosters a collaborative learning environment. Parents can monitor their child's progress, set spending limits, and engage in discussions about financial decisions, reinforcing the concepts taught by the app. The research further explores the perceived benefits and challenges of using Cash Panda from the perspectives of both children and parents. Understanding their experiences and feedback is essential for continuous improvement of the app. Additionally, the study evaluates how the app's design and gamification contribute to sustained engagement and effective learning, identifying the elements that are most successful in maintaining interest and promoting financial literacy. By providing a detailed analysis of Cash Panda's effectiveness in teaching financial concepts and empowering children to make informed financial decisions, this report sheds light on how Cash Panda is not just a mobile application, but a catalyst for building a generation of financially literate individuals poised for success in the future. The insights gained from this study highlight the potential of Cash Panda as a powerful tool for financial education, capable of equipping children with the skills and

knowledge necessary to navigate the complexities of the modern economic landscape and achieve financial independence.

### **Importance of Financial Literacy for Youth**

Financial literacy for young individuals involves more than just learning to count money; it encompasses a deeper understanding and application of financial principles such as saving, budgeting, investing, and making prudent financial decisions. These foundational skills are critical for establishing strong financial health in adulthood.

**Early Financial Education:** Research by Holden and Kalish (5) indicates that children begin to form their financial habits by the age of seven. Introducing kids to money management skills early on helps them to develop a positive relationship with money and fosters habits that lead to financial security in the future. This early education in financial literacy helps children understand how to save money, create and follow budgets, and make thoughtful spending decisions, which are all key to their overall financial well-being.

**Complex Financial Decisions:** The financial decisions that children face are becoming increasingly complex. They are often required to manage allowances, understand online transactions, and recognize the value of money from a younger age than previous generations. Alonso (2016) (6) discusses these evolving challenges and emphasizes the importance of equipping children with the necessary skills to navigate this complexity effectively.

### **Challenges in Current Financial Literacy Education**

Despite the recognized need for financial literacy, many existing programs aimed at teaching this vital skill to children fall short. The traditional methods often fail to engage young minds and do not provide the practical financial skills needed.

**Lack of Engagement:** Conventional financial literacy programs frequently rely on rote learning, which fails to engage children effectively. Bhattacharya (2023) (7) highlights how gamification can make financial education more engaging and accessible. By transforming learning into an interactive experience, children are more likely to be interested in and retain the financial information they learn.

**Ineffective Teaching Methods:** Many educational programs do not use age-appropriate or relatable scenarios, making it hard for kids to apply what they learn to their own lives. Palakvangsa-Na-Ayudhya (8) point out the need for interactive tools that can make learning about finances more effective and enjoyable for children.

**Need for Comprehensive Tools:** There is a significant need for comprehensive tools that not only teach financial basics but also allow for the application of these concepts in diverse settings. Stockinger (9) discuss how integrating modern technology with traditional financial education tools can provide a more holistic and effective learning experience for kids.

### **The Role of Fintech in Financial Education**

To overcome these challenges, there is a growing trend towards using innovative tools that are educational and engaging. Fintech apps like Cash Panda represent a promising solution for enhancing financial literacy among the younger population by making learning both interactive and fun.

### **The Importance of Financial Literacy for Children and Teenagers**

In today's complex financial world, financial literacy stands out as a fundamental skill that should be instilled from an early age. This literacy equips children and teenagers with the knowledge and tools they need to manage money effectively, ensuring long-term financial stability and security. The rapid evolution of the financial landscape, marked by the advent of digital currencies, online transactions, and a myriad of investment options, makes this skill even more crucial. Below, we explore why financial literacy is essential for the younger generation and how it shapes their future financial behavior.

## **Problem Statement:**

Traditional banking apps are designed for adults and lack features that cater to children's learning needs, such as simplified interfaces, educational content, parental controls, gamification, and accessibility. These apps are often too complex and intimidating for young users, hindering their ability to engage with and understand financial concepts. Children require interactive and engaging methods to grasp financial literacy effectively, which traditional apps fail to provide. Furthermore, these apps do not offer age-appropriate educational content or interactive modules that simplify financial concepts into understandable terms for children. To address this gap, there is a need for a user-friendly banking application like Cash Panda, specifically designed to teach financial literacy to kids. Such an app can provide an intuitive, engaging, and educational platform, incorporating interactive elements, real-life scenarios, and parental oversight to make learning about finance both fun and effective for children. By including gamification features like rewards, challenges, and progress tracking, Cash Panda can motivate children to actively participate and learn. Additionally, robust parental controls allow parents to guide their children's financial learning and monitor their progress, ensuring a safe and supportive learning environment. This approach ensures that children develop essential financial skills from a young age in an environment tailored to their needs, setting a strong foundation for their future financial well-being.

## **Objectives:**

1. To Develop a user-friendly interface that Platform simulates real-world financial scenarios
2. To provide parents and educators with tools and resources to support and guide children in developing healthy financial habits.
3. To encourage kids to share their progress and achievements, promoting a sense of community and healthy financial habits.

## **Literature Review**

### **Historical Context**

The concept of financial literacy has evolved significantly over the years, especially in the context of children's education. Traditionally, financial education for children was limited to informal learning through family interactions or school-based programs with varying degrees of effectiveness. The introduction of digital technology in education has marked a substantial shift, enabling more interactive and engaging methods to teach financial literacy. Early initiatives in financial literacy for children focused on basic concepts of saving and spending, often delivered through rudimentary classroom activities or parental guidance. The rise of mobile technology and digital learning platforms in the early 21st century has provided new opportunities to make financial education more accessible and appealing to younger audiences.

- **Financial Literacy:** The ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing.
- **Gamification:** The application of game-design elements and principles in non-game contexts to enhance user engagement and learning outcomes.
- **Digital Learning:** The use of digital tools and technologies to facilitate education and learning processes.
- **Parental Involvement:** The active participation of parents in their child's education, which has been shown to enhance learning outcomes.
- **Progress Tracking:** Features that track and display a user's progress over time, showing their achievements, completed modules, and accumulated savings. Progress tracking in Cash Panda helps children see their improvements and stay motivated to continue learning.
- **Rewards System:** A system that provides incentives for completing tasks, reaching savings goals, and engaging with educational content. The rewards system in Cash Panda is designed to motivate children to use the app regularly and make learning about finance enjoyable.

- **User-Friendly Interface:** A simple, intuitive design tailored to the cognitive and motor skills of children. Cash Panda's user-friendly interface ensures that young users can navigate the app easily, engage with the content, and learn effectively.

