#### **Project Description**

#### At the heart of our solution is a dynamic mobile app that serves as a gateway to South Australia's rich cultural heritage, enthralling events, and an array of participating retailers. We've ingeniously incorporated Non-Fungible Tokens (NFTs) to provide an innovative incentive for users to explore events and patronize local retailers. With every visit and interaction, users accumulate unique NFTs that symbolize their journey, creating a digital scrapbook of their experiences.

#### Moreover, we are committed to honoring the First Nations people of our region by spotlighting their history and contributions. Our app seamlessly weaves in immersive narratives and historical insights, allowing users to embark on a journey of cultural discovery. Engaging quizzes will serve as keyholders to unlock exclusive discounts, encouraging users to delve deeper into the rich fabric of South Australia's heritage.

#### But our vision extends beyond individual engagement. By captivating the curiosity of young Australians, we are sparking conversations within households, inspiring families to collectively embark on explorations across the state. This transformative project aims to cultivate a sense of pride, appreciation, and a desire to uncover hidden gems within our own backyard.

#### With this app, we're not just presenting information; we're forging connections, fostering education, and nurturing a lifelong love for South Australia's diverse offerings. Our project is a testimony to the power of technology, culture, and collaboration, laying the foundation for an immersive and enlightening journey that will resonate for generations to come.

#### **Data Story**

#### To gather a view of South Australia’s tourism industry, datasets were obtained from Tourism Research Australia. These show both the direct and indirect Gross value Added (GVA) of the Tourism Industry in South Australia, as well as employment and consumption. In this context, GVA refers ot the impact of the tourism industry on the Austrlaian economy, both directly (impacts from tourism) and indirectly (impacts arising as a result of the impacts from tourism). Consumption, likewise refers to the aggregated spending from tourists, in terms of producer prices.

#### Our goal from this data was to gather estimates for the impact of our proposed mobile app on the South Australian tourist industry. Our first step was to generate a forecast for consumption in Australia to the 2027-28 financial year. Long-term expenditure forecasts were obtained at a national level from Tourism research Australia. Growth rates were extracted from these forecasts and applied to South Australian consumption growth. We therefore assume in our forecast that growth in South Australian consumption mirrors forecasted growth in national total tourism expenditure. This ultimately delivers our baseline forecasts for tourism consumption in South Australia.

#### To estimate the impact of our proposed application on total consumption (that is,total tourist spending) we consider four factors. These are:

#### The percentage of tourists that have smartphones.

#### The adoption rate of the proposed app by tourists with smartphones

#### The expected integration rate of the app by businesses

#### The expected increase in purchases (in net monetary value) by tourists that have installed the app

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#### As such, the net increase in total tourism consumption will be equal to:

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#### For our analysis, the number of tourists with smartphones was expected to mirror the broader Australian population. Forecasts for this rate were obtained from Statista, which directly generated the values. The average annual growth rate in the proportion of people with smartphones was projected only for the 2027 financial year

#### The expected increase in the net monetary value of purchases was taken from literature (Narang and Shnakar 2019) who find in their case study of a large retail provider that app adopters spend 36% more in net monetary value.

#### Both the adoption rate of the proposed app by tourists, as well as the integration rate of the app by businesses were more difficult to estimate. This is due to a large degree of variability in adoption rates, depending closely on perceived usefulness, visual design, enjoyment, operation aspects and ease of use (Kuo et al. 2019) (Sanchez-Torres et al. 2021).

#### As such, we propose two scenarios.

#### In the low scenario, an app adoption rate of 25% and a business integration rate of 30% was assumed to be reached by the 2027 financial year.

#### In the high scenario, an app adoption rate of 45% and a business integration rate of 50% was assumed to be reached by the 2027 financial year.

#### Applying these scenarios, we find that in the 2027 financial year, a 2.3% increase is found in the low scenario above the baseline forecasted consumption. This corresponds to an increase in consumption (or total sales) of $322 million AUD.

#### Likewise, in the high scenario, a 6.6% increase in consumption is found, representing an increase in consumption of $966 million AUD.

#### Future analysis would focus on creating more robust estimates of the adoption and integration rates. This would involve a deeper degree of research into the factors that determine an app’s success, and existing market saturation.

So to make an interactive dashboard with some of the features that would be needed in the app. We leveraged open source government data on a google maps API to display this feature of the app.

*We have entered this solution into both “Highlight the diversity of South Australia's tourism product through gamification” and “Increase visitor expenditure through Smart Tourism”.*

**DATA SOURCES**

#### **Tourism Regions 2020**

**Description of Use** To overlay the Tourism regions within Australia

[Data set](https://data.gov.au/dataset/ds-dga-34cfd8b8-0011-48b2-9fbd-0bd096957917/details)

**Points of interest in the City of Port Adelaide Enfield**

**Description of use** Used to overlay onto the dashboard, the potential points of interest for adventurers

[Data set](https://data.sa.gov.au/data/dataset/points-of-interest-pae)

**Adelaide Free wi-fi access point locations**

**Description of use** Used to overlay onto the dashboard, the potential points of interest for adventurers

[Data set](https://data.sa.gov.au/data/dataset/adelaidefree-wi-fi-access-point-locations)

**Tourism forecasts for Australia 2022-2027 - Tourism Research Australia**

**Description of use** Used to forecast future South Australia tourism consumption levels.

[Data set](https://www.tra.gov.au/economic-analysis/tourism-forecasts-australia/tourism-forecasts-for-australia-2022-2027)

**State Tourism Satellite Account 2021-22**

**Description of use** Used to analyse the history of the South Australian tourism industry.

[Data set](https://www.tra.gov.au/data-and-research/reports/state-tourism-satellite-account-2021-22/data-tables)

**LITERATURE**

[Book Review "Gamification for Tourism" | Information Technology & Tourism (springer.com)](https://link.springer.com/article/10.1007/s40558-021-00209-2)

Mobile App Introduction and Online and Offline Purchases and Product Returns - Narang and Shankar 2019 [[LINK]](https://mays.tamu.edu/center-for-retailing-studies/wp-content/uploads/sites/18/2021/02/Narang-Shankar-MS-2019.pdf)

Adoption of mobile applications for identifying tourism destinations by travelers: an integrative approach - Kuo et Al 2019 [[LINK]](https://www.researchgate.net/publication/334555058_Adoption_of_mobile_applications_for_identifying_tourism_destinations_by_travellers_an_integrative_approach)

Adoption of Tourist Mobile Applications - Sanchez-Torres et al. 2021 [[LINK]](https://jtde.telsoc.org/index.php/jtde/article/view/305)