

# AMISPACE: A CLOUD BASED STUDENT FORUM FOR ACCESSING AND ANALYZING PROJECT PERFORMANCE

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## ABSTRACT

*Project Management is a internationally recognised practice to help professionals complete projects successfully and efficiently. Today, a few organisations use project management, which allows them to focus on priorities and overcome challenges that increase their chances of success. This paper introduces an Android application which is created and designed to target community of students of different fields to come together and make something great. Coming together of right people is very important and they could be from different field or different place, so in this era internet is the best friend of everyone. AmiSpace lets people come together from anywhere in the world and provide them with good set of features to manage and calculate progress of their project.*

**Keywords :-** KOTLIN, Firebase, Project Management.

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## 1. INTRODUCTION

### 1.1 Overview

The AmiSpace starts with the LogIn or SignUp screen where user have to logIn with existing email and password or user have to create a new account, all the credentials data will be stored in Firebase database in the cloud server. AmiSpace use a specific project management method and that is Kanban method, it is used for effective management and tracking progress. After user successfully register and sign-in, they are free to use all the AmiSpace's features like creating new board, Creating new lists to that board, adding different members into board, assigning everyone tasks from the list and much more. AmiSpace, a cloud based tool that uses the Kanban method of project management. In Kanban Method, all project related activities are displayed in a single landscape that is viewable to all members of the project. With AmiSpace, users can visually organise projects into parts, divide projects into groups, and subdivide groups into tasks. AmiSpace user-friendly interface makes it ideal for wide variety of users, from individuals managing personal projects such as movies list to organisations managing multiple large projects and teams. AmiSpace is currently only available in android device and requires internet, registered users can create unlimited numbers of boards and designate one board per project.

## 2. METHODOLOGY

In today's technologically advanced age, software has come a long way in terms of self- service. AmiSpace also follows this practice and automatically creates a low-level project planning and management function. We have specifically chosen our application in the field of project management to address the challenges that teams face in order to manage effectively. Project Management is a internationally recognised practice to help professionals complete projects successfully and efficiently. Today, a few organisations use project management, which allows them to focus on priorities and overcome challenges that increase their chances of success.

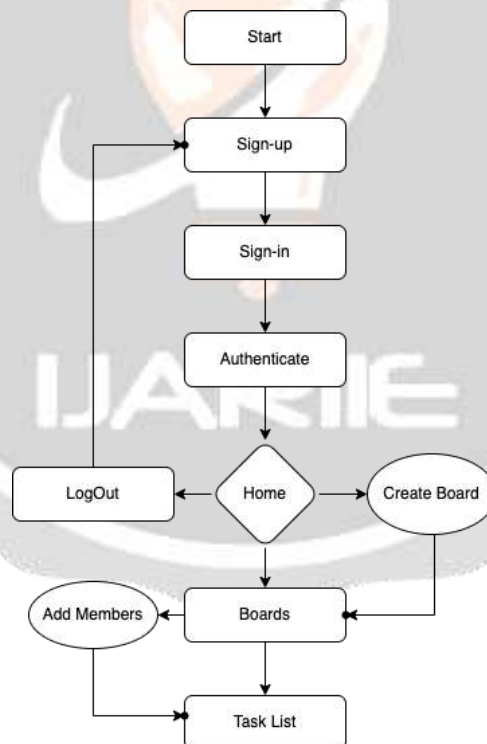
### 2.1 Proposed Approach

In any industry, collaboration provides many benefits. Teams can accomplish tasks faster and more efficiently, and collaboration can also fuel innovation and foster creativity. Collaboration tools, by default, enable a group of two or more people to collaborate and move towards a common goal or objective. Although there are plenty of non-technical options, such as post-it notes, paper, whiteboards and flip charts available. Imagine a white board, filled with lists of sticky notes, with each note as a task for you and your team. Now imagine that each of those sticky notes has photos, attachments from other data sources like BitBucket or Salesforce, documents, and a place to comment and collaborate with your teammates. Now imagine that you can take that whiteboard anywhere you go on your smartphone. That's AmiSpace!. It is a simple, and easy-to-use collaboration tool that enables you to organise projects and everything related to them into boards. With AmiSpace, you can find all kinds of information, such as:

- I. What's being worked on?
- II. Who's working on what?
- III. What progress the project is making?

The methodology of this project starts with signing-in or sign-up of the user after that user can access all of AmiSpace's feature for free, it follows the Kanban system, which is a popular methodology used to achieve lean management. This means that you can also achieve lean with AmiSpace. All the user authentication credentials are saved in Firebase Firestore on the cloud and get authorised by firebase auth feature. Boards and cards data is also saved in Firestore in hierarchical structure for each user, all the data is stored in cloud including the user profile photo and all the data access from cloud in real-time.