### **Existing Solutions and Their Gaps**

Bhattacharya, S. (2023): Gamified Approach of Qapital and Its Limitations

Bhattacharya (2023) explores the innovative gamified approach of Qapital, a financial app designed to make saving an engaging and rewarding experience for users. The app employs gamification strategies, such as setting saving goals linked to specific wishes or dreams and rewarding users with visual progress indicators and congratulatory notifications upon achieving their goals. This method leverages the psychological principles of positive reinforcement and goal-setting to motivate users.

#### **Limitations of Qapital's Approach:**

**Lack of Educational Depth:** While Qapital is effective at encouraging savings through gamification, it falls short in providing comprehensive financial education. Users learn to save for specific goals, but they don't gain a deeper understanding of other financial concepts such as investing, budgeting, or debt management.

**User Engagement Challenges:** The initial excitement of gamification can wane over time. Once users achieve their set goals, maintaining the same level of engagement and motivation can be challenging without new incentives or educational elements.

**Over-Simplification:** By focusing primarily on saving for goals, Qapital might oversimplify financial management, neglecting the complexities of personal finance that users need to understand in the real world.

**Target Audience Limitation:** Qapital primarily targets adults who already have some understanding of finance. Younger users, especially children and teenagers, might find the app less appealing or too complex without tailored educational content for their age group.

#### **Palakvangsa-Na-Ayudhya, S. et al. (2017): KeptAom System and Lack of Interactive Tools**

Palakvangsa-Na-Ayudhya et al. (2017) introduced the KeptAom system, designed to improve long-term savings behavior among children. The system incorporates mechanisms to track savings and set financial goals. However, it primarily functions as a digital ledger without embedding deeper financial learning or interactive elements.

#### **Privacy Challenges in Children's Financial Apps:**

**Data Security:** Many financial apps for children do not meet the highest standards of data security, potentially exposing users to data breaches and unauthorized access to personal and financial information.

**Lack of Transparency:** There is often a lack of transparency about how children's data is collected, used, and shared by app developers and third parties, leaving parents and users uncertain about privacy.

**Compliance with Regulations:** Not all apps comply fully with children's online privacy protection regulations, such as COPPA in the United States, which can lead to legal and ethical issues.

**Targeting and Advertising:** Some financial apps for children include advertisements or in-app purchases, raising concerns about inappropriate targeting and the commercialization of educational content.

#### **Stockinger, T. et al. (2013): Technology Integration in SmartPiggy**

Stockinger et al. (2013) discuss SmartPiggy, a digital piggy bank that connects to smartphones and other devices to teach children about saving and spending. The device integrates technology to make financial learning tangible and interactive.

## **Potential and Gaps in Multimedia Resources:**

**Rich Media Experience:** Multimedia resources can provide a richer learning experience by combining text, audio, and video, which can help explain complex financial concepts more effectively.

**Inconsistency in Educational Value:** The educational value of multimedia resources varies greatly; while some offer comprehensive and accurate explanations, others may be superficial or even misleading.

**Lack of Interactivity:** Not all multimedia resources are interactive, and many are passive learning materials that do not allow children to practice or apply what they have learned.

**Integration Issues:** There is often a lack of integration between multimedia resources and formal learning curricula, making it difficult for educators to incorporate these resources into structured learning paths.

## **Strataki, A. (2022): Quality of Educational Apps for Preschool Children**

Strataki (2022) assesses the quality of educational apps designed for preschool children, including those aimed at introducing basic financial concepts. Her research underscores the need for high-quality, developmentally appropriate apps in early childhood education.

## **Key Findings on Educational Apps:**

**Developmental Appropriateness:** Many apps are not designed with the cognitive and emotional development of preschoolers in mind, which can lead to frustration or disinterest among young users.

**Educational Depth:** While some apps successfully introduce basic concepts, they often lack the depth needed to build a solid foundation for more complex financial learning as children grow.

**User Engagement:** Engaging young children in learning through apps requires a delicate balance of fun and education; many apps struggle to maintain this balance, either being too focused on entertainment or too dry and educational.

**Safety and Privacy:** For preschoolers, safety and privacy are paramount; not all educational apps meet the highest standards for protecting young users' data and ensuring a safe learning environment.

## **Challenges in Creating Inclusive Tools:**

**Lack of Specialized Content:** There is a significant lack of financial education tools designed specifically for children with disabilities, particularly those with learning disabilities, who may require specialized content and teaching methods.

**Accessibility Features:** Many financial education tools do not include necessary accessibility features, such as screen readers, audio descriptions, or simplified interfaces, which are crucial

**Cloud Firestore:** A flexible, scalable database for mobile, web, and server development. It offers real-time synchronization and automatic multi-region data replication.

**Realtime Database:** An earlier offering from Firebase that provides real-time data synchronization. Data is synced across all clients in milliseconds.

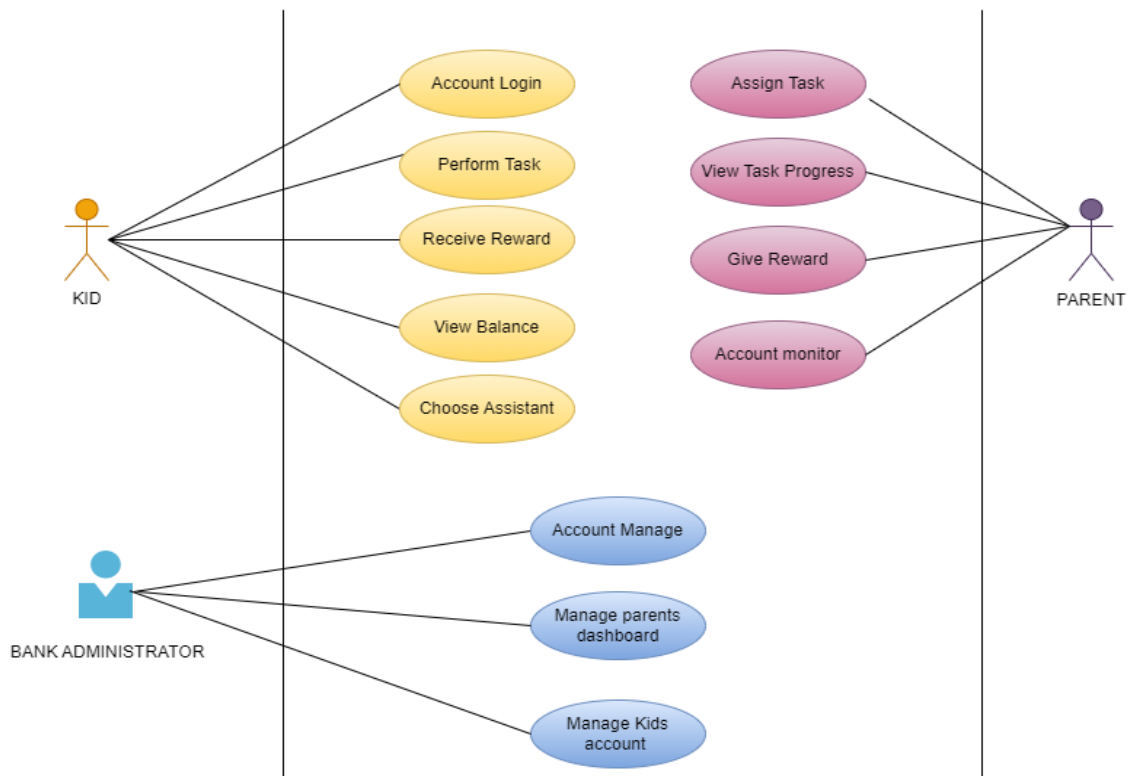
**Authentication:** Supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook, and Twitter, and more.

