# Project idea

## Overview

Kaleid AI has begun exploration of an application which consists of a personalised visualisation of past experiences and mementos. We name this project ‘Reflections’, as one both reflects upon the recent past experiences of their day, while also reflecting on a much larger scale. In this application, we wish to create a digital diary which stores experiences and memories (entries) as ‘stars’ in a ‘night sky’, with consecutive daily entries making ‘constellations’ linking these entries in a chain across the sky interface. We also envision that a user would be able to assign the star values based on their experiences, and that at the end of each given timeframe, a ‘star map’ would be produced with all the stars and constellations visible on such. This perhaps could be printed or stored by the user if they wish, while having access to all past ‘star maps’ at their convenience. We feel it best to be explored on a mobile application, thanks to the versatility and adaptability of Augmented Reality, but feel it wise to first create a prototype via computer application/website.

## Motivation

We at Kaleid AI know that finding the motivation to document past experiences and events can be difficult, due to constant pressures of work, life, and many other sources, while also keeping in mind the benefits of reflecting daily upon life. Thus, we wanted to make this reflection process invigorating and engaging, unlike many paper diary documentations which after a while, become tiresome and gruelling. To avoid this same dilemma, we wanted to both add a bit of light to reflecting on the past, actively seeking users to take a few minutes to just reflect and engage, while also not being pressured to do so, and add an incentive to completing such entries. We overall believe that people, by using this application, would see beauty in their own reflective attitude, like how one wonders at the night sky on a clear night, and engage in this experience of looking back, reflecting.

## Functionality of Reflections

In terms of the functionality of the application, we wish to create a system which will be able to store free text under an assigned ‘star’ for each ‘reflection’. This text would be the user’s reflection on any event/day, and the assigned ‘star’ would be a container for such information, which a user would be able to modify by assigning ‘Traits’. These Traits would consist of the stars name (the name of the event/summary), the colour of the star (emotion felt towards the event), the size (importance) and luminance (aspiration) of the reflection. Theoretically, one should be able to create as many stars as they wish, with consecutive day stars linking together with a semi-faded line, creating a branch (constellation), which could stir the user’s desire to create more entries, being an incentive of sorts. Each star would be placed randomly on the interface (a semi dark-violet screen), representing the ‘night sky’ that the user will be able to fill with these stars. Users could also perhaps zoom into and select stars individually after their creation, to see the reflection/event and go between consecutive stars using left and right UI buttons. A search tool/calendar could also be created to target specific dates of events. At the end of a given timeframe (let’s say a month), a user could be given a ‘star map’ of all their entries, which could be collated into a ‘reflective’, which would store each of these, allowing the user to see the evolution of their sky over time. All these specific features we understand to be quite memory-conducive, so we believe that linking this application to a cloud server system would be beneficial, and thus, security measures to ensure privacy may need to be implemented, possibly requiring an account with username and password to access such information, to both access the server, and protect individualistic privacy. While storing this information, we have discussed the implementation of an artificial intelligence (AI), which would gather background data of these reflections, and some of the Traits of such, while not impeding on personal privacy. AI will not be exhibited in the first iterations of Reflections, but it is part of the grand vision of the application. This will be further explored in the ‘Future prospects of Reflections’ section of this report.

## Challenges of development

Some issues that this application could face regard the overall experience that our diverse team has with programming. Some individuals of our team haven’t had detailed professional practice in this field and may require further study of such material to build this application to the extent of what we wish to create. Finding the right platform and programming language to use for this task may be challenging alone, while also developing this application could cause an even greater challenge. Further investigation into this will be needed for our team to create the best experience for our users. Detailed study may be needed if we use certain programming languages/platforms that we are unfamiliar with at this time. Many experiments may have to be trialled before even landing on a possible solution to designing a stable prototype, but we believe that with further research, investigation, and study, we can commit ourselves to overcoming this issue. We also don’t know of the capability to ‘port’ over to a mobile prototype, due to similar issues, and lack of experience in a mobile application development field, thus we agree that we will construct this concept via a computer application/site prototype. In terms of other functionality, we know a possible difficulty that could arise with the user customisation of the ‘stars’, we have discussed using sliders to modify the certain features of such, but programming this, among the other functions may be difficult. Therefore, some features discussed above may have to be removed/replaced with better and more efficient features to better suit the experience, while providing the same service to users. In terms of the entire application, we see this to be a challenge which we seek to overcome, to further improve and refine our skills across the board in application, software, and possibly even AI and cloud server development. We hope to create a stable prototype of ‘Reflections’ in the near future.