#### FLOW:



**Figure 2.1** AmiSpace Flowchart

#### Description:

- **Step 1** - Start
- **Step 2** - Register for AmiSpace
- **Step 3** - Login

- **Step 4** - Authentication from Firebase
- **Step 5** - Create new board
- **Step 6** - Work on created board
- **Step 7** - Add new members to board
- **Step 8** - Create new Task Lists
- **Step 9** - Assign task to members
- **Step 10** – Logout

### 3. IMPLEMENTATION DETAILS

#### 3.1 Technology used

- Programming language: KOTLIN, XML
- Libraries: GLIDE, Lottie, Hdodenhof CircleImage View
- Database: Firebase
- Method: Kanban method

#### 3.2 Software Requirement

- Java2 development kit (1.6.0 former editionas a minimal requirement)
- Java standard tag library (jsp pagesdeployment)
- Kotlin ktx 1.7.0+
- Android Studio 3.6+

#### 3.3 Hardware Requirement

- Windows 7 or above/MacOS Catalina orabove
- CPU: Windows – Pentium 4 or better/Mac –Any x86 processor.
- Ram: 4GB minimum, 8 GB recommended.
- Storage: At least 1GB of hard disk space.
- Ports: At least one USB 2.0 or better port.

### 4. RESULT AND DISCUSSION

Figure 4.1 shows splash screen of AmiSpace,it is the first screen user will see every timethe app cold boot. When user launches an app while the app's process is not running or the Activity has not been created, the following events occur.

- The system shows the splash screen using themes and animation.
- When the app is ready, the splash screen isdismissed and the app is displayed.



**Figure 4.1** AmiSpace Splash Screen

Figure 4.2 shows a registration page for AmiSpace. All the credentials are stored in Firebase Firestore and get authenticate by firebase auth feature. After successfully create auser, user send to home page.



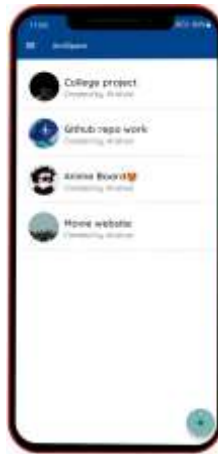
**Figure 4.2** AmiSpace SignUp page

Figure 4.3 shows login page of AmiSpace where user can use credentials already inregistered in database and after authenticate by Firebase auth user get signed in and start the home page.



**Figure 4.3** AmiSpace SignIn page

Figure 4.4 shows home page of AmiSpace where user can work on existing Boards orcan create a brand new board with title and image by clicking on green add button, then add new members, make Task list and assign members to tasks.



**Figure 4.4** AmiSpace Boards page



Figure 4.5 shows inside the board where all the board planning is done by making different cards which contains tasks and horizontally scrollable it is like Kanban board system. Then inside cards user can add lists which called tasks and user can assign different members to task, due date, coolercode them , rename them and shuffle them by dragging as per their needs.

**Figure 4.5** AmiSpace Card Page

Figure 4.6 shows how can user customise task list by clicking on individual task then rename it, colour the label to colour code them, add or delete members from task, add due of that task and finally delete the task.



**Figure 4.6** AmiSpace add members to Card

Figure 4.7 shows how creator of the board and existing members in the board can add new members to the board by clicking in three dots icon, then new screen will appear where list of existing members will be shown and by clicking on add icon user can enter member email and if the user details match the database, new member will be added successfully.



**Figure 4.7** AmiSpace add member to Board



**Figure 4.8** AmiSpace Profile Drawer

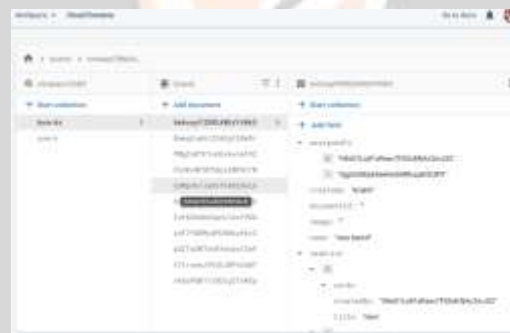
Figure 4.8 shows side bar where user profile is visible like user image, username. User can edit username and profile image and it will be updated on the database. SignOut button is also available on the sidebar.

Figure 4.9 shows the database of AmiSpace that is Firebase by google. It shows the authentication page where the list of user that are currently added or using AmiSpace will be visible. Authentication page shows the method of sign-in, date of user creation, User last sign-in date and the most important user unique id.



**Figure 4.9** Firebase Authentication page

Figure 4.10 shows the heart of AmiSpace that is Firebase Firestore database where all the users created with unique id and all the boards and cards are also created in user database in hierarchal form of data. Firestore is a NoSQL document database built for automatic scaling, high performance, and ease of application development. While the Firestore interface has many of the same features as traditional databases, as a NoSQL database it differs from them in the way it describes relationships between data objects.



**Figure 4.10** Firebase Firestore Database

## 5. CONCLUSION

In this fast growing world, Communication and interaction part become most important in order to achieve this and this project helps the student to interact with each other, discuss their ideas, analyze and access them.. The application started as a simple to-do application during the prototyping stage and eventually upon exploration turned into a collaborative Kanban board. During the initial stage of the project, AmiSpace was limited in features but as time progressed, features were added when and where appropriate. Prior knowledge of Java helped ease the process of Android Development in Kotlin. AmiSpace is still in initial period of time and there is many improvements can be done.

## 6. REFERENCES

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