**Backend Services:** Apart from storage and authentication, Firebase offers functionalities like analytics, messaging, and crash reporting which are essential for modern application development.

## **Integration and Workflow in a Typical Development Setup:**

**React Native and React.js:** Although React.js is generally used for web applications and React Native for mobile apps, their similar design patterns and use of JSX allow for shared logic and styling across platforms, facilitated by tools like Android Studio for mobile-specific functionalities.

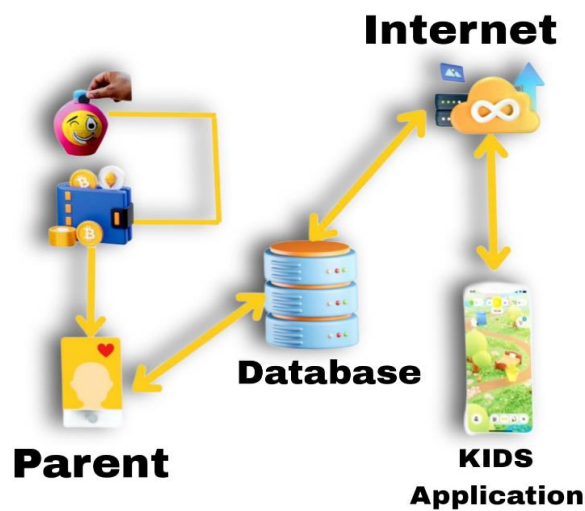
**Firebase Integration:** Both React Native and React.js can integrate with Firebase to utilize its backend services, such as authentication, data storage, and real-time operations, which are crucial for dynamic, scalable app development.



**Fig 1: Use Case Diagram**

The use case diagram delineates the functional requirements of the system by mapping out the interactions between actors and use cases. This visual representation facilitates a comprehensive understanding of user needs and system capabilities, serving as a critical tool in the requirements elicitation and analysis process."

**Architecture**



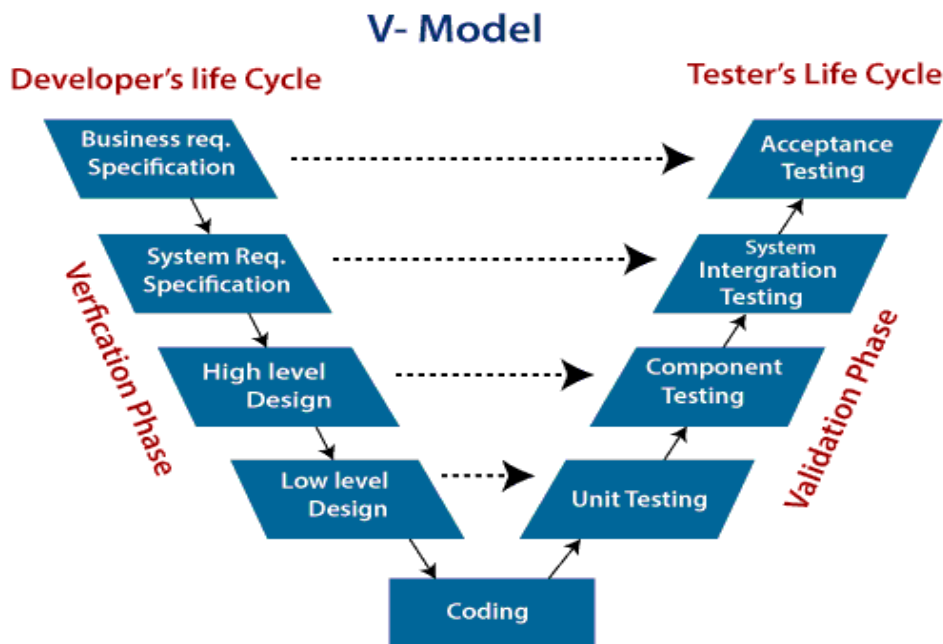
**Fig 2: Architecture**

The Architecture diagram depicting the interaction between the Parent, Kids Application, Database, and Internet for efficient data flow and user monitoring.

**V-Waterfall model**

The V-Waterfall model is a hybrid methodology that combines elements of the traditional Waterfall model with the V-Model of software development. This approach is used primarily to manage and execute software development projects where requirements are well-defined and

changes during the development process are minimal. It emphasizes a sequential, step-by-step process but incorporates validation and verification at various stages, unlike the straightforward Waterfall model. Here's a detailed overview:



**Fig 3: V-Waterfall Model**

V-Model Software Development Life Cycle, illustrating the Verification and Validation phases, where each development stage corresponds to a corresponding testing phase to ensure quality and reliability.

### Implementation

#### The System Prototype

#### System's Description

Cash Panda is a mobile application designed to educate children about financial literacy through interactive features, gamification, and real-world financial simulations. The system was developed to offer children an engaging platform to learn essential financial skills such as saving, budgeting, and responsible spending. Cash Panda serves as both an educational tool and a potential banking interface in future iterations, where children will be able to manage actual financial accounts under parental supervision.

