

Project Design Phase-I - Solution Fit Template

Project Title: Developing a flight delay model using Machine Learning

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Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS <ul style="list-style-type: none">- Normal flight users- Business professionals having meetings- People boarding a lay-over flight- Logistics incharge at airportAirport catering manager	6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none">- Refund/Partial Refund- Not knowing the exact time of delay- Unavailability of alternate flights or accommodation	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none">- May take alternate flights- Ask for an alternate flight/schedule- Wait for the delayed schedule- Enjoy airline benefits- Report airline- Cancel the flight- Search for specific reasons for delay	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none">- To know if a flight is delayed- To make alternate arrangements to reach the destination in case the flight is delayed- To know other things that can be done when the flight is delayed	9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none">- Unavailability of means to estimate delays occurring in airplanes- Large scale economic loss for both airlines and the customers- Degradation in airline's reputation when many flights are delayed	7. BEHAVIOUR BE <ul style="list-style-type: none">- Use the app deployed to know the approximate delay- Find alternate travel options- Find hotel accommodations for overnight delays- Fill ratings and feedbacks to help other users	
	Focus on J&P, tap into BE, understand RC			

Identify strong TR & EM	<p>3. TRIGGERS TR</p> <ul style="list-style-type: none"> - Cancellation of flights - Extreme boredom - Guilt of wasting time - Thought of missing important meetings - Missing layover flight - Uncertainty in deciding if the flight is delayed when they start late for the airport 	<p>10. YOUR SOLUTION SL</p> <ul style="list-style-type: none"> - The aim is to develop an application that predicts flight delays using a supervised machine learning model (a decision tree classifier) with the data of flights and delays so far and estimate the time of delay taking spatial dependencies of flights into account. 	<p>8.CHANNELS of BEHAVIOUR CH</p> <p>8.1 ONLINE</p> <ul style="list-style-type: none"> - Check if a particular flight will be delayed and the estimated time of arrival - Giving ratings and feedbacks for various flights so as to improve the app's performance in predicting further delays - Check for other specific reasons for delay 	Identify strong TR & EM
	<p>4. EMOTIONS: BEFORE / AFTER EM</p> <p>Before:</p> <ul style="list-style-type: none"> - Worried <ul style="list-style-type: none"> - About missing important events - About missing layover flights - If the flight is gonna be canceled - Frustrated <ul style="list-style-type: none"> - About the unexpected delay/cancellation - Not knowing the news of delay beforehand - About the weather - Bored <ul style="list-style-type: none"> - Don't know how to make use of time <p>After:</p> <ul style="list-style-type: none"> - Gets to enjoy the airline benefits - Stay relaxed after getting a proper update from the airline - Relieved if an alternate solution can be found 		<p>8.2 OFFLINE</p> <ul style="list-style-type: none"> - Finding alternate travel routes in the airport - Hotels near the airport can be visit for overnight stays during delays 	