## Tools and skills required

Building this program will require a stable, easy-to-learn game engine/application building software which is adaptable, reliable and has a high-level programming language and easy-to-use visual editor. Unity or Cocos2d were good considerations for this program, but both would require in-depth knowledge of how to use and operate the software effectively before even getting to developing the prototype. We instead think that ***[Intended App… we talked about this in the meeting, I can’t remember what it was]*** would be beneficial to create this, as it ***[explanation, as I have no clue what this program is capable of]***. We do not require any sort of hardware or equipment apart from a mid-high-end computer running Windows, capable of running and deploying the application. We instead, need to focus on the software and skills needed to create this program inside the software and deploy a stable prototype via this method. In terms of specific skills we require knowledge on the engine/software being used, the programming language used to create the application, knowledge of visual editors, understanding and comprehension of problem-solving methodologies, patience, and the ability to work cohesively as a collaborative team. Teamwork and clear, concise communication are necessary components of creating this application, as well as cohesive collaboration on all sides.

## Outcome of prototype

If this project is successful, then a stable and usable application prototype will be the result. This would work efficiently and effectively, with elements of thought undertaken towards the overall User Experience and program design. ***[Summary of what we intend to theoretically create in this prototype].*** If this prototype succeeds in the above, this will be a massive steppingstone to publishing the application to users, granting them the opportunity to actively record and recall their experiences in a unique and interesting way.

## Future prospects of Reflections

By digitising people’s experiences, we can bring memories back to life in a much more real and experiential manner, opposed to looking through a physical scrapbook. We believe this is possible by capturing much more than just thoughts written down on paper. Because of this, after we have accomplished creating our text-only Reflections app, we aspire to add much more to it. This will be mainly in the form of how we record our memories.

### Multifaceted data stack

Along with reflective writing, we will aim to encourage our users to input more than just text. This could be in the form of images, text, audio and video clips, location data, etc. Other specific metrics such as distance travelled, or the temperature of the day could be included into the stack of data regarding that day. By receiving various types of data for each day, we will have a multifaceted data stack that we can use artificial intelligence (AI) to manipulate. Let’s refer to a day’s raw data as a ‘data set’. When users include several types of input for the day, our data set is larger and more varied (the more the better). If we have a large data set, there is more that we do with it, for example, link similar memories together and show those memories together, remind the user of a particular day based on their location, the time of day, and the people they are with.

After the day is over, ideally, the user has inputted comments about events that transpired, images, audio, etc into their reflection. In this hypothetical, we have a large data set for that day. All data inputted will have time stamps and location information (with the permission of the user). The collation of a day’s data is what the star will contain. Ultimately, we aim to represent our constellations through a digital kaleidoscope where the user can explore it by going deeper and deeper into this world they have created with memories. This, however, will not be exhibited in our prototype as this is far too advanced and is not needed to showcase our concept. When a user selects a star, they will be able to read about what happened that day, who they were with, where they were, see images of what they saw, hear conversations they might have recorded, etc. This is where AI comes in.

### Artificial Intelligence

By having large datasets about people’s days, with much development, we can train an AI system to refine the data and present only what was worth taking note of out of that day. AI will also play a big part in suggesting stars for users to view. We think Reflections should be capable of selecting appropriate stars and showcasing a concise overview of that day. The way this might be presented is in the form of a micro article or small collage where images, comments, and other forms of content are organised through the use of AI.

### Connection (sharing)

Another important feature of our application that we aim to provide in the very long term is human connection. We want to help people share and communicate their lives with one another. This can be catered to by allowing users to share their stars with other Reflections users. This can be done through cloud sharing services where cloud-based data can be accessed by multiple users when given permission. We believe that this will give people an easy way to share well packaged documentation of their experiences from the real world, in the digital world.

***Reference List:***

Hutchinson, D 2022, ‘Introduction to IT - Assignment 1; S3943438’, Dominic Hutchinson, pp. 1-2