#### Types of Users

The system is designed for three primary types of users:

##### 1. Children (Primary Users)

- **Age Range:** 6-12 years
- **Role:** The primary user group consists of children who interact with the app to learn financial literacy. Children can create profiles, set savings goals, complete financial challenges, and earn rewards. The system is designed with age-appropriate content and a playful interface to keep users engaged while learning basic financial principles.
- **Key Actions:**
  - Set and manage savings goals
  - Complete tasks to earn virtual money
  - Track their financial progress and performance
  - Participate in interactive financial lessons and quizzes

- Earn and redeem rewards through gamified activities
2. **Parents (Supervisors)**
- **Role:** Parents act as supervisors, overseeing their children’s financial learning and behavior. They have access to parental controls, allowing them to manage the child’s account, track financial activities, and set boundaries for spending or tasks.
  - **Key Actions:**
    - Monitor and approve financial activities
    - Set financial goals and rewards for their children
    - Review reports and progress charts showing their child’s financial development
    - Adjust spending limits, tasks, and educational modules
    - Engage in discussions about financial decisions and reinforce lessons
3. **Administrators (System Managers)**
- **Role:** Administrators maintain the app’s functionality, security, and overall user experience. They are responsible for managing the system’s backend, ensuring smooth operation, data security, and the timely delivery of new features and updates.
  - **Key Actions:**
    - Monitor system performance and resolve technical issues
    - Manage user data and ensure compliance with security protocols
    - Oversee system updates, including content for new financial lessons or features
    - Ensure compliance with financial and privacy regulations

#### 4.1.2 System’s GUI

- **Application Starting**



**Fig 4: Application Starting**

Figure 5 shows the start of the Application and shows the Logo and First Page of the Application.

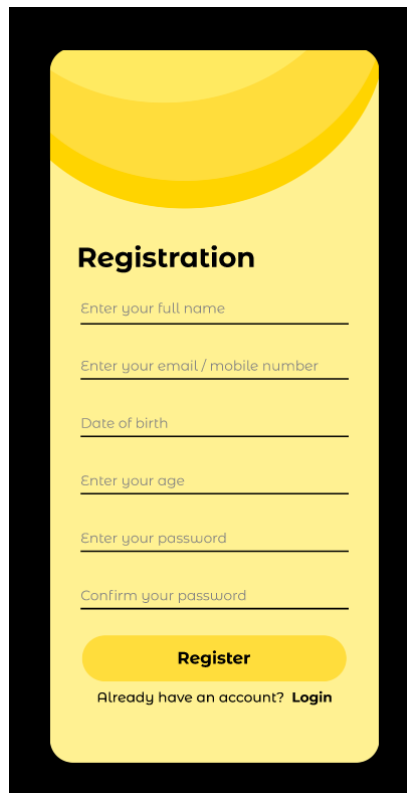
- **Welcome Page**



**Fig 5: Welcome Page**

Fig 6 shows the welcome page of the application in which we can sign in as a parent and also as a child.

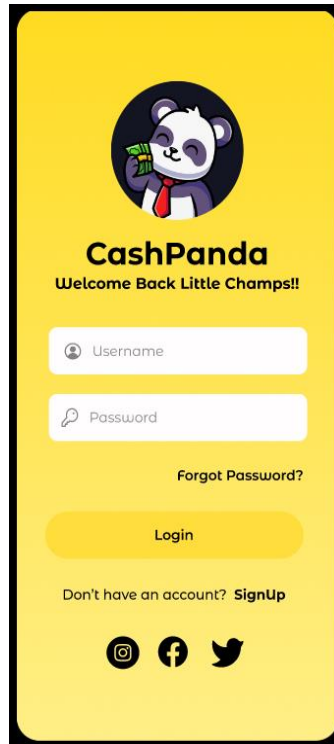
- **Register Page**



**Fig 6: Registration Page**

The registration page serves as the initial step for users to create their accounts by providing essential details, such as name, age, and credentials. This process ensures secure access to the application, enables personalized user profiles, and facilitates a tailored experience, allowing parents and children to utilize the app's features effectively.

- **Log In Page**



**Fig 7: Login Page**

The sign-in page allows registered users to securely access their accounts by entering their credentials, such as username and password. This ensures data protection, personalized user experiences, and seamless access to the application's features and functionalities.

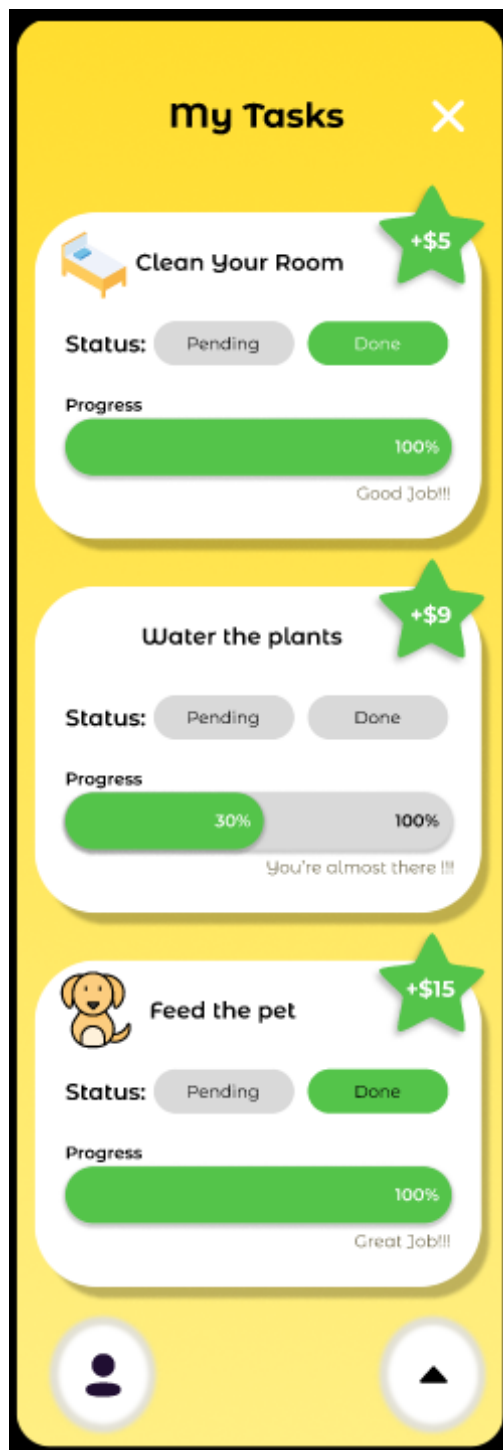
- **Main Page**



**Fig 8: Main Page**

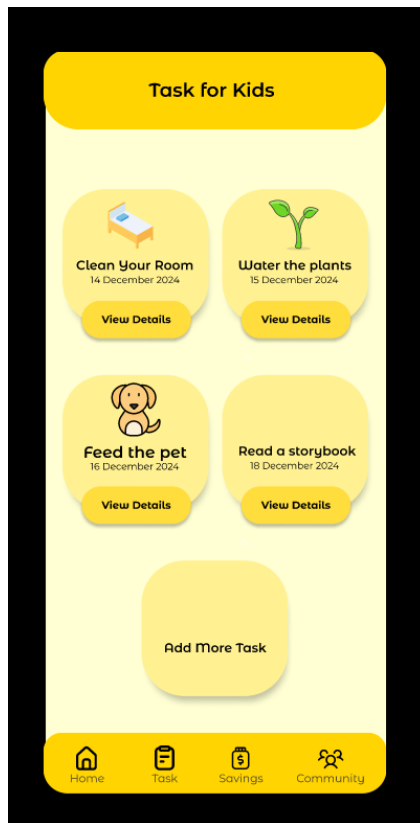
Fig 9 shows the main page of the application where you can find way to every feature.

- **Daily Tasks**



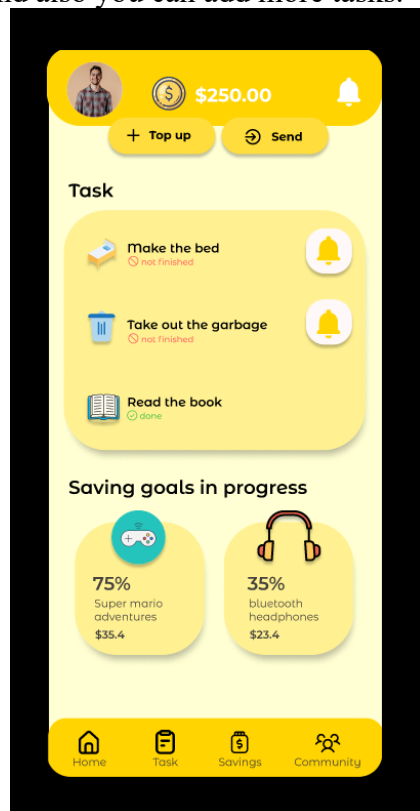
**Fig 09: Daily Tasks**

Fig 10 shows the tasks details like status and progress.



**Fig 10: Daily Tasks**

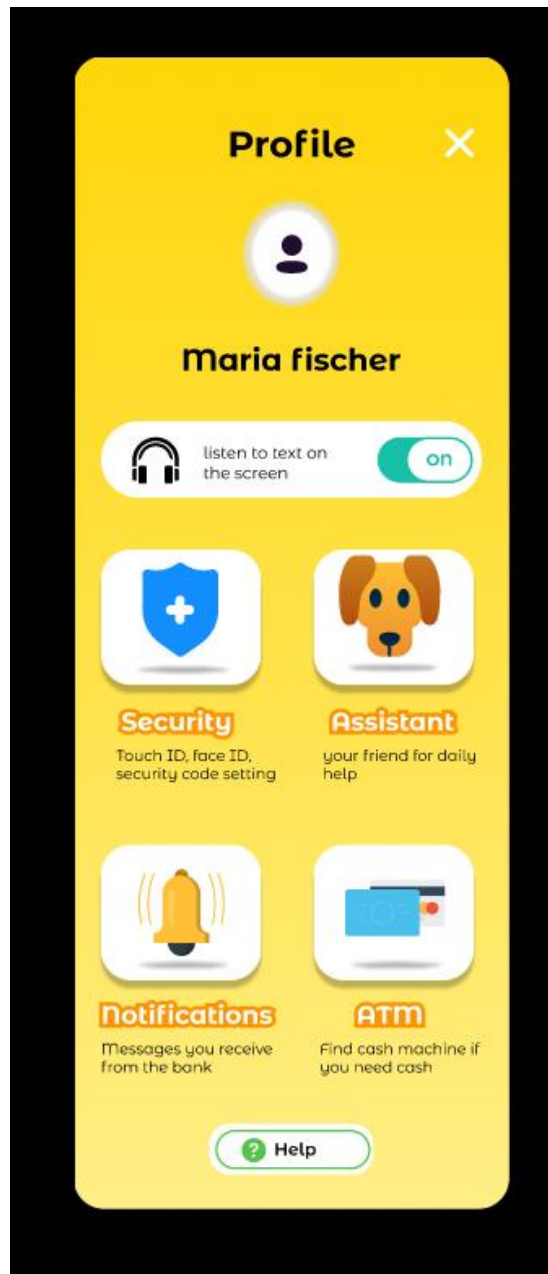
Fig 11 shows the tasks details and also you can add more tasks.



**Fig 11: Daily Tasks**

Fig 12 shows the tasks details and also shows status whether task is finished or not.

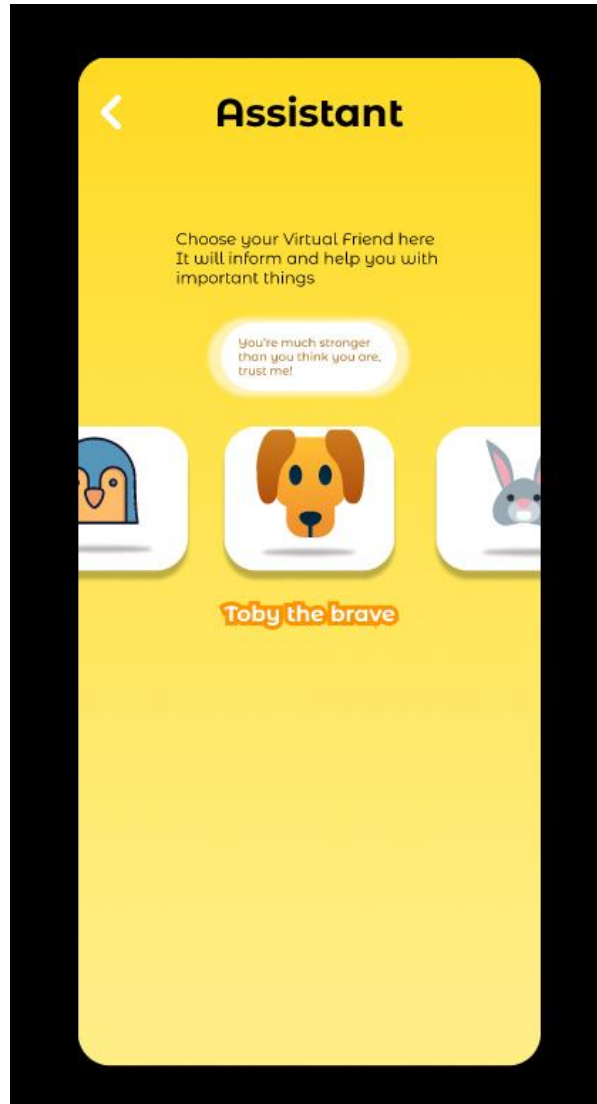
- **User Profile**



**Fig 12: Profile**

Fig 13 The Profile screen contains the most-used settings. Very important is the “text-to-speech” feature, which the kid can toggle on or off according to his/her needs. This is a good feature for kids with vision problems so they can use the app and be part of a digital bank.

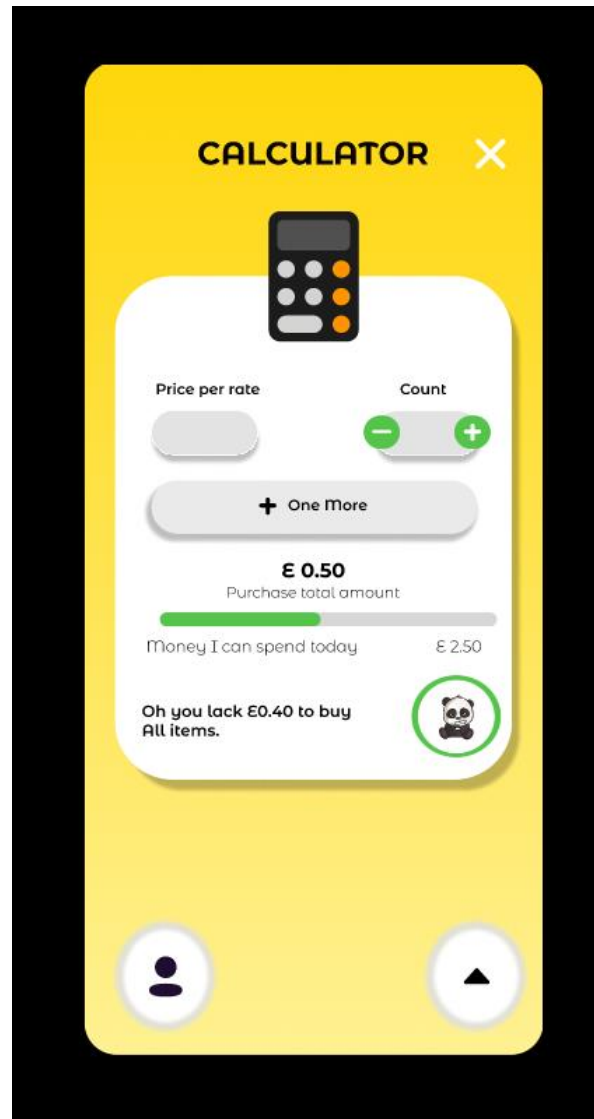
- **Assistants**



**Fig 13: Assistant**

Fig 14 Assistants make managing money fun and simple for kids. Using friendly animal characters, they teach saving, share ideas, and give playful reminders with jokes or fun facts. They help kids learn about money in a way that's easy, engaging, and helpful for parents too.

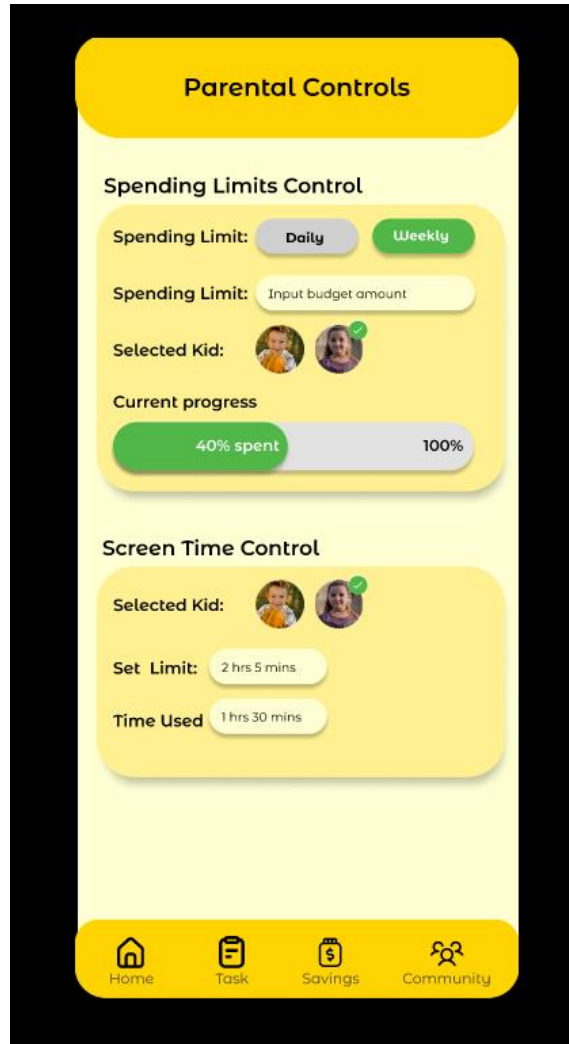
- Calculator



**Fig 14: Calculator**

Fig 15 The Calculator helps kids check if they have enough money to buy items, building their confidence and avoiding stress at checkout. It also gives tips if they're short on money.

- **Parental Controls**

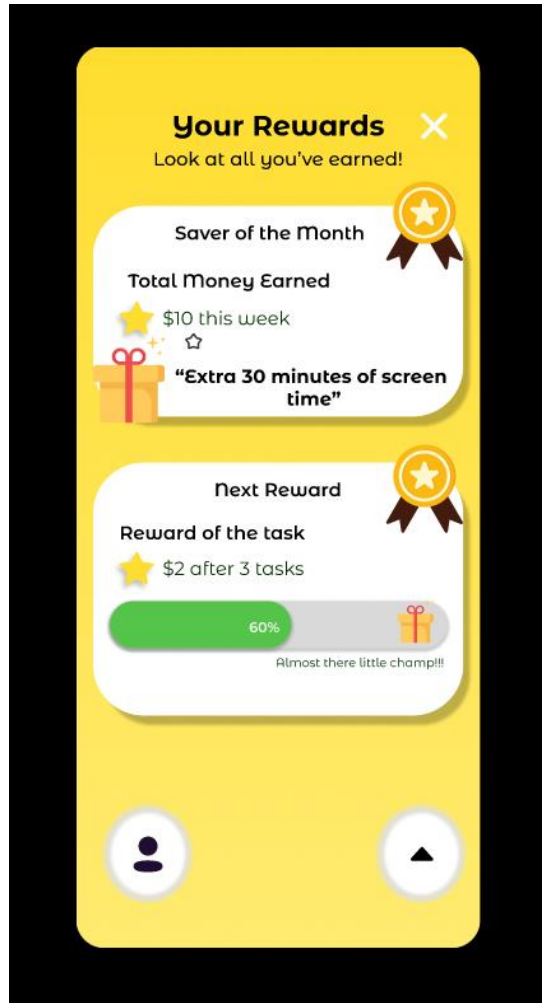


**Fig 15: Parental Controls**

**Fig 16 Spending Limits:** Set daily or weekly budgets for your kids to control their spending. Track how much they've spent with a progress bar and adjust limits anytime.

**Screen Time Control:** Manage how much time your kids spend in the app. Set daily limits, customize for each day, and check progress with an easy-to-read bar.

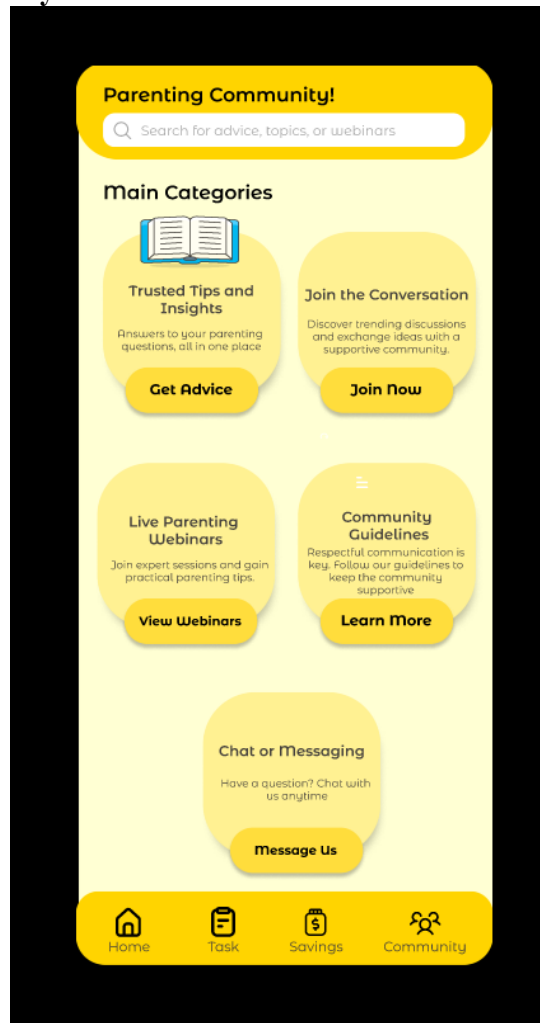
- Rewards



**Fig 16: Rewards**

Fig 17 **Your Rewards Screen:** This screen shows all the rewards kids have earned, like money, badges, and special perks. It also tracks their progress toward the next reward with a simple bar and lists past rewards to celebrate their achievements.

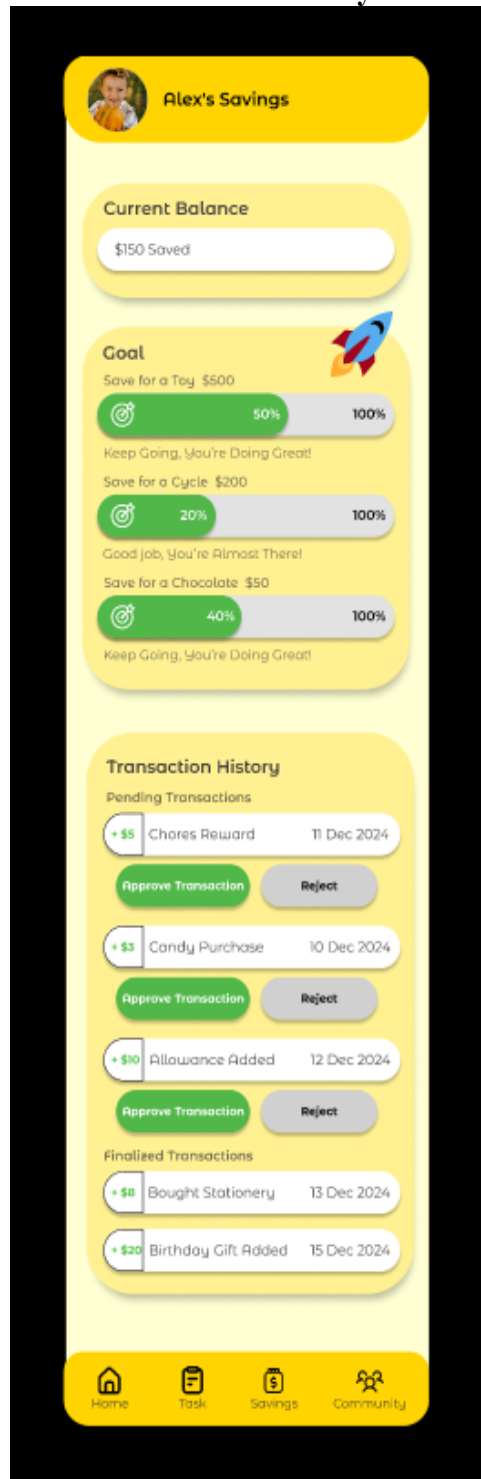
- **Parenting Community**



**Fig 17: Parents Community**

Fig 18 shows the Parenting Community interface, offering parents access to trusted tips, live webinars, and communication features. It fosters a supportive environment for knowledge sharing and connecting with others.

- **Current Balance, Goal and Transaction History**



**Fig 18: Current Balance, Goal and Transaction History**

Fig 19 shows an overview of the user's current balance, savings goals, and transaction history, helping children track their financial progress effectively.

## Results

### User Feedback and Testing

To evaluate the effectiveness and usability of **Cash Panda**, a fintech-based mobile banking application targeting children aged **6 to 12**, user testing was conducted with a sample of 30 children within the specified age range. Testing sessions were supervised by parents and teachers to ensure an engaging and safe environment for the participants.

### Feedback Collection Process:

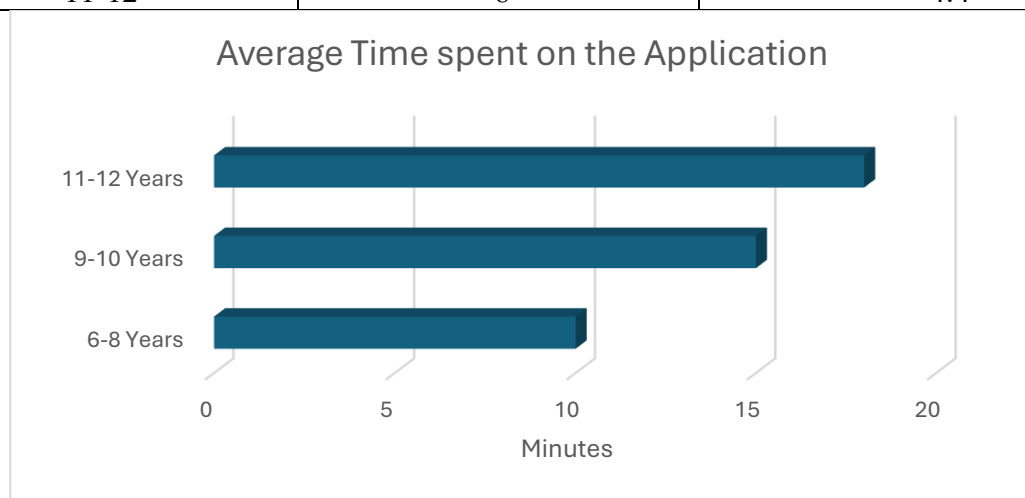
- **Surveys:** Short surveys were designed for kids with simplified language to capture their opinions.
- **Observation:** During testing, user interactions were observed to identify ease of use and any challenges.
- **Interviews:** Informal interviews with parents provided additional insights regarding the app's impact on children's financial habits.

### User Engagement Metrics:

- Time spent on the app per session.
- Completion rates of tasks such as setting savings goals, tracking spending, and engaging with financial games.

**Table 2 User Demographics**

Age Group (Years)	Number of Participants	Gender Ratio (Boys : Girls)
6-8	12	6:6
9-10	10	5:5
11-12	8	4:4



**Fig 19: Average Time Spent on the Application**

Fig 20 shows the Average Time Spent on the Application by Age Group, highlighting that older children (11-12 years) spend the most time (18 minutes) engaging with the app compared to younger age groups.

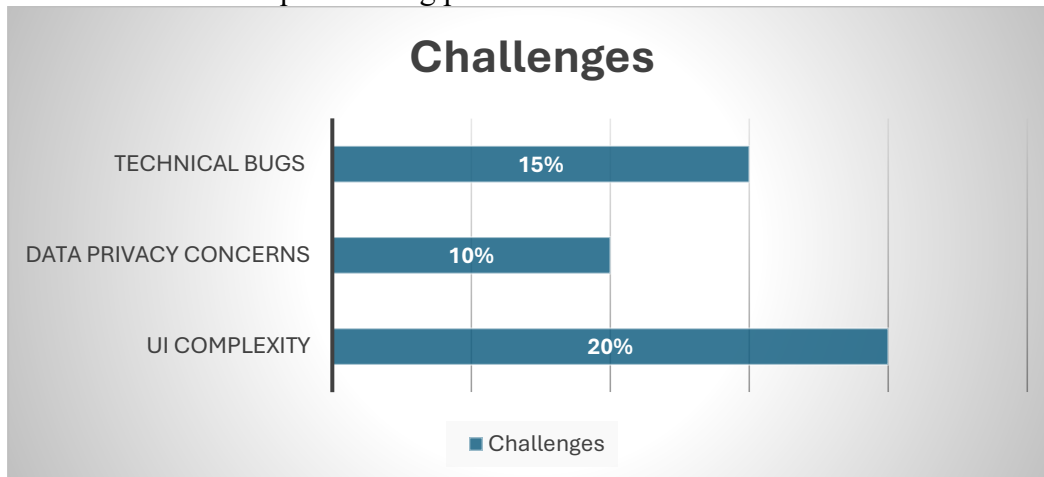
**Table 4 Behavioral Impact and Parental Feedback**

Observed Behavior	Percentage of Users	Parent Feedback Summary
Increased Interest in Saving	70%	Kids started saving allowances.
Improved Awareness of Expenses	60%	Children tracked small spends.
Consistent App Usage	75%	Regular daily use was observed.

### Challenges Encountered

While the testing and implementation of **Cash Panda** were largely successful, the following challenges were identified:

1. **User Interface Simplicity:**
  - Some younger children (6-7 years) required initial guidance to navigate the app. Simplifying certain sections of the interface could enhance usability for this age group.
2. **Parental Access Concerns:**
  - A few parents expressed concerns regarding data privacy and security, particularly related to tracking spending and savings goals.
3. **Technical Issues:**
  - Minor bugs were reported during testing, such as delays in reward badge updates and slow response times in certain modules. These were addressed during subsequent testing phases.



**Fig 22: Breakdown of Challenges**

Fig 10 shows the tasks details like status and progress.

### Comparison with Existing Applications

To highlight the uniqueness of **Cash Panda**, the app was compared to existing mobile banking and financial literacy apps for children, such as **GoHenry** and **Greenlight**.

**Table 5 Comparison with Different Applications**

Feature	Cash Panda	GoHenry	Greenlight
Target Age Group	6-12 years	6-18 years	6-18 years
Gamification Elements	Highly Interactive	Moderate	Moderate
Parental Monitoring	Yes	Yes	Yes
Educational Focus	Strong	Financial Management	Financial Management
Custom Savings Goals	Yes	Limited	Yes

The findings indicated that Cash Panda stands out due to its strong emphasis on gamification, educational features, and its tailored focus on younger children (6-12 years).

### Conclusion

The Cash Panda project has successfully demonstrated that financial education for children can be both engaging and effective when delivered through the right platform. By integrating interactive design elements with a solid educational framework, the app has made complex financial concepts like saving, budgeting, and responsible spending accessible to children. Through gamification and user-friendly interfaces, Cash Panda offers a learning experience that is not only enjoyable but also deeply impactful in shaping positive financial habits. The involvement of parents was a key strength of the app, allowing for a collaborative approach to financial education. Parents were able to monitor their children's progress, set goals, and encourage discussions about money

management, creating a strong support system for learning. The feedback from both parents and children confirms that Cash Panda meets its objective of fostering early financial responsibility, ensuring children are better prepared to navigate financial decisions as they grow. The success of Cash Panda reflects the broader potential of fintech applications to address gaps in financial literacy. It shows that by leveraging technology, we can create effective educational tools that are capable of making a lasting difference in children's financial knowledge and behavior. This project has laid the groundwork for future innovations in the field of financial education for children, demonstrating that fintech can be a powerful catalyst for lifelong financial literacy.

### Future Work

Looking ahead, the next step for Cash Panda is to expand beyond an educational tool and establish it as an official children's banking mobile application in collaboration with financial institutions. Our goal is to create a platform where children can not only learn about money but also manage real finances in a safe, guided environment. This partnership with financial institutions will elevate Cash Panda from a learning platform to a practical, real-world financial tool, empowering children to manage actual finances while continuing to learn. By giving children early exposure to banking systems and financial products, we aim to foster a sense of financial responsibility from a young age, enabling them to make informed, confident financial decisions as they mature. The transformation of Cash Panda into an official banking app will not only enhance its educational value but also serve as a major step forward in preparing the next generation for the financial challenges of adulthood. We believe that this innovative approach will contribute to a future where children grow up with a deep understanding of personal finance, leading to greater financial independence and security in their adult lives